



HIGHER EDUCATION LEADERS' PERSPECTIVES ON THE PERFORMANCE  
EXPECTATIONS, EFFORT EXPECTATIONS, SOCIAL INFLUENCES AND  
FACILITATING CONDITIONS OF ONLINE LEARNING: A QUALITATIVE  
CASE STUDY OF THE CARIBBEAN

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## **Abstract**

### HIGHER EDUCATION LEADERS' PERSPECTIVES ON THE PERFORMANCE EXPECTATIONS, EFFORT EXPECTATIONS, SOCIAL INFLUENCES AND FACILITATING CONDITIONS OF ONLINE LEARNING: A QUALITATIVE CASE STUDY OF THE CARIBBEAN

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Technological advancements are seen to have advanced most fields significantly. Yet higher education institutions (HEIs) have not fully embraced the transformative power of online education, despite its wealth of advantages. This is particularly troubling in small island developing states (SIDS), where its impact may be more significant in overcoming budgetary constraints, limited physical spaces, limited access to education, and disruption to in person education due to the changing climate. Given the significance of this study, many scholars are specifically calling for investigations into the SIDS to better understand its underuse and develop context specific frameworks.

Within the Caribbean, the SIDS have some of the lowest higher education enrolment rates in the hemisphere, high levels of unemployment and an overall negative trend in economic growth. Given that online education may contribute to solving these problems, this qualitative case study was situated in a HEI within this region that has successfully implemented online education. The study used the well-established Unified Theory of Acceptance and Use of Technology (UTAUT) and Technology Organisation Environment theories to investigate leaders and teachers' perspectives as it relates to performance expectations, effort expectations, social influences and

facilitating conditions. The frameworks were used to develop interview and focus group guides, that were used to investigate graduate studies' teachers, program leaders and technology leaders.

Thematic analysis revealed several key findings related to the nuanced nature of the constructs and shed insight into the complexity of technology acceptance. Overall, performance expectations and social influences were considered of the highest importance, followed by facilitating conditions with effort seen as less important. Within constructs, there were varying degrees of importance among sub-constructs.

The implications for practice are significant and several recommendations are presented for universities. The context-specific findings open the door for further research towards a framework for understanding the phenomena in this context. Finally, it greatly extends the existing literature by providing greater depth of understanding of the constructs.

### **Declaration**

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where stated otherwise by reference or acknowledgment, the work presented is entirely my own.

## **AI Acknowledgment**

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### **Dedication**

This thesis is dedicated to all the online educators who transform the landscape of teaching and learning. It is my hope that this work will contribute to positive change, progress in the field and serve as a small token of gratitude for your efforts.

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### List of Abbreviations

Abbreviation	Explanation
BERA	British Educational Research Association
BYOD	Bring Your Own Device
CARCIP	Caribbean Regional Communications Infrastructure Program
CARICOM	Caribbean Community and Common Market
CARIFTA	Caribbean Free Trade Association
CBU	Caribbean Broadcasting Union
CSME	Caribbean Single Market and Economy
C-TAM-TPB	Combined TAM and TPB
DE	Distance Education
DOI	Diffusion of Innovation Theory
EE	Effort Expectations
EFA	Education for All
FC	Facilitating Conditions
FERPA	Family Educational Rights and Privacy Act
FIR	Fourth Industrial Revolution
GATS	General Agreement on Trade Services
GDP	Gross Domestic Product
HDI	Higher Human Development Index
HE	Higher Education
HEI	Higher Education Institutions
ICT	Information and Communications Technology
IDT	Innovation Diffusion Theory
IRB	Institutional Review Board
IT	Information Technology
ITOE	Individual, Technology, Organisation, Environment
LAC	Caribbean and Latin American

LMS	Learning Management System
MDG	Millennium Development Goal
MM	Motivational Model
MOOCs	Massive Online Open Courses
MPCU	Model of PC Utilization
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of the Eastern Caribbean States
OER	Open Education Resources
PE	Performance Expectation
PI	Principle Investigator
QM	Quality Matters
SCT	Social Cognitive Theory
SDG	Sustainable Development Goal
SH	Society to Encourage Studies at Home
SI	Social Influence
SIDS	Small Island Developing States
SME	Subject Matter Experts
TAM	Technology Acceptance Model
TOE	Technology-Organisation-Environment
TOEL	Technology, Organisation, Environment, Leadership
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UCLA	University of California, Los Angeles
UN	United Nations
UPE	Universal Primary Education
UREC	Unicaf Research Ethics Committee
USE	Universal Secondary Education
UTAUT	Unified Theory of Acceptance and Use of Technology
UWI	University of the West Indies
VR	Virtual Reality

VUCA	Volatile, Uncertain, Complex and Ambiguous
WWW	World Wide Web
WW2	World War 2

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## CHAPTER 1: INTRODUCTION

Within the last decade, the fourth industrial revolution (FIR), has completely transformed the way in which we live our day-to-day lives, study, work and interact with each other (Hamdan et al., 2021; Xu et al., 2018). At its core, the FIR is a change fuelled by artificial intelligence (A.I.), robotics, the internet of things (IoT), real time data and other advancements in technology (Ross & Maynard, 2021). Powered by many disruptive technologies, industry 4.0 has given rise to the necessity of education 4.0 (Hussin, 2018). This aligns with the larger shift from a product-based economy to service and knowledge intensive environments. Unlike previous industrial revolutions and innovations, the FIR has brought about the most significant changes, within the shortest time period, while having the furthest reach (Lee & Lee, 2021). Therefore, the dynamics of developing countries, which have historically lagged behind their developed counterparts, are also changing. The small island developing states (SIDS) of the Eastern Caribbean, in particular, due to their geographical and political separation from the larger land masses, are uniquely positioned to benefit from the connectivity enhanced by technology, especially within the higher education (HE) sector.

Unlike the other innovations, technology has an unparalleled reach. For example, according to the United Nations' International Telecommunication Union (2020), since 2018, the number of smartphone subscriptions have surpassed the global population. Interestingly, this is not heavily skewed by wealthier nations. According to Howard (2016), about three times more people have access to cellular service than water sewerage in 35 countries in Africa. Similarly, about 80% of the Caribbean and Latin America have access to smartphones capable of internet connectivity (Statistica Search Department, 2021). This connectivity may be leveraged by the Eastern Caribbean sub-region to increase access opportunities for education.

Before the digital world, topographical limitations faced by the West Indian islands have historically limited their success (Cantu-Bazaldua, 2021). To explain, the region comprises over 700 islands, reefs and cays organized into 30 territories, meaning many individual states made up of multiple land masses, which are physically separated by the Caribbean Sea. Of specific interest is the sub-region of the Lesser Antilles, that refers to 51 of the smaller islands, which is divided into 12 territories, nine of which are sovereign states, along the boundary of the Eastern Caribbean Sea. There are several challenges that the Eastern Caribbean region faces simply due to its positioning and layout (United Nations, n.d.). To begin, perhaps the most obvious is that smaller physical land masses require strategic allocation of usable land. Furthermore, there is the issue of remoteness from international markets, which Gibson (2019) reports has a negative impact on economic performance. In order to achieve export or import, high transportation costs must be endured. Beyond that, the United Nations (n.d.) acknowledges that these SIDS are particularly vulnerable to exogenous economic shocks. According to the CARICOM (2020), this chain of islands has become more volatile since the 90s. Additionally, small population sizes can limit civic capacity and economies of scale (United Nations, n.d.). This problem is worsened by physical barriers to education for individuals and also impacts higher education institutions (HEIs) as they struggle to achieve the benefits of economies of scale. Furthermore, given their location between the Atlantic Ocean and the Caribbean sea, these islands are also particularly vulnerable to weather and climate challenges. These may disrupt in person education when schools become temporary shelters during climate related emergencies. With a complex history of economic dependency, slavery and colonization, the Anglo-Caribbean islands find themselves facing further severe economic challenges that are exacerbated by the region's topography and recognizing the importance of connection (UN Chronicle, 2021).

As sustainability is a challenge for SIDS, uniting these countries has been a priority of governments for many decades. According to Hurwitz (1966), attempts to unite the region have been grounded in the goal of overcoming the geographical separation and strengthening its position in relation to other regional and international countries. Firstly, The West Indian Federation was established in 1958 as a self-governing Federal state, comprising 10 territories; however, due to challenges, it quickly failed and was dissolved in 1962 (Hall, 2018). Subsequently, the similarly intentioned Caribbean Free Trade Association (CARIFTA) was established in 1968 and dissolved in 1972 (Laguardia Martinez et al., 2020). Then, the intergovernmental integration project, the Caribbean Community and Common Market (CARICOM) and its initiative the Caribbean Single Market and Economy (CSME) began in 1973, and was officially revised in 2001 (Robinson, 2020). While CARICOM came with a wealth of advantages, it was evident that more was needed to help the economic challenges. Thus, the Organisation of the Eastern Caribbean States (OECS) and its shared economic currency was established, consisting mainly of smaller island states (Lancaster, 2021). This political connection has undoubtedly brought further advantages to these islands.

Although the rest of Latin America and the Caribbean continue to experience positive gross domestic product (GDP) growth, there has been an alarming secular decline in growth of the OECS since the 1980s (CARICOM, 2020). From a solution-oriented approach, higher human development index (HDI) scores, a measure of poverty, literacy, education, life expectancy, (Lind, 2019), are correlated across the globe with significant growth in GDP (Deb, 2015). Therefore, this sub-region may benefit particularly from developing human capacity and education access as a means of addressing this problem. Currently, despite being home to almost 100 universities, the Caribbean region remains one of the most undereducated areas in the hemisphere, with an

unsustainably low tertiary enrolment rate, a status largely facilitated by physical restrictions (Beckles & Richards-Kennedy, 2021; Tewarie, 2011).

Access to education in this developing region has remained a priority of many intergovernmental organisations (Madani, 2019) from the Millennium Development Goal (MDG) of Education for All (EFA) which specifically targeted developing countries to the Sustainable Development Goal (SDG) #4, which relates to education and is critical to the achievement of other goals (Aarts et al., 2020; Ferguson & Roofe, 2020). The strides that have been made so far are monumental. In the end of the 90s, efforts were still being put in place to ensure access to primary education (Chankseliani & McCowan, 2021). Since then, most of the region has achieved Universal Primary Education (UPE) as well as high quality Universal Secondary Education (USE), putting a shift in emphasis to lifelong and tertiary education (Beckles & Richards-Kennedy, 2021; Louisy, 2004). Globally, significant expansions were made towards HE in the early 2000s, as policy makers and governments collaborated on efforts to increase the ‘massification’, access and appeal of HE (Thurab-Nkhosi, 2008). The region is working towards mass adoption and leaving behind systems created primarily for the upper class (Leo-Rhynie & Hamilton, 2007). As we enter the 2010s, quite surprisingly, we see a flat lining or even decrease in enrolment rates in HEIs, across the globe (Johnson, 2019a) with Latin America and the Caribbean showing similar trends (UNESCO Institute for Statistics, 2022).

Despite the well-established need for education, universities across the globe have not played their expected role in educating the population. Many criticize academia for its resistance to change and innovation, which some speculate may be at the root of the declining interest and the perceived decrease in value of a degree (Eddy & Kirby, 2020; Johnson, 2019, Park & Choi, 2014). In the face of several industrial revolutions allowing human civilization to take great leaps

into the future, academic curriculums and delivery methods have been slow to change (Higgins & Thomas, 2016). Park and Choi report that the format of the modern-day lecture style classroom is essentially a replication of the education spaces from medieval times. Change becomes more relevant than before because the target audience of this group has shifted significantly in recent decades and differs from the group that the system was originally designed to teach (Ndibalema, 2021). The typical student is no longer a White, upper-class male, with time to pursue a degree fulltime (Johnson, 2019). In fact, there has been a 75% increase in non-traditional students who have other obligations that compete for time that can be spent on campus (Walker & Malcolm, 2020). This audience is demanding flexible approaches (Thiede, 2018). Furthermore, as younger generations, such as the digital natives, achieve the tertiary education age, they come with expectations around immediacy, flexibility and technology-based delivery of education (Ndibalema, 2021). Despite the significance of education in the OECS countries, universities within the Caribbean have still largely stuck to traditional approaches, finding themselves in a similar position to many other schools.

Caribbean HEIs are losing their monopoly on education, along with other universities globally, in an ever-shrinking space. In the past three years, hundreds of colleges and universities across the globe have shut down (Lederman, 2021). Faced with flatlining and declining enrolment rates, rapidly aging physical campuses are proving to be expensive to maintain (Johnson, 2019). This has positioned the arena to be experiencing what scholars have termed, a VUCA (Volatile, Uncertain, Complex and Ambiguous) climate (Beckles & Richards-Kennedy, 2021). Deriving from Bennis and Nanus (1985), as cited by Singhal (2021), VUCA leadership theory, these times demand that traditional, outdated approaches be avoided in the interest of being proactive and responsive (Singhal, 2021).

The climate and culture of these Organisations are key in understanding its resistance to change. Because teaching and learning is highly cultural, the adoption of innovation in this context is largely driven by socio-cultural and cogno-behavioural factors (Kanwal & Rehman, 2017). Put simply, this means that an investigation of the phenomenon should be strongly aligned with discovering factors that relate to cultural and institutional aspects (Muhammad et al., 2017). Some evidence suggests that the hierarchical structure of universities may decrease the speed at which the institution can respond to external pressures. Azman and researchers (2012) report that the priorities of the academy often create distance between the senior management and faculty, which can impede decision-making processes. In times of transition and crisis, leadership becomes a pillar of the Organisation to decide a path forward. Ultimately, with the drastic uncertainty in academia, many scholars believe that it is crucial for leadership to be adaptable (Eddy & Kirby, 2020).

Evidence strongly suggests that online education may be the key to addressing many of the current changes faced by academia (Boisselle, 2014; Harasim, 2000; Lin & Gao, 2020). While it is not traditionally embraced by these schools, online teaching and learning eliminates physical boundaries, presents powerful ways to achieve learning outcomes, eliminates scarcities of staff and may help to democratize access to education (Arkorful & Abaidoo, 2015; Muhammad et al., 2017; Tiwari, 2019). While advantageous to all institutions, these specific benefits are highly required within the Caribbean. It stands to reason that the leaders of universities can leverage online education as a means of overcoming the aforementioned SIDS' challenges. Boisselle and Smith (2011) agree that leveraging digital technologies is the most cost-effective and overall best way for the region to achieve a highly literate population.

Academic leaders appear to be resistant to changes in the delivery of education. For example, institutional support for online education has in the recent past had its most significant drop since 2004 (Allen & Seaman, 2016). It is unclear why this phenomenon is occurring, as with this under-researched group (Eddy & Kirby, 2020). They differ significantly from their industry-based counterparts, as the selection criteria tend to be heavily determined by scholarly publications, Eddy and Kirby argue. The leaders of these organisations will have key insights into what cultural, environmental, technological and behavioural factors impact their decisions to adopt and implement online education on their campuses, despite the theoretical advantages.

### **Statement of the Problem**

The problem is that leaders of HEIs, especially those in developing countries, find it challenging to transition face-to-face traditionally delivered instruction to online mediums (Kanwal & Rehman, 2017). Leaders of HEIs find themselves in a daunting position as academia undergoes significant changes and external pressures, including changes in budget, mass retirements and new demographics of students (Eddy & Kirby, 2020). The existing climate of academic leadership combined with a longstanding resistance to change (Park & Choi, 2014) may contribute to the challenges related to online education. The current literature reveals that institutional and leader-based support for online education is at the lowest it has been in over a decade (Allen & Seaman, 2016) despite significant improvements in the availability, capability and usability of technologies that support online education during this same time period. Given that culture highly influences pedagogy (Kanwal & Rehman, 2017; Muhammad et al., 2017; Valencia-Arias et al., 2019; Vululleh, 2018), it is not surprising that social and organisational factors are more likely to impact the use of online education than technology. This gives rise to the importance of an investigation into these leadership and organisational perspectives.

Despite the wealth of advantages that online education brings to HEIs, such as enhancing student experiences and compensating for scarcities of academic staff (Arkorful & Abaidoo, 2015), as well as reducing the overhead associated with campus maintenance (Johnson, 2019), its adoption has been slow (Lederman, 2019). In fact, until the recent COVID-19 pandemic that led to imposed emergency and massive adoption of online education, most academic institutions in developing nations were reluctant to transition from traditional delivery formats (Dhawan, 2020). A review of the existing literature, such as Bacow and researchers (2012) and Underwood (2022), reveals it is still unclear to scholars what contextual factors in HE are at play in developing countries that limit the successful uptake of online education. Thus, researchers are asking for studies that address the gap related to the adoption of eLearning in HE (Brockman, 2018; Graham, 2018; Kayali & Alaaraj, 2020; Williams et al., 2021).

Several key contextual factors give rise to the uniqueness and importance of this highly relevant topic. Firstly, this problem has been well-documented in the context of developed countries, but very little research has been done on developing countries where these issues are likely to have a more severe impact (Muhammad et al., 2017; Vulleleh, 2018). This is despite long standing calls for insight into the Caribbean, as the consensus among scholars is that the research from the developed countries is not applicable or transferable to the developing countries (Tarhini et al., 2017; Valencia-Arias et al., 2019; Vululleh, 2018). Thus, the location of the investigation is an island in the Lesser Antilles of the Caribbean region. Secondly, most of the research on this topic is focused on the teaching faculty or the students, with little insight into the leaders of the HEIs; there is limited literature (Carbajal, 2020; Eddy & Kirby, 2020; Nichols, 2020). According to Eddy and Kirby, academic leaders have been the most misunderstood and least researched

leaders for decades. Therefore, this group may be able to provide key missing insights towards solving the issue of underuse.

By understanding the perspectives of leaders and teachers involved in these initiatives, an appreciation for contextual factors influencing success in online education can be gained. The proposed methodology for the investigation of this topic is a qualitative approach, which is highly recommended by scholars to fill the research gap (Abraham, 2014; Carbajal, 2020; Graham, 2018; Killian, 2020). Liu (2021) advocates that this method will provide ‘rich and thick’ data on their perspectives. The key themes investigated are influenced by the Unified Theory of Acceptance and Use of Technology (UTAUT): performance expectancy; effort expectancy; social influence; facilitating conditions. The Technology-Organisation-Environment (TOE) framework will also be incorporated to provide more distinct perspectives into the organisational factors that are limited in the UTAUT.

A discussion on the locale is critical to the understanding of the severity of the problem. The SIDS that make up the Lesser Antilles, particularly the independent and sovereign nations under the OECS alliance, are facing severe economic challenges. It is incredibly concerning as these islands have reported four decades of negative growth while the other countries in the Caribbean and Latin America, which surround them, show positive economic growth within the same period (CARICOM, 2020). One significant obstacle to growth is the challenge of educating the population.

Specifically, the underutilization of online education by universities and colleges in this area limits the Indigenous population’s access to culturally relevant education. Regional leaders express concern that predatory institutions from other regions may exploit this gap (Louisy, 2004). In doing so, they jeopardize HEIs in the region, which are already grappling with low enrolment

rates, ultimately, exacerbating the challenge that the Caribbean has faced in the past of absorbing the local talent (Miller, 2007). A lack of culturally relevant education widens the already known disconnect between academia and industry, leaving the educated population unable to successfully navigate the regional market's demands. Seeking refuge in job markets more suited to their skills, the educated population migrates, inadvertently decreasing the region's growth.

In the absence of this research, the aforementioned challenges may remain prominent in the region. The study focuses on a section in the Caribbean region, where the effects of low education rates have far-reaching consequences. In fact, in a report by Tewarie (2011), employers cited that a major issue encountered on the islands is a lack of skills and competence in human resources needed for competitive business activities. Without the data from the study, the inter-governmental efforts to increase online learning may remain unsuccessful. Given that Pham and Ho (2020) predict a notable increase in schools opting to use online learning as a sustainable alternative to in-person education, failure to onboard with this idea leaves the Caribbean unable to compete effectively on a global scale. The secondary effects of low levels of HE enrolment rates are related to higher rates of unemployment and a job sector that cannot be adequately supplied, while individuals tend to report lower quality of life and lower life satisfaction (Tiwari, 2019).

### **Purpose, Research Aims and Objectives**

The purpose of this qualitative case study is to explore the perspectives of online education leaders and teachers toward online teaching and learning at a graduate school in the Caribbean. HEIs and their leadership are in a unique position as it regards the use of technology and the direction of education (Eddy & Kirby, 2020). While many other fields have adapted to the various technological revolutions, the delivery of education has remained resistant to change. In fact, many classrooms still resemble the education spaces from the Medieval era (Park & Choi, 2014). Some

scholars believe that the way in which HE leaders navigate the demand for change and adaptability may be crucial to the future of HE and online education (Allen & Seaman, 2016; Eddy & Kirby, 2020). By exploring the perspectives of these academic leaders and teachers, the goal is to better understand the challenges that facilitators, leaders and teachers experience in the adoption of online education, with emphasis on these developing contexts.

The case study is used to investigate these phenomena as it is highly appropriate. According to Rashid and researchers (2019), case studies are suited to complex phenomena, where an in-depth appreciation is required within a given context. In this case, it is imperative to capture and understand the complexities associated with the awareness of online education. Using a strong theoretical framework and extensive literature review to draw upon other empirical research, conceptual generalization will be achieved. However, the primary goal in this qualitative study is to elucidate the phenomena and gain deeper understandings and insights of the academic leaders.

In the context of the Eastern Caribbean region, a particular university, under the pseudonym University of Sunshine, provides a uniquely rich perspective in which these phenomena can be carefully investigated. Interestingly, the Caribbean can stand to benefit highly from online education. Given that the region is made up of 11 countries grouped into archipelagos, the geographical separation of these countries can often be a physical barrier to education. For example, individuals interested in a degree not offered on their island are often required to move to a different country to pursue it, which can be financially challenging. From an economic perspective, some employers within the Caribbean report that competitive business activities are stunted by the lack of highly skilled and educated people (Tewarie, 2011). With the impact online education can have in this region, and its underutilization, the chosen location can provide very valuable information regarding the perspectives that may be impacting the uptake of online

education in this region. The school began its transition to offering fully accredited online programs prior to the pandemic and was able to overcome many of the challenges documented in the region. With a diverse faculty and student body from over 140 countries, it can provide rich data on a range of perspectives towards online teaching and learning. The school of graduate studies comprises a range of degree programs that are not delivered in the traditional face-to-face classroom, including business, public health and education. This allows this single site case study to be highly representative of a range of experiences, fields, teachers and leaders.

The study focuses on how leaders who are currently involved in online education perceive the effort, performance, social influences and facilitating conditions associated with online teaching and learning. The perspectives of academic leaders, given the uncertain climate of HE (Eddy & Kirby, 2020), is seen as highly valuable to the research community (Bigelow, 2017; Fisher, 2020; Graham, 2018; Liu, 2021), with many calls, not only for leadership perspectives but also specifically those in non-US contexts and the developing regions, such as the Caribbean (Boyers, 2017; Greaves, 2019). The design of the study is a concurrent, monomethod multistrand qualitative case study, as defined by Teddlie and Tashakkori (2006). Briefly described, this kind of study uses multiple instances or strands of simultaneous qualitative data collection. In this study, a combination of structured interviews, from various types of leaders and focus groups with teachers, are used to gather data. Interview duration was approximately 60 minutes, and focus groups lasted approximately 90 minutes. The validity of the study was increased by engaging in this triangulation by converging the information captured from these two data sources (Noble & Heale, 2019). Subsequently, a thematic analysis was used to analyse the transcripts and group ideas under the themes from the literature.

The theoretical framework used in this study guides the research questions. Venkatesh's UTAUT, originally developed in 2003 and subsequently refined (Venkatesh, 2022), is the primary framework for this study. It is used specifically for its four main constructs, which were extracted and used as global themes in this study for deductive thematic analysis. The first UTAUT construct is performance expectations, which, in the context of leadership, covers perspectives related to how well online education is expected to improve the processes of teaching and learning. Secondly, effort expectations relate to perspectives on the leadership effort (such as creating budget requests, faculty buy-in, gap analysis, stakeholder persuasion) and course instructor efforts, such as their learning curve and changes required in the adoption of online learning. Thirdly, social influences are gathered in terms of what the perspectives of internal and external forces influence the adoption of online learning. Finally, the barriers and facilitating conditions for online education in this context are investigated. The TOE framework is discussed later and used to extend into the areas related to leadership and macro-level organisational areas not covered by UTAUT. In the interest of conceptual generalizability, connections are made to the existing body of empirical research.

Given the wealth of advantages of online education, its underutilization in developing countries is an area of significant concern (Muhammad et al., 2017; Vulleleh, 2018). Researchers believe exploring perspectives on online education can provide a sense of direction to resolving this problem (Kayali & Alaaraj, 2020; William et al., 2021). HE leaders are an under-researched, frequently misunderstood group that may have key insights into this problem (Eddy & Kirby, 2020). Thus, the aim of this thesis is to gain insight into the perspectives of academic leaders towards online teaching and learning. The leadership and teachers' perspectives of a range of factors (performance expectations, effort expectations, social influences and facilitating

conditions) are investigated to determine how these perspectives may impact its use (Venkatesh, 2022).

Specifically, the research objectives of this project are as follows:

1. To examine the function of perceived performance expectations of higher education leaders and teachers on online learning in the Caribbean
2. To assess the role of perceived effort expectation of higher education leaders and teachers on online learning in the Caribbean
3. To evaluate the contribution of perceived social influences of higher education leaders and teachers on online learning in the Caribbean
4. To examine the influence of perceived facilitating conditions of higher education leaders and teachers on online learning in the Caribbean

### **Nature and Significance of the Study**

There is a strong constructive alignment between the design decisions and the nature of the previously mentioned problem. To explain, the theories that support the acceptance and use of technology articulate clearly the significant impact of social, cultural and cognitive-behavioural elements (Kanwal, 2017; Muhammad et al., 2017; Venkatesh et al., 2021). This is especially true in relation to pedagogy, which has strong cultural roots (Muhammad et al., 2017; Starr-Glass, 2019). These types of data can be challenging to quantify; thus, the overall methodology of the study is qualitative. Formally defined, qualitative methods involve investigating experiences, opinions and ideas through the collection and analysis of non-numerical data, which often facilitates deep exploration (Nassaji, 2020). The combination of the rich data that can be gathered with this qualitative approach and the uniqueness of the site of investigation specifically lend itself to the case study design.

### *Case Study Design*

The case study design allows for context-based inquiry to assist in developing a robust understanding of leadership perspectives. According to Tomaszewski and colleagues (2020), case studies are in-depth and have the benefit of supporting detailed examinations of a particular case within a real-world context. Thus, the context provides clarity and richness to the phenomena under investigation, an idea strongly supported by literature. To illustrate, many prominent scholars believe that this phenomenon is poorly understood without context such that studies done in the developed countries are not transferable to developing regions (Tarhini et al., 2017; Thongsri, et al., 2019; Valencia-Arias et al., 2019; Vululleh, 2018). In qualitative studies, there must be an intentional effort to protect the data from threats to validity. Therefore, to collect data for this case study, qualitative concurrent triangulation is used to increase the validity through the convergence of information from different sources (Natow, 2020). This means that the study utilizes a within-paradigm mixture of data collection tools in the format qualitative structured interviews using different units of analysis (technology leaders, department leaders and course directors) and qualitative focus groups with a different group (course instructors). The practice of combining tools, in this manner, is commonly termed a qualitative mixed-methods approach (Morse, 2010), where the information can be triangulated for a comprehensive understanding of phenomena (Abdalla et al., 2018).

There are two data collection tools being leveraged for this study. Firstly, in-depth structured one-on-one interviews that span for 45-60 minutes are done with the academic leaders (department chairs, course director and technology leaders). The rationale behind the use of interviews is that they can capture the richness and depth of leaders' experiences (Adhabi, & Anozie, 2017). By using open-ended questions and follow-up probes, the researcher can delve into

nuanced and complex perspectives. The personal and contextual understanding of the leaders' motivations, decision-making processes related to technology and other contextual factors are essential to understand the organisational level impact. Secondly, focus groups of 3-6 participants are used to facilitate conversation and meaningful data collection from the teaching faculty. The group dynamics and interaction are a key advantage of this approach. Course instructors will be able to build on each other's ideas, share experiences and engage in discussions that can lead to deeper insights. Multiple perspectives are useful for the diverse and comprehensive understanding of the phenomena. Following the best practices, the 90-minute focus groups will have 5-6 principal questions (Marczak & Sewell, n.d.; Nyumba et al., 2018). A core construct of UTAUT is social influence; within the focus group, the social influences that naturally occur and may lead to the development of norms can be captured (Kristiansen & Grønkjær, 2018). These cannot be captured as easily through isolated data collection methods. Moreover, the interaction and spontaneity of group dialogue can return a different type of data (Hennink et al., 2019). Ultimately, the two approaches to the collection of data ensure a holistic and well-defined understanding is gained.

### ***Significance***

The primary aim of this study is to examine the perspectives of leaders in the HE arena in a small island state in the Caribbean towards online teaching and learning. Directly, the perspectives of these leaders and teachers impact the school's acceptance and use of online teaching and learning (Allen & Seaman, 2017). Online education may be a fundamental step in increasing access to education in a region that has historically, and continues to, suffer from limited access (Boeren & Field, 2019). Similarly, HDI is a primary concern of Caribbean governments. As it correlates with HE enrolment rates, developing countries often score low on both (Marrett & Marshall, 2006). It is particularly relevant now as the demand for online education has drastically

increased, both globally and regionally, partly due to the shift in student demographics of HEI (Eddy & Kirby, 2020). An application of the findings of this study may have broad significance at all levels: theoretical, intergovernmental, regional, cultural, societal, institutional and individual.

### ***Theoretical Implications***

Firstly, the academic community of researchers and scholars can benefit in this highly relevant, sought-after research. Researchers have been actively investigating and seeking deeper understanding of the perceptions and motivations towards the use of online learning, since the advent of the world wide web (WWW) (Venkatesh, 2021). As it currently stands, prominent scholars have consistently put forward the recommendation that the matter of perspectives of leadership within non-US and Caribbean contexts should be explored (Boyers, 2017; Greaves, 2021) – especially as this unique group of leaders have been under-researched and misunderstood for many decades (Eddy & Kirby, 2020; Killian, 2020; Parker, 2017). Furthermore, the novel use of the theoretical framework, UTAUT, in the context of this study may provide new insights into its scope. The approach and methodology are theoretically significant as scholars are still asking for rich qualitative data to be collected for our understanding of the phenomena from a leadership perspective (Liu, 2021). As perspectives are strongly correlated with use (Salmon et al., 2015), the results from this study may be used to address the matter of underutilization, stemming practical benefits.

### ***Intergovernmental Benefits***

There are significant global implications from an increase in online learning. Firstly, it supports the SGDs outlined by the United Nations (UN), with particular emphasis on the fourth

goal of equitable access to lifelong learning (Ferguson & Roofe, 2020; Vinuesa et al., 2020). While online education is beneficial to all, the Caribbean has a significant number of non-traditional students who remain underserved and may have commitments, such as families and careers that compete for time that can be spent on a physical campus (Miller, 2007; Walker & Malcolm, 2022). According to Ferguson and Roofe (2020), HEIs have a crucial and powerful role to play in achieving the SDGs and should feel socially and morally obligated to do so. In addition to the clear alignment with the global objectives, there are region-specific advantages.

### ***Regional Significance***

Online education may position the Eastern Caribbean to address many of its current challenges. To begin, it may help to develop its relatively small capacity to educate its Indigenous population (De Lisle, 2011). This may, in turn, improve the region's standing of having one of the lowest HE enrolment in the hemisphere (Beckles & Richards-Kennedy, 2021; Louisy, 2004). The fact that developed countries continue to increase their intake of HE, while such growth is not seen in the region, may suggest widening disparity in education (Ferguson & Roofe, 2020). Thus, online education can serve to democratize access and shift the Caribbean away from the traditional system where HE is a privilege of the upper class (Barger, 2020; Tewarie, 2009). Additionally, the increase in online education may assist in satisfying the demand for HE within the sub-region (Miller, 2007). Currently, achieving improved HE enrolment rates appears to be the next logical step in development for the region as it has achieved a combination of high quality and USE (Beckles & Richards-Kennedy, 2021; Louisy, 2004). It is particularly advantageous to small islands that do not have the presence of a physical campus. Given the geographical separation of territories (even within most states), the availability of online tertiary education may serve to reduce the need to migrate to other islands or countries for education (Louisy, 2004; Miller, 2007).

Most recently, the instances of weather-related disasters have doubled in the last two decades, disproportionately affecting SIDS and by extension their continuity of education. As a result, the UN put forward online education as a solution to minimize learning disruption during post-disaster recovery in SIDS (Vaughter et al., 2023). While online education from global institutions is available, receiving online education from the regional universities is ideal for local citizens, due to its cultural relevance.

### ***Cultural & Societal Advantages***

The increase in online education by universities within the region may serve to protect the culture and identity of these islands (Louisy, 2004; Roberts & Hooper, 2020). Allen (2016) states that the demand for culturally relevant education in the Caribbean should not be considered trivial as larger and more developed countries continue to determine educational standards and shape curriculums. As globalization has already been criticized for contributing to the erosion of smaller cultures with less funds, culturally relevant education may protect these traditions and culture from being replaced by Euro-American standards (Sealy & Zong, 2019). Most notably, increase in access to education contributes to the development of civic capacity towards the regional goal of the “ideal Caribbean person” (Arnold et al., 2019). This framework was developed in response to Caribbean representatives, at the Jotiem Convention, finding the vision of EFA lacking specificity and regional relevance (Louisy, 2004).

At the societal level, there are many benefits to the communities. Increases in HE may help the region with economic competitiveness, as one of the challenges faced by these countries is the lack of skills required for competitive business activities (Beckles & Richards-Kennedy, 2021; Tewarie, 2011). Further to that, highly educated populations are most likely to have lower crime rates and higher levels of skill and innovation (Mazur Yuliia, 2022). Finally, according to

Mazur Yuliia, countries that invest highly in education are likely to see the returns of higher GDP. As society receives substantial benefits, so too may the institutions.

### ***Institutional Benefits***

The future of HEIs is unclear (Eddy & Kirby, 2020). Online education may be key to HEIs navigating these volatile, uncertain, complex and ambiguous times (Beckles & Richards-Kennedy, 2021). As it currently stands, universities are experiencing tighter financial spaces and should be in an aggressive, deliberate search for sustainable models of delivery (Johnson, 2019). Online teaching and learning may provide solutions to one of the most significant challenges, lower enrolment rates. Logically, this increase may also assist in increasing the profits made by these universities, further increasing economic prosperity. Given that Pham and Ho (2020) predict a notable increase in schools opting to use online learning as a sustainable alternative to face-to-face learning, failure to onboard with this idea leaves the Caribbean unable to compete effectively on a global scale. Scholars recognize that given the general public's view on the value of HE at this time, it is important that HEIs embrace flexibility, as echoed by Eddy and Kirby.

### ***Individual Relevance***

Last but not least, the investment into HE has a prominent return for individuals. Firstly, well-educated people present lower unemployment rates and are more likely to be meaningfully employed, and have increased income (Mazur Yuliia, 2022). Secondly, they tend to live longer and experience better health (Tiwari, 2019). Finally, they report being more satisfied with life in general (Ilies et al., 2019). These benefits to the individuals also contribute to societal benefits as expenses used to tackle the social ills may also be reduced.

## Research Questions & Hypotheses

The climate of HE is rapidly changing (Konst & Scheinin, 2018). Newer challenges such as budget cuts, lower enrolment rates and demands of the new student demographic have placed academic institutions in an unfamiliar position (Eddy & Kirby, 2020). At the same time, the leadership of these institutions, a historically under-researched and poorly understood group of leaders, are dealing with mass retirements, Eddy and Kirby go on to note. The change brought on by technology, such as online education, has typically been resisted by academic institutions (Park & Choi, 2014), but may provide significant solutions to the current challenges. Therefore, research that adds to our understanding of leaders' perspectives of online education is needed.

Since the beginning of the technological revolution, scholars have been fascinated with the development of theories and models that explain technology's use and acceptance. Given the internet's origin as a small network between computers at Stanford University and University of California, Los Angeles (UCLA) to facilitate the exchange of research and academic information (Paloque-Bergès & Schafer, 2019), it is unsurprising that academic use and acceptance has been an active area of research. In 1989, Davis put forward the Technology Acceptance Model (TAM), which according to Venkatesh and Davis (2000) uses perceived ease of use and usefulness as a function of intention to use a system or technology. While TAM has been criticized for its "overly simplistic" nature (Shachak et al., 2019), it has consistently remained as the most cited theory related to online education acceptance (Kim et al., 2015).

Venkatesh (2003) went on to further this work and developed a more detailed theory around technology acceptance. This theory used TAM, in addition to many other theories, to attempt to fully capture the essence of acceptance in the rapidly changing world of technology and is said to have 20-30% greater explanatory power than TAM (Kim et al., 2015). Venkatesh has

continually developed this model, and it is one of the most actively used theories in the academic discussions on the acceptance of technology (Blut et al., 2021). At the time of writing, the UTAUT acronym returns over 53.5 thousand results of scholarly articles within Google Scholar.

The theory is well-suited to this study as the primary framework due to its extensive base of cognitive-behavioural theories (Marikyan & Papagiannidis, 2021). Firstly, it integrates the Social Cognitive Theory (SCT) developed by Bandura, which discusses influence as a product of experiences, interactions of others and the environment (Schunk & DiBenedetto, 2020). Similarly, the Theory of Reasoned Action (TRA), which puts forward that behaviour is determined by intention, which itself is influenced by subjective norms and attitudes (LaCaille, 2020). An extension of this theory is the Theory of Planned Behaviour (TPB), which is also integrated into UTAUT. Furthermore, UTAUT leverages aspects of the Motivational Model (MM) in which behaviour is based on intrinsic and extrinsic motivations (Ursavaş, 2022). It also draws upon secondary theories related to the adoption of technology. Rahman and researchers (2017) report that the TAM and its related theory Combined TAM and TPB (C-TAM-TPB) contribute to this framework, along with the Model of PC Utilization (MPCU) and Innovation Diffusion Theory (IDT).

This study builds upon major theoretical strides regarding the current understanding of the use of online education. Briefly recapped, evidence has shown that despite significant improvements in technology, such as the overall speed of the internet, usability of interfaces, the development of dedicated e-learning platforms and the simultaneous decrease in file size with increase in quality and resolution of video content, the support for online education has not increased in tandem (Lederman, 2019). In fact, in the year 2016, the support of academic leadership towards online education had the most significant one-year decrease since 2004 (Allen

& Seaman, 2016). The lack of support at the leadership level in HE for online teaching and learning may be responsible for the slow adoption rate over the years. According to Seaman and Seaman (2019), over the course of 2012-2019 the number of HEIs offering at least one distance learning course only increased by approximately 9.3%.

Technological elements are not the primary factors determining the uptake of online education (Muhammad et al., 2017). Cogno-behavioural aspects, such as perceptions towards the phenomenon are likely to have a huge impact (Vululleh, 2018). Thus, to fully investigate this underutilization, the perspectives of HE leaders towards online education were captured. In order to guide this study, a strong theoretical framework of UTAUT was chosen. UTAUT is a well-established theory within the context of the developed world but remains relatively unexplored in developing contexts (Kanwal & Rehman, 2017). Furthermore, many scholars have articulated the non-transferability of current data from developed countries to the developing regions (Tarhini et al., 2017; Thongsri et al., 2019; Valencia et al., 2019). This research presents a novel use of the model to investigate the Caribbean HE leadership context. It has been briefly introduced here, due to its direct alignment with the research questions but will be discussed at length in Chapter Two, where it will be discussed in connection to the conceptual framework, which also includes TOE theory.

In order to begin an exploration into this problem, the four main constructions of the framework are used as guiding themes. They are the performance expectations, effort expectations, social influence and facilitating conditions (Venkatesh, 2020). The aspects of the framework are defined formally and more specifically, in the context of this study. According to Venkatesh and researchers (2003), performance expectations may be defined as beliefs regarding the technology's ability to improve the performance of the job. Specifically, in this study, this is an investigation of

how leadership and teachers believe that the acts of teaching and learning are enhanced by using online education. Secondly, the theory defines effort expectations as the degree of ease that is associated with use. For the purposes of investigation, it is used to get perspectives on the leadership and teacher effort and ease associated with the implementation of online learning. Thirdly, social influences are the beliefs that others think using technology is important. These beliefs are investigated as the extent to which leaders and teachers perceive external and internal influences (such as current and prospective students, the general public and other universities, regulatory bodies like accreditors) as valuing online education. Finally, facilitating conditions refer to the organisational and technical infrastructure that exists to support the use of the technology. In this case, the conditions are investigated as perspectives on the organisational infrastructure (such as size, hierarchy, culture, processes) and technology (such as availability, cost, compatibility with existing technologies) that hinder and facilitate using online education. Then the research questions were developed, and refined using best practices outlined by Bhat (2018) to ensure that they are unbiased and open.

Therefore, the research questions are as follows:

**RQ1.** What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean?

**RQ2.** What is the role of perceived effort expectations by higher education leaders and teachers on online learning in the Caribbean?

**RQ3.** How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean?

**RQ4.** How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean?

## *Hypothesis*

Leveraging the existing literature and the UTAUT framework, several hypotheses have been developed to describe the anticipated findings. As this study is qualitative, this section discusses expected results, but does not present traditional hypotheses found in quantitative research. One hypothesis is developed to state anticipated results for each of the research questions.

Hypothesis 1: Several factors improve and hinder how effectively faculty can teach in online environments.

- Briefly described, this hypothesis relates to the first research question. An expected finding is faculty members' belief that e-learning can enhance their teaching and learning as a key aspect of performance expectancy in HE settings.

Hypothesis 2: The hardware and software that support online learning contribute to the effort required by faculty.

- Succinctly, an expectation that relates to the second research question is that a high volume/severity of perceived challenges with the technology will contribute to the effort expected to teach online in this context.

Hypothesis 3: External/environmental influences such as students, accreditation regulations, competitors, serve as social influences in online education.

- In other words, if other entities such as current or future students, other universities, and the media positively view online education, then it is likely to serve as a social influence for how faculty teach online.

Hypothesis 4: The organisational infrastructure (such as size, hierarchy, culture, processes) and technology (such as availability, cost, compatibility) are facilitating conditions.

- To illustrate, organisational factors (such as funding, culture, civic capacity) and technological factors (such as availability of resources) will be conditions that support or hinder faculty in online teaching.

## **CHAPTER 2: LITERATURE REVIEW**

### **Introduction**

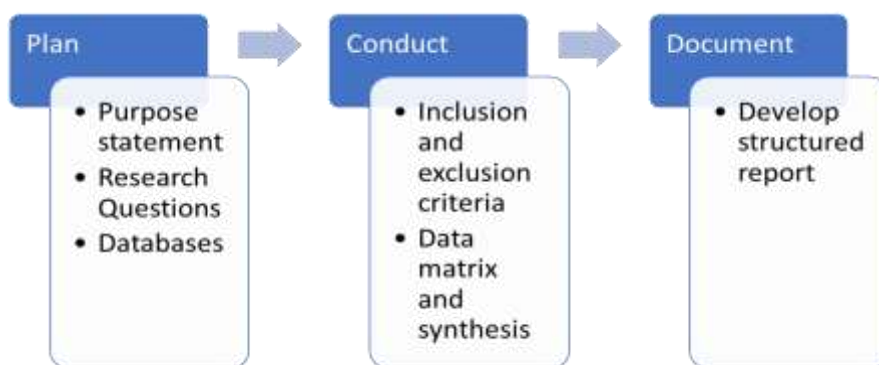
The purpose of this qualitative case study is to explore the perspectives of online education leaders and teachers toward online teaching and learning at a graduate school in the Caribbean. HEIs and their leadership are in a unique position as it regards the use of technology and the direction of education (Eddy & Kirby, 2020). Therefore, the literature review is structured to support the investigation of each of the critical components. Firstly, the theoretical framework is established as the UTAUT, which is expanded through the TOE framework. Ultimately, this gives rise to a few key areas of investigation: performance expectancy, effort expectancy, social influence and facilitating conditions. These may be grouped into factors related to the: technology, organisation, environment and leadership. Firstly, the historical foundations of distance education (DE) leadership in HE is analysed to provide context for the online education known today. Distance and online education inform and provide social influence and facilitating conditions upon which decisions around the acceptance of online education may be influenced. Subsequently, educational leadership, especially in the online education sector, is analysed to gain insight into the key challenges in this arena and informs the leadership and effort considerations. Moreover, teaching and learning is discussed to reveal key insights around the effectiveness of teaching in the online environment, a factor that can be associated with performance expectancy. Finally, the Caribbean social, political and cultural factors are analysed and followed by the HE leadership climate. These largely inform the social influences at play in this context. Ultimately, the literature reveals key gaps that can be addressed through this study.

In order to engage in a thorough review, a few essential steps were taken. Firstly, the research questions and purpose statements were used to guide the review. Then, the literature was

reviewed and synthesized. Finally, this documentation was developed. The figure below outlines the steps.

**Figure 1**

*Literature Review Phases*



Several databases were used in support of this review. To begin, ProQuest was the primary database accessed for information as it is provided by the university. Given the limited literature available for the Caribbean, for a broader search, Google Scholar was employed. Both of these provided the relevant articles, with recognition of the overall paucity of literature. To supplement the articles, the World Bank was also used actively as a source of data related to the region. These tools were essential in locating accurate information for analysis.

The tools were given specific criteria for searching. While online education is an active area of research, of particular interest was the region of the Caribbean and the UTAUT framework. However, the scarcity of literature meant that in some instances broader literature from developing countries was used to supplement that which is unknown about the Caribbean. Exclusion criteria specified the removal of articles related exclusively to traditional teaching and learning as well as articles that were not published in English. The table below reveals the inclusion and exclusion

criteria. Discussed below is an extensive review of the literature related to the purpose of this study.

**Table 1**

*Inclusion and Exclusion Criteria*

<b>Inclusion Criteria</b>	<b>Exclusion Criteria</b>
Studies in online education involving UTAUT in developing countries	Studies using other theories related to the acceptance of online education
Studies on distance and online education in the Caribbean	Studies exclusively related to in-person teaching and learning
Studies on education leadership in the Caribbean	Articles published in a language other than English
Studies on Caribbean history related to the education system	Articles published before 1989*
Articles in English	
Articles published between 1989* - 2023	
Grey literature such as technical reports and policy briefs	

\*1989 marked the publication year of first theory to describe technology acceptance

**Theoretical Framework**

As technology increases in popularity, so too do the interest and research around its adoption and acceptance (Butler et al., 2016). Currently, the field of technology acceptance has several prominent and well-substantiated theories (Lim et al., 2019). In line with the purpose of investigating leadership perspectives towards online education in the context of Caribbean HE, two well-known, highly researched and extensively tested theories were chosen as the foundation.

The first is UTAUT. Building upon TAM by Davis (1989), Venkatesh and authors, (2003) formulated the UTAUT, a revolutionary perspective that combined information systems theories with cognitive-behavioural theories. Also, being used in this study is a popular theory from organisational level research. Tornatzky and Fleisher (1990) put forward the TOE theory to shed light into the factors that impact an organisation's ability to accept technological innovation. By combining UTAUT and TOE, the strengths of both can provide this study with strong theoretical underpinnings.

Around the same time as the development of the WWW, the first theory of technology acceptance became published. Davis (1989) put forward the contribution of TAM. It leveraged TRA to become the first of its kind to combine behavioural theory and information system characteristics. The combination helped to gain the theory substantial attention and widespread use. Venkatesh joined Davis in publishing further work on this theory in the 1990s; their work continues at present. In the early 2000s, they would come together to propose a new theory that leveraged TAM and seven other theories with the hope of providing a unified theory to account for all phenomena that impact acceptance (visualized in Figure 1). This theory is called UTAUT.

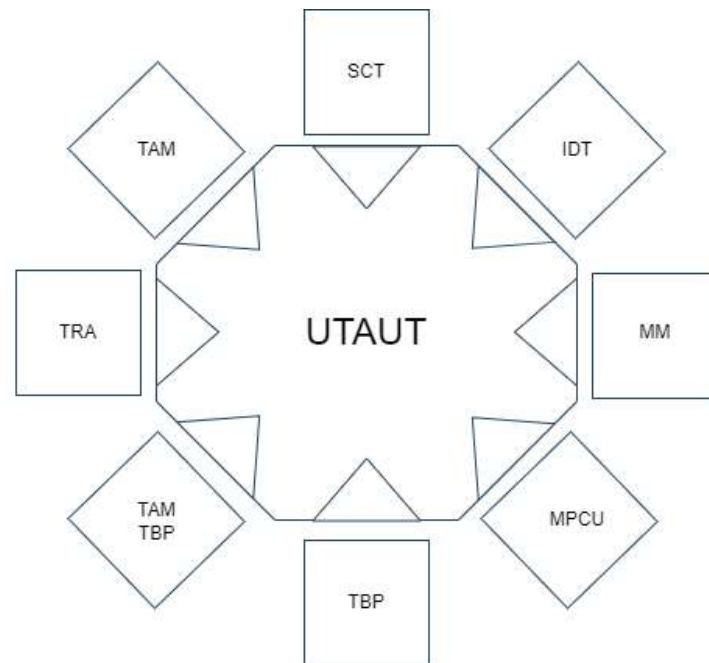
To fully appreciate the UTAUT framework, it is imperative to understand its underlying theories. These are mentioned in chapter one and some background on these theories are outlined in Table 2 and is visually represented in Figure 2. Venkatesh and researchers (2003) included several human behavioural and information systems theories: TPB, TRA, SCT, MPCU, MM, TAM, IDT. It eventually became one of the most well-cited models in the field of technology acceptance largely due to its strong predictive power (Marikyan & Papagiannidis, 2021).

**Table 2***Background on Acceptance Theories*

Theory	Year	Authors
IDT	1962	Roger
TRA	1975	Ajzen & Fishbein
TPB	1985	Ajzen
SCT	1986	Bandura
TAM	1989	Davis
MPCU	1991	Thompson et al.
MM	1992	Davis et al.
C-TAM-TPB	1995	Taylor & Todd

**Figure 2**

Theories That Influence UTAUT Development



UTAUT identifies key factors at play in the process of acceptance (Blut et al., 2022). In the first iteration of this model, the factors were: social influence (SI), performance expectation (PE), effort expectations (EE) and facilitating conditions (FC) (Venkatesh et al., 2003). They are briefly summarized in Table 3.

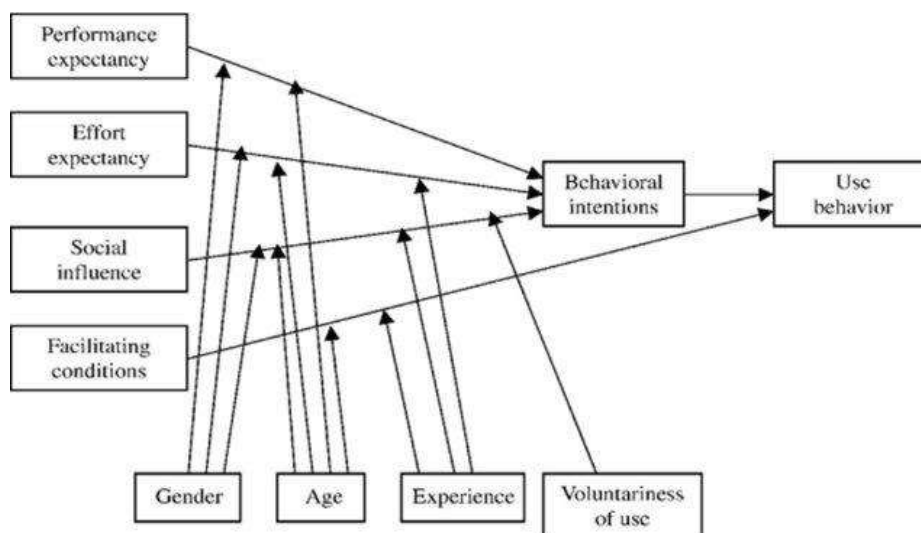
**Table 3***Key Factors of UTAUT*

<b>Factors</b>	<b>Association</b>
PE	Efficiency in job performance
EE	Ease of use
SI	Influence/beliefs of others
FC	Organisational and technical infrastructure

The UTAUT accounts for 70% of the variance in intention to use, which is identified as the step before the behaviour of acceptance occurs (Ammenwerth, 2019). A visualization of the way these variables interact is outlined in Figure 3. While UTAUT has the strongest predictive capability of all the other models that explain technology acceptance (Khechine et al., 2016), its performance expectation factor has been identified as the strongest predictor of behavioural intention and use of all to the other factors (Al-Saedi et al., 2020; Madigan et al., 2016; Marinković et al., 2020). Over the years, Venkatesh (2012) has worked with other scholars to actively enhance UTAUT to add additional variables and factors. In the second iteration, UTAUT2, an instrument was introduced. This survey instrument will be used to guide the development of the interview questions for this study. Each iteration of UTAUT increases the variables to increase explanatory power; however, scholars have acknowledged a common criticism that this had led to the model becoming complicated (Tomić et al., 2022). Some scholars believe that it is too complex and chaotic (Bagozzi, 2007; Colpaert, 2020), and as a result is less parsimonious (Van Raaij & Schepers, 2006).

**Figure 3**

*UTAUT Model (from Venkatesh et al., 2003 as cited by Omer et al., 2015)*



Despite these criticisms, the UTAUT and its subsequent iterations remain an active area of research by many other scholars. Over the years, it has been used in the field of education, specifically to investigate the acceptance of eLearning systems in HE (Almaiah et al., 2019; Gunasinghe et al., 2019; Kocaleva et al., 2014), and in international contexts (Altalhi, 2021; Omer et al., 2015; Thomas et al., 2013). Abbad (2021) studied the HE context in developing countries using student perspectives guided by the UTAUT. This research found that performance expectancy was the most powerful predictor followed by effect, in line with earlier research done in international contexts with the framework (Jaradat & Banikhalel, 2013; Nassuora, 2012). Students also value facilitating conditions (Abbad, 2021; Al-Adwan et al., 2018; Hadi & Kishik, 2014; Iqbal & Qureshi, 2012; Kim & Lee, 2020; Maduku, 2015). More recently, Gunasinghe and researchers (2020) used UTAUT-3 to investigate instructors' perspectives in HE. Performance and effort expectancy, as well as facilitating conditions, played a key role in intention to use and use respectively, consistent with the findings of others (Dwivedi et al., 2017; Farooq et al., 2017; Skoumpopoulou et al., 2018; Venkatesh et al., 2012). Social influence did not impact use intention,

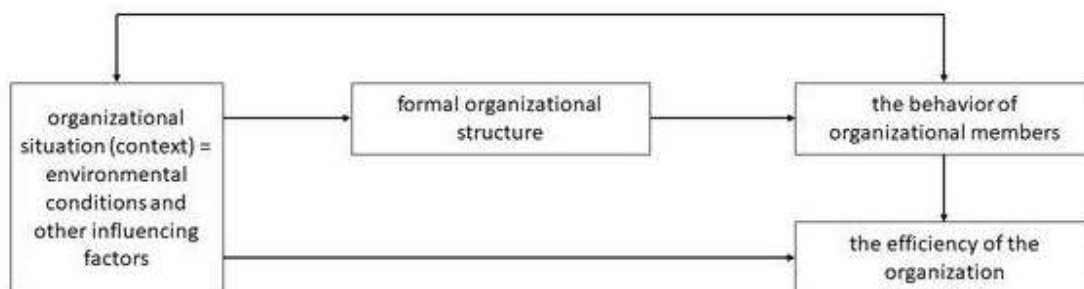
which is inconsistent with Venkatesh and researchers' work, Farooq and team, and other researchers. Some scholars believe that UTAUT is not applicable in contexts, such as Africa (Kaba & Touré, 2014); however, there is inadequate research for such conclusions. Thomas and researchers (2014) reported that facilitating conditions were not significant determinants in the Caribbean context, but the model is severely underused within the Caribbean region. They also urge for research using this model, specifically in the context of the Caribbean (Brockman, 2018; Graham, 2018; Kayali & Alaaraj, 2020; Malik, 2020; Thongsri et al., 2018; Williams et al., 2021).

### ***Technology Organisation Environment Theoretical Framework***

Tornatzky and Fleischer (1990) put forward the TOE framework to investigate higher level attributes that impact technology adoption at the organisational level. In contrast to models that are developed from behavioural models, such as TRA and TBA, to explain individual level adoption, this theory is based on the Contingency Theory of Organisations. Lawrence and Lorsh (1967) argued that the appropriateness of an organisational structure was contingent upon local and environmental conditions in which the organisation operated. A visualization of the main components of this contingency theory is in Figure 4. Similarly, TOE theory identifies the three key determinants involved in organisational-level adoption as: technology, organisation and the environment.

**Figure 4**

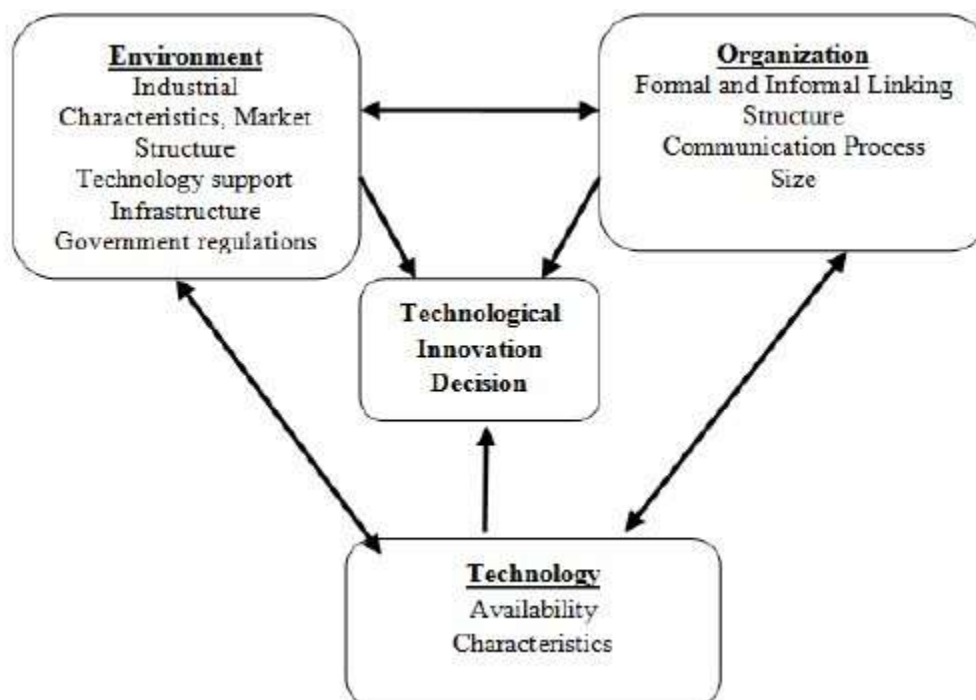
*The Main Components of Contingency Theory (Kieser, 1995, as cited by Kováts, 2018)*



TOE has been praised for its emphasis on people, rather than strictly organisational roles (Awa et al., 2017). The relationships between the various components of TOE are outlined in Figure 4. The environmental context refers to items such as the structure of the industry, the availability of technology providers and the nature of the regulations. Studies have shown that highly competitive environments stimulate innovation adoption (Bloom et al., 2019; Rouyre & Fernandez, 2019). Organisation refers to the characteristics and resources, for example, linking structures, communication processes, slack resources and size. Studies have shown that strong organisational culture influences innovation (Pisano, 2019; Yun et al., 2020). The technology components include the technologies available to the firm and those currently in use. In many cases, available and compatible technologies can limit or broaden the scope of innovation (Molefi & Hoque, 2021). TOE is visually represented in Figure 5.

**Figure 5**

*TOE Theoretical Framework (Tornatzky and Fleischer, 1990 as visualized by Koduah, Popovsky, & Tsetse, 2014)*

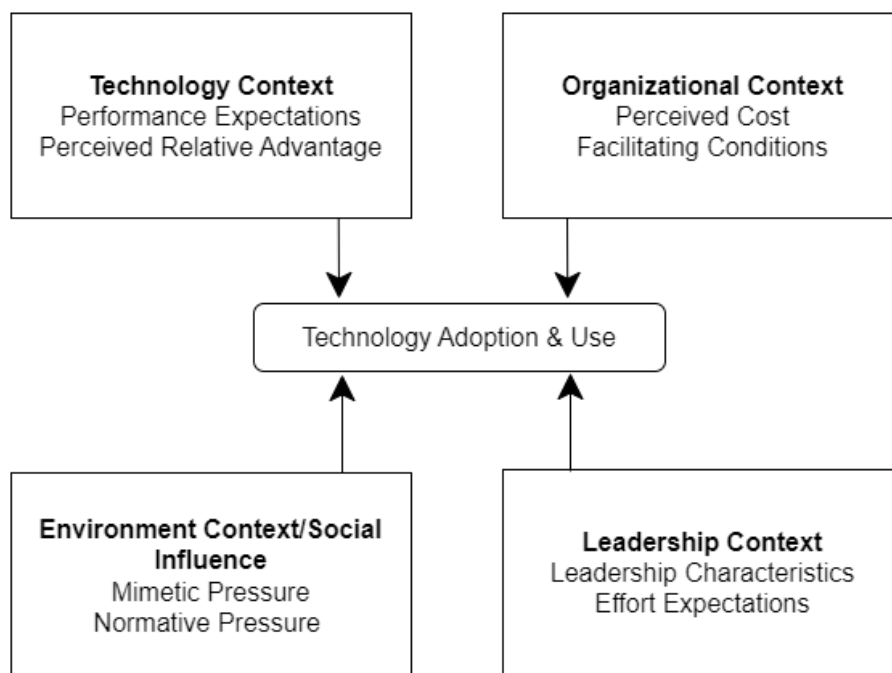


TOE is incredibly valuable when combined with frameworks that concentrate on innovation, as these extend the scope and strengthen the framework (Alatawi et al., 2012; Henderson et al., 2012). Adopter's idiosyncrasies, especially at the leadership level impact the firm's strategies, attitudes, behaviours and future (Awa et al., 2015; Venkatesh et al., 2007). Thus, TOE and UTAUT have specifically been integrated into conceptual frameworks in the current body of published literature (Ahmad, 2015; Ammar & Ahmed, 2016; Khayer et al., 2020; Park, 2020; Rosli et al., 2012). Most commonly, such combinations are called ITOE (individual, technology, organisation, environment), with variables specific to the context, field or individual

theory used. Awa and researchers (2017) conceptualized a framework for the investigation of technology adoption. While the contribution is recent, over 100 scholars have cited this framework. It has been adopted for this study. Specifically, as leaders are being investigated, the ‘individual’ context has been replaced with leadership context. This allows for the removal of management and leadership characteristics from the organisational context to the leadership context. As seen in Figure 6, this combination results in technology, organisation, environment, leadership (TOEL).

**Figure 6**

*Conceptual Framework: Technology, Organisation, Environment, Leadership (TOEL)*



The research questions are directly derived from the conceptual framework of the combined theories. Each of the questions relate to one of the factors derived from the UTAUT but are defined to include technological, environmental and organisational components. From the above framework, the concepts of performance expectancy and relative competitive advantage

investigate the degree of beneficial outcomes or gains in job performance (Venkatesh et al., 2003) and the advantage of incorporating the technology over its alternatives (Ikumoro & Jawad, 2019; Thong, 1999) respectively. Thus, it tackles the degree to which leadership and teachers believe that the acts of teaching and learning are enhanced by using technology as the primary method of delivering education and the relative advantage of online education. These components influence the creation of RQ1. The leadership context encapsulates characteristics of the leaders of the organisation, which play a key role in the adoption (Ikumoro & Jawad, 2019; Puklavec et al. 2018) and the effort expectations, which are the degree of ease that is associated with the adoption (Venkatesh et al., 2003). These factors influence the development of RQ2, which examines the degree of ease associated with the implementation of online education at the leadership level (such as stakeholder persuasion, faculty buy-in, creating budget requests, gap analysis) and at the teacher level, such as learning new technologies. The social influences and environment context in this case are merged. Social influences are opinions held by external influences (Venkatesh et al., 2003); mimetic pressures are defined as influences of competitors; and normative pressure relates to pressures from trading partners (Ikumoro & Jawad, 2019). Therefore, RQ3 seeks to investigate the extent to which leaders perceive influences, both external and internal (such as the public and other universities current and prospective students, regulatory bodies like accreditors, governments), as placing value on online education. Finally, facilitating conditions and barriers are captured at the organisational level and account for the presence of resources and support within the organisation as outlined above, conditions of the organisation may include size, communication and culture (Ikumoro & Jawad, 2019; Pisano, 2019; Yun et al., 2020). These conditions are answered by RQ4. Table 4 below recaps the research questions.

**Table 4***Research Questions*

RQ1. What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean?
RQ2. What is the role of perceived effort expectations by higher education leaders and teachers on online learning in the Caribbean?
RQ3. How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean?
RQ4. How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean?

There is a wealth of theories available for the investigation of technology acceptance. Given the nature of this problem and the context, several other frameworks may have been particularly relevant to this context. In addition to UTAUT and TOE, the other possible theories were the TAM and IDT. Despite TAM's value as a highly cited model, a major shortcoming highlighted in the literature is its overly simplistic nature, a challenge overcome by UTAUT (Shachack et al., 2019). For example, TAM does not accommodate barriers that prevent acceptance, such as perceived resources and perceived control (Masimba & Zuva, 2021). In a recent study, Isah and researchers, (2022) report that TAM is still not highly valuable in academic context, the context in which this study is based, whereas TOE has been well established within the academic community (Alatawi et al., 2012; Awa et al., 2015). The diffusion of innovation theory or innovation diffusion theory (DOI/IDT) was also considered for this investigation. It has

the advantage of being suitable for organisation level research, but as compared to TOE, it is limited by a lack of specificity (Awa et al., 2017; Gangwar et al., 2014). Zhang and Feng (2019) criticize the theory for being unable to capture the ‘regressive and volatile’ nature of adoption. Persons may reject an innovation despite understanding it, and persons may discontinue use due to dissatisfaction; such scenarios are not accounted for by DOI/IDT (Isah et al., 2022). Finally, Masimba and Zuva (2021) argue that the theory fails to present enough constructs to handle collective adoption behaviours. The literature reflects that TOE is more robust empirically and theoretically than many other adoption theories (Awa et al., 2017; Yoon & George, 2013). As UTAUT incorporates over eight theories, including the alternative approaches, it can encompass and leverage the advantages of them. Several researchers have recommended that UTAUT should be further researched in educational settings, such as those in the Caribbean (Thomas et al., 2014), as it is well suited for HE (Al-Saedi et al., 2019; Bervell & Umar, 2017; Fadzil et al., 2019).

### **DE Leadership**

The leaders of DE, both governmental and academic, significantly shaped the availability, nature and delivery of education over many centuries (Aldrich et al., 2013). The field has been pushed by several visionaries with foresight as well as pulled in various directions due to societal changes and demands (Hargreaves & Goodson, 2006). The early leadership, particularly those who pioneered the field, set the foundation for the DE trends that may be observed in HE more recently. A review of the literature on online HE leadership in the Caribbean would not be exhaustive without examining DE, which paved the way for online education. Much of the history of DE occurred long before the Eastern Caribbean islands even had an HE sector. However, these leaders, teachers, theorists and universities laid the critical foundation for instances of DE practiced within the region in more recent years. Specifically, this section explains the early environmental and

social influences that may impact leaders today as well as the infrastructure that contributes to the facilitating conditions. Currently, HE is facing major challenges with enrolments, perceived value and smaller fiscal spaces. Many speculate that the leaders of HE must increase their responsiveness to change to change this situation. In the literature, there is evidence of leaders shaping the delivery of HE to become more responsive to societal changes. Most prominently, some leaders have embraced DE to cope with the increasing demand for education (Caruth & Caruth, 2013), as the target audience of HE shifts (Johnson, 2019b; Slater, 1994) and there is a reduction in funding available to these institutions (Chevaillier & Eicher, 2002). To provide background into the problem, this section will explore the leaders of DE and the ways that they leveraged various tools and technologies available to them to facilitate teaching and learning, prior to online learning.

To fully investigate the research problem related to online learning and HE leadership, it is critical to delve into the foundation. DE leadership lies at the core of the problem being investigated as it is these leadership trends and changes, which preceded the current events that have played a key role in developing the field. A review of the leadership of DE reveals that there are many parallels between historical leadership perspectives and those seen today. By providing this historical lens, the research can be situated into the body of substantial literature already created and its evolution.

DE developed in parallel to traditional education, yet the concept and practice of DE leadership is unique (Eken et al., 2016). As many DE institutions also often deliver traditional face-to-face instruction, DE leaders are often required to be open to flexibility and constant learning (Nworie, 2012). Leveraging some existing leadership theories, frameworks have been put forward to guide current and prospective leaders in these contexts. Beaudoin (2003) defines the field as:

leadership in DE, as distinct from managerial functions in a variety of settings, is defined as a set of attitudes and behaviours that create conditions for innovative change, that enable individuals and organisations to share a vision and move in its direction, and that contribute to the management and operationalization of ideas (p.1).

In order to fully appreciate this discussion, some key topics must be defined.

The definition of DE is important to this discussion. It is often broad and has been modified over time. Earliest definitions refer to the separation of teacher and student. That is, learning that occurs while not being physically present in the same space, such as a traditional classroom (Faibisoff & Willis, 1987; Zigerell, 1984). As technology progressed, the mediums of delivery changed. This can be seen in various aspects of the literature that place emphasis on the postal service, radio, television and most recently through the internet. It is widely acknowledged in the literature that it is these technologies that have facilitated the widespread adoption of DE (Bryant et al., 2005; Hunter & Kier, 2022; Lemke, 1992). Ultimately, while the methods of delivery changed over the years, it is evident that information and communications technology (whether primitive or advanced) have been responsible for facilitating such experiences. Now, DE is typically defined in one of two ways. Firstly, it is sometimes used synonymously with online education, with the internet merely being the mechanism upon which DE is facilitated, replacing technologies such as the television (Gao, 2022; Steyn & Gunter, 2023). At other times, it is used to refer to the historical context in which education was less interactive, and a predecessor of online learning (Guri-Rosenblit, 2005; Wieser & Seeler, 2018). The existence of early DE may be seen as truly representative of educational leaders' responsiveness and willingness to innovate delivery for the education of larger audiences. As with any disruptive change, there are intense criticisms,

hesitations and uncertainty. Investigation into this phenomenon lays the groundwork for understanding the educational leadership that currently surrounds online education.

DE and online education are often part of the overall societal move towards openness, especially as it relates to education. After the 1950s, there was a massive uptake in openness, as concepts like transparency and freedom lead social and societal reform (Baker III, 2017). Institutions were seen as perpetuating the many societal norms and ills including elitism, classism and racism. This did not yet align with the goal of an open society where different cultures and lifestyles coexist. The related concept of open education parallels and often provides foundation for the notion of DE. Intergovernmental organisations, governments, and public and private institutions have recently begun officially making commitments to the idea of openness; but in practice, this phenomenon has existed for some time (Wiley & Green, 2016). There is no precise definition for the idea of openness in education as it represents an evolving concept (Baker III, 2017; Bozkurt et al., 2019). Some early literature (such as Coffey 1977, as cited by Bozkurt et al., 2019) involves removing constraints on the access to education; these may include administrative, financial and educational-based barriers as well as using a range of strategies to teach. The move to DE paralleled societal efforts towards more open approaches overall. Societal reform towards transparency and freedom began occurring in the early 1900s, Baker III notes. This societal and educational reform was led by several key individuals.

Moving beyond the understanding of these concepts, literature also guides us toward the leaders who have been influential in creating the early policies, theories and practices. These historical influences on DE have come from political leaders, HE theorists and leaders, as well as teachers. Similarly, in parallel, many societal and public sector leaders and policy makers had major influence in developing and pushing the related theory of openness in education. The

following summarizes the views of the literature as it relates to the significant influences toward a more open and inclusive society, following the impact this had on the field of education leading to the further development of open education, which became facilitated largely through DE.

These developments in DE in the early 1900s did not occur in silo. In fact, major education and societal reforms were occurring at this time. To provide context and situate the discussion on DE, it is imperative to explore the wider education and societal phenomenon of openness. The education system remains largely influenced by societal needs and changes. Thus, this section navigates briefly to cover the leaders who have engaged in some of the philosophical and practical changes as it relates to the access, availability and delivery of knowledge.

There are a few key players known for their influence in questioning society, the education system and learning. Their questions and challenges of the traditionally accepted approaches to society, learning and education opened the door for inquiry, change and innovation. Paulo Freire, Ivan Illich and Carl Rogers consistently appear in the literature as leaders who challenged the status quo at the time. Freire believed that their education systems were oppressive, and both the oppressors and oppressed should work towards breaking down these harmful components (Gomes, 2022). Illich criticized the school system significantly and called upon society to question the notion altogether. He believed that the best route would be to disestablish the system entirely and replace it with ‘self-directed learning webs’ (Bartlett & Schugurensky, 2020). Rogers strongly argued that the goal of education is adaptability in addition to the facilitation of learning. Therefore, the idea of an educated person was defined by Rogers as a lifelong learner that continually seeks to learn (Hullinger & DiGirolamo, 2020). Similarly, Karl Popper, known for his work on the Open Society, is a well-established philosopher of the 20th century. He believed that citizens should be critical thinkers and society’s systems should be open to all (Bailey, 2018) –

specifically, that an inability to educate the population was one of the greatest social evils in the life of mankind (Ingrams, 2020). The foundation of openness both socially and academically developed in this time provides much of the push for DE to reach wider audiences. The concept of openness is still seen today in intergovernmental policies and HE.

One of the earliest and most well-known governmental leaders relating to education is Queen Victoria. The political leader set the precedent for distance learning within the HE realm. Queen Victoria, who served as the Queen of the United Kingdom of Great Britain and Northern Ireland and the Empress of India from 1837-1901, had a significant impact on education (Aldrich et al., 2013). She believed in the value of education and passed laws that made education compulsory at the early levels (Swain, 2016). At that time, this was a very uncommon practice. Further, initiatives were set up to assist with the affordability of these education opportunities. Most relevant to this discussion is her support for DE. In the year 1858, she signed a charter to allow the University of London to offer degrees through DE (Pityana, 2007). This broadened the reach of education to many who would typically not have access to HE. At this time, the islands of the Caribbean under investigation were colonies from the British Empire. Yet, HE was not prioritized in this region, for many reasons, including the transatlantic slave trade, and subsequent dependence on the agricultural sector (Bacchus, 1988). This initiative set the stage for universities across the globe to begin research and continue practicing DE.

Around half a century later, theories related to the design of instruction began emerging. These would lay the foundation of our understanding of learning and how it may be facilitated in newer methods outside of the traditional face-to-face lecture. DE has largely been facilitated through the available channels and technologies. Of particular interest in the literature was the development of ideas surrounding education that focused on autonomy, independence, self-

directedness and, in many instances, without a lecturer present. The following documents the leaders who have shaped the ideas of independent learning, which served as a precursor for the online education seen today.

Dewey and Montessori are two prominent scholars in literature as it relates to open education in the 1900s and 1950s. John Dewey, whose theories and practices have that global influence, was a philosopher, psychologist and education reformer of this time. He did not believe in the rote memorization approach that was prevalent at the time and instead put forward the idea of inquiry-driven models with emphasis on democratic and experiential learning (Mirza, 2021). Dewey believed that learners should not be passive recipients of knowledge but empowered and engaged members of society, which can be achieved through the education system (Tarrant & Thiele, 2016). Importantly, he argued that ideas and fields should be open to reinvention, innovation and expansion. Given the emphasis on the individual's unique interests and needs, much of his work is seen through individualized instruction, student engagement, reflection and teaching as inquiry (Herman & Pinard, 2015). These ideas were new at the time and challenged the prominent method of the lecture format. Furthermore, Maria Montessori, known for the Montessori methods and schools, is another leader that played a significant role in shaping the realm of education (Fabri & Fortuna, 2020). While most of her work was done with children, the key principles largely influenced many of the foundational themes explored in DE. These ideas include instruction tailored for individuals, independent, self-driven and self-paced exploration of environments, and organic collaboration (Frierson, 2021). Personalized, self-paced instruction is typically now associated as a core advantage of online education.

A well-known academic leader, Thorndike, contributed significantly to the idea of reducing in-person instruction. Edward Thorndike, now considered the father of educational psychology,

was an academic who taught psychology at the Teachers College of Columbia University (Galef Jr, 1998). Thorndike's philosophy revolved around associations and making connections, so much so that much of this work would form the basis for operant conditioning in behaviourism (Brau et al., 2020). He designed tests, teaching aids and contributed significantly to the literature around adult education (Picciano, 2018). While his work took place in the 1912s, he was a visionary in that he believed that printed work could alleviate some of the personal instruction (Thorndike, 1920, as cited by Picciano, 2018). Specifically, he criticized textbooks as students did not have an opportunity to develop ideas and conclusions themselves. He fantasized about innovations that may allow books to allow students to more actively engage in learning - for example, that a book may not allow the student to view a second page, until the work of the first page was completed (Friesen, 2013). While many of these were merely theories, they are critical to HE leadership as many of these theorists would have a long-standing impact on the work done in academics today. In fact, another major theorist, Pressy, credited Thorndike for insights and inspiration on leveraging technology in education.

In 1924, using Thorndike's innovative ideas, Pressy designed the first asynchronous teacher: the teaching machine. This was perhaps the first-time technology had been created in this way to support education. Sidney Pressy was an academic who worked at Ohio State University (Laville, 2016). He cites his goal as liberating students and teachers of the burdens of testing and conformity associated with mass education. He developed a teaching machine in which students could engage in self-paced learning using multiple choice questions (Surma & Kirschner, 2020). One version allowed the student to answer a question before another question appeared. This forms the basis for the approach of standardized testing done today. Most significantly, was an enhancement to the machine that kept the question visible until the student selected the correct

answer (Duval et al., 2017). Thus, the feature shifted the machine from scoring to incorporating feedback. This idea of automating some aspects of teaching and making it self-paced was new yet is a rudimentary form of what we now do through technology. Pressey's work would influence the development of future teaching machines, such as the one designed by Skinner.

In 1957, Skinner would go on to create a more advanced teaching machine. B.F. Skinner is a well-known psychologist and academic associated with several universities, such as University of Minnesota and Indiana University, with a significant portion of his career at Harvard (Patel, 2014). Much of Skinner's contributions involved improving the efficiency of education. For example, he articulated that as demand for HE increases through population growth and interest, schools must investigate alternative methods of meeting this demand (Picciano, 2018). These include improving the curriculum and teaching techniques. He drew parallels to the ideas that other fields experiencing increases in demand, often turn to 'labour saving' capital equipment. While these contributions took place in the 1950s, they leveraged several instructional design techniques. He heavily supported innovation, the delivery of education through the technologies available at the time and developed a teaching machine that he believed could provide immediate feedback, encourage active learning and have auditory as well as visual components (McDonald, 2020). Thus, the machine was able to facilitate learning, with a student as the primary user and no teacher present. While powerful, this notion had already been around for some time, facilitated through the postal service.

Correspondence education is the first instance of DE and began at the individual as opposed to the institutional level. In the year 1728, Caleb Phillips, an American teacher, offered a private course, using letter writing (Clark, 2020). This is credited as the first public example of DE as it was published as an advertisement in the Boston Gazette, a newspaper. By the year 1840, Sir Issac

Pitman would launch correspondence courses to teach shorthand (Choudhary et al., 2018). These early initiatives occurred on a much smaller scale, but the concept soon garnered the interest of HEIs.

In response to the challenges being faced with increasing education access, HE leaders began leveraging different technologies, such as the postal service, to deliver education. Much of the history of DE explores the range of technology available to support the idea. Education via correspondence is acknowledged as the first true attempt at learning via distance (Rowntree, 1995). While the delivery of letters had been around for centuries, the formal establishment of postal services was pivotal in the development of correspondence education - in particular, the speed in the delivery of mail that many attribute to supporting education (Nsamba & Makoe, 2017). This is because students could send information, such as assignments, and receive feedback in ways that were fast enough to be meaningful. This was also after the invention of the printed press which allowed for the mass distribution of printed media, such as books.

The process of correspondence education is lengthy, especially as it compares to the options available now. Firstly, students would opt to receive educational material, then wait for its arrival via the postal system. Students could then engage with the material, complete assessments, then submit them through the post. Once received by the instructor, feedback is provided and mailed back to students and so forth. Ultimately, the process reached a far wider audience but could take several weeks.

As is typical with any significant change, including those that occur within the education system currently, there was a fair share of hesitancy around this process. In fact, while print media, such as books, have served as the foundation of HE for some time, initially, it was seen by a few as a threat to the system (Enarson & Drucker, 1960). Much in the same way that the internet is

perceived as being disruptive, the printing press was initially seen in this manner. However, in hindsight, it enhanced the dynamics of HE. In the beginning, many anticipated that given its ability to support the mass dissemination of information, students would no longer need to attend schools to become educated. While literacy has increased globally, and knowledge can be retrieved independently, the printing press ended up fuelling HE and changing the nature and efficiency with which education can be delivered. Specifically, as it relates to correspondence education, some concerns include the amount of discipline required from the student, the delay in being able to ask questions and potential loss of quality in the classroom as experiences cannot be readily shared (de Oliveira et al., 2018). Despite criticisms of the new approach, the increase in demand for education meant that it would continue for some time.

Social justice movements, particularly the women's movement, picked up momentum in the 1800s, which further fuelled distance learning via correspondence. While traditionally, HEIs aimed to serve men, this era marked the beginning of more emphasis being placed on women (Parker, 2015). Thus, it was around this time that the first woman taught at a university, and more and more women would begin to be accepted into universities and graduate with degrees. With recognition that education was an important right for women, there were still several limitations as most women were not able to leave their roles as primary caregivers within the homes to pursue studies. Thus, in 1873, the Society to Encourage Studies at Home (SH) was founded. This was an entirely correspondence-based institution within the United States, and the goal was primarily to educate women who were based within their homes (Coriale & Edelstein, 2021). Similar movements followed across the globe with schools in Australia and South Africa establishing distance learning programs.

By the time a century had passed, significant reform was visible in the education systems. For example, the free school movement of the 1960s and 1970s was a reform of the American education system. This led to the development of several alternative schools being created outside of the public-school system, funded through grassroots organisations and the community (Swidler, 2013). The goals of these were to have alternative curriculums in which families and the community had a stake in what the students were learning, and learning occurred at the students' pace (Biancolli, 2015). This was called the free school movement. Free in this context mainly referred to the anti-authoritarian nature. Often, a fee was associated with attendance, although it could be waived or subsidized. The core principles of this work expanded to other realms of the education system.

Several HEIs began aligning themselves with this concept of openness in education. The broader idea of open education itself gained popularity during this time. It was centred on the idea that learners learn best through interaction with other students, teachers and the environment around them. Moreover, students should feel a sense of autonomy over how they interact with their education experience (Seely Brown & Adler, 2008). Kohl (1969), as cited by Baker III (2017), reports to have leveraged learning to listen, create in the classroom and collaborate with students to create an authentic community like learning environment in the classroom.

Openness did not just focus on the classroom experience, but also on opening access to education. Open distance learning picked up at the HE level, to reach learners who would otherwise not be able to attend. In 1971 in the United Kingdom, open education was pioneered in a unique way. The Open University was the first school to provide HE through the distance approach without any entry requirements for students (Hurd & Xiao, 2006). This was at a time when only 5% of the population in this country had access to HE (McAndrew, 2010). The

university innovatively used television and radio to deliver education and proceeded to teach university-level subjects to students who were traditionally considered unqualified (Woodley & McIntosh, 2022). In the latter half of the 1970s, the University of the West Indies (UWI) began offering education via distance (Woodall, 2010), although there is not much literature on how this was delivered. Schools have been using the technology available to them to deliver education over large distances, but the increasing access to education became easier through multimedia.

As mass media came into development, it was quickly incorporated into the HE realm. Unlike other forms of delivery such as the postal service, mass media allowed for a wide reach with very little cost per individual student. It was seen as a highly convenient method of delivery, as it was often able to meet people in the comfort of their homes.

A significant shift occurred in the DE realm with the advent of radio devices. Due to its ability to reach many people in a short time, radio is considered a mass medium (Yuzer & Kurubacak, 2004). Educational radio stations were established by the University of Wisconsin and the University of Minnesota, in the early 1920s (Rinks, 2002). The literature relating to its evaluation and effectiveness begins as early as the 1930s from Ohio State University and others. Some suggest that the sudden increase in popularity as it relates to the studies published parallels the marked uptake in use (Crawford-Franklin & Robinson, 2013). Importantly, at this time, there is no evidence of radio university occurring in the Caribbean. The development of the Caribbean Broadcasting Union (CBU) was not until 1970. It is likely that any radio-based learning would occur after its establishment, although there is little literature on this (Brown, 2012). Radio was sometimes used in conjunction with other technologies, such as the telephone, when possible, to increase interactivity (Yuzer & Kurubacak, 2004).

Many of the criticisms and controversies surrounding educational radio are often still discussed when newer approaches such as podcasting are analysed. The issues highlighted by Willey and Young (1948) are summarized as follows. Firstly, radio uses unidirectional communication, and this can be passive. Moreover, it is difficult to personalize, and may be less engaging and effective due to the lack of visuals. Then, scheduling can be a challenge. Finally, teachers engage in significant work already, and there is a perception that they should not be expected to undertake further labour to create additional teaching materials, especially without time and training. Some cite curricula differences, especially as it relates to the irrelevance of certain content in some locations and cost as significant factors limiting the use. Notwithstanding, there were still praises that the reach was significant in both rural and urban areas and that the convenience was at the time unmatched.

As television gained popularity, it quickly became a delivery method for HE. This means lectures would be recorded and broadcasted on a range of channels. In the 1950s, the University of Houston began offering the first televised college classes for credit (Fisher, 2012). This school allowed a new dimension of education at this point, where persons not typically eligible for college education could pay a minimum fee to watch these televised lectures, were sent mail but did not receive credit or take examinations. Much like radio at the time, it was familiar, affordable in that the cost per person to the university was relatively low (Horvath & Mills, 2011). Moreover, it had the ability to reach students in their homes, which significantly increased convenience. Television had the major advantage over radio as it facilitated both audio and visual content (Fisher, 2012). Videos were particularly considered helpful in the delivery of education as one could zoom in and out as necessary to direct the viewer's attention. Abstract content was particularly more suited to television than radio as it could be delivered via animation (Saglik & Ozturk, 2001).

Nonetheless, television-based education was not without its share of limitations (Clark, 2020). For example, television severely limits the tracking of attendance and interactivity; the influence and skill of the instructor in the classroom or via television remains the most significant aspect. The key limitation at this time was that information was very unidirectional, and even graphical slides were limited as television transmission was still in grayscale. The element of feedback, which is crucial to learning, is not able to be achieved through this medium, and therefore it relies on additional methods, such as sending in assessments via the postal service. Finally, as television broadcasting has a controlled schedule, educational programs on one channel compete with time from the programming held on another channel at the same time (Hannum et al., 2009). While a range of benefits and frustrations are expressed in the literature as it regards reaching a wider audience, the idea of reaching students and making education accessible continues to persist.

The field of DE has been influenced by a wide range of leaders, socially and academically: from early theorists who put forward various instructional design theories, to social reformers who encouraged education and society to embrace diversity. Their influences can be seen in early research documenting the use of the postal services, mass media, such as the radio, and audio-visual media, such as television. Many of these initiatives paralleled changes in the pedagogical practices to become more inclusive and anti-authoritarian. Inevitably, some practices persisted, and others were discontinued due to ineffectiveness. Importantly, these changes in society as well as technology had a significant impact on the education system. These can serve as guiding principles as HE navigates further uncertainty from rapid societal and technological changes. The small island Caribbean states did not appear to have the infrastructure to offer DE until the 1970s, but there have been significant changes since then. These movements across the globe provide

insight into the social and environmental factors that influence the field today, as well as the innovations that create the infrastructure for education in the Caribbean to be delivered through non-traditional methods. In the absence of substantial literature in this context, more research should be carried out to gain insight into what facilitating conditions and social factors are at play for HE leaders within the Caribbean (Boiselle, 2014; Thomas et al., 2014).

### **Online Higher Education Leadership**

With the development of the internet, a new medium upon which education could be delivered was also created. HE embraced the notion of online education before the other education sectors. In reference to the analysis and exploration of the perspectives of online educational leaders in the Caribbean context, a broader discussion of the historical and research context of online HE as a whole is needed. The literature analysed here further reveals the foundations of social, organisational and technological components that now support the delivery of online education within the region. Accordingly, the following presents the history and contemporary research of HE.

### ***History of Online Higher Education***

The history of online HE itself begins with the birth of the WWW and traces itself through the creation of learning management systems, massive online open courses (MOOCs) and blended learning (Palvia et al., 2018). Today, online HE is in a state of mass adoption (Seaman & Seaman, 2019) that some scholars believe will be accelerated as a result of the pandemic (Pham & Ho, 2020). Achieving true online learning takes time, resources and planning; thus, many scholars refer to learning that occurred during the pandemic as emergency, remote learning (Khlaif et al., 2021; Rahiem, 2020; Tulaskar & Turunen, 2022). Nonetheless, globally, most schools are engaged in the process, and, most people, in some form of remote work or study. It is therefore likely that this

primary exposure will steer the course of online learning going forward, positively or negatively. An analysis of what constitutes online learning is important to situate an investigation into the problem.

There are many definitions of online education in the literature. There are also strongly related, but not synonymous, terms such as eLearning. Singh and Thurman (2019) put forward a broad and encompassing description:

Online education is defined as education being delivered in an online environment through the use of the internet for teaching and learning. This includes online learning on the part of the students that is not dependent on their physical or virtual co-location. The teaching content is delivered online and the instructors develop teaching modules that enhance learning and interactivity in the synchronous or asynchronous environment. (p. 15)

This definition acknowledges that while online may be the mechanism of delivery, there may be different modalities of delivery and a range of circumstances and classrooms that may meet the criteria. Importantly, this definition recognizes that online education is not one narrow aspect of education but may be representative of a wide range of learning environments much in the same way that traditional education does.

Online learning is often treated as a descendant of DE, which has its roots in the 18th century with the invention of the printing press and further developed through the invention of radio, video and cable (Kaplan & Haenlein, 2016; Liyanagunawardena et al., 2013; Reid-Martinez & Grooms, 2018; Singh & Thurman, 2019). Many of the guiding principles that aid in our understanding of teaching students who are not physically present from early times, such as those created by the instructional leaders Thorndike, Pressy and Skinner are still applicable. In fact, even the premise upon which these modalities were originally designed is still valid. However, it is

imperative to note that, at the time of writing, the technology available far surpasses what has been historically used. Thus, the goal of re-creating or aiming to achieve academic soundness need not be the primary aim, as technologies, such as virtual reality (VR), may be able to create academically superior learning than traditional, non-technology supported environments. Recently, Wu and researchers (2020) engaged in a meta-analysis, which revealed that students perform better in immersive, VR environments than in lecture formats or real-world environments. The advancements in technology remain at the foundation of achieving this type of learning.

The invention of the WWW in 1989 brought about online education as we know it today. This is not surprising as the infrastructure of the web, the internet, had its origins at four universities: the University of California, Los Angeles, the Stanford Research Institute, University of California at Santa Barbara and the University of Utah (Greenstein, 2020). Before this point, education via distance was largely unidirectional, and the web presented an opportunity for collaborative learning (Reid-Martinez & Grooms, 2018). Using the web, students can interact with other students, instructors and materials more conveniently and quickly than before. The 1990s were marked by a massive expansion and innovation in online learning (Harasim, 2000). This expansion paralleled society's increase in acceptance and use of the web for general communications, work and entertainment. At the time, many scholars praised this format for increasing accessibility, removing barriers to education and increasing convenience (Harasim, 2000; Lee, 2017; Sealy Brown & Adler, 2008). Students could be presented with material in different formats; various forms of accommodations were now available at a relatively low cost per student for the first time, and students were able to access material from the comfort of their homes allowing for reduced travel expenses and time.

The first version of the web (now called web 1.0) introduced many theoretical and empirical changes. It brought with it attempts to use the internet as a means of delivering education globally. Within the Caribbean in the late 1990s, the internet was starting to be used for this as well (Hunte, 2011). Yet, according to the Economic Commission for Latin America and the Caribbean (1999), the Caribbean was not able to use this innovation to the same extent as the neighbouring regions. As the body of knowledge on this grew, so did the pedagogical instructional models and theories (Harasim, 2000; Mayer, 2019). For example, to add to the wealth of theories that had already been established to explain how humans learn, connectivism was put forward as a learning theory for the digital age. Boyraz and Ocak (2021, p. 2) succinctly defined this theory as “an epistemological approach based on interactions in networks both in the individual's mind and in the outside world.” This was also around the time that technology acceptance models began being investigated (such as Davis, 1989). TAM was well-received as it presented an explanation for a novel and fascinating phenomenon. Further to that, the idea of open education resources (OER) arose as universities began publicly releasing content (Liyanagunawardena et al., 2013). OER may be seen as a step in a chain of attempts to increase access to education, and to remove barriers, financial or otherwise. As the name implies, OER refers to information that is openly licensed and made freely available (Seely Brown & Adler, 2008). There are different forms of licensing in which a participant may be able to reuse the material, modify it or be required to refer directly to the source material. Typically, creators of OER determine how they wish to be acknowledged for their work and the way it can be used in alignment with the creative commons licensing options. Finally, web 1.0 also fuelled the development of one of the most significant innovations in the realm of online learning: the learning management system (LMS), a system

specifically designed to enhance the process of teaching and learning to help the student and teacher.

LMSs were a major milestone for teaching and learning in HE. An LMS may be defined as a dedicated software that aids in the planning, implementing and assessing of learning (Aldiab et al., 2019). The first LMS was established in 1990, ran on Macintosh computers and was available to desktop users (Chen & Almunawar, 2019). Over the years, they have been worked upon substantively, and newer technologies have been leveraged to achieve noteworthy innovations. In their development, the year 2002 marked the release of Moodle, the first open source LMS, in line with the ‘open’ culture developed through web 1.0. The year 2008 launched the first cloud-based open course LMS. This system (like most in use today) runs entirely on the internet without the need for university-based servers, classrooms, or mainframe computers, Chen and Almunawar note. Currently, LMSs are a ubiquitous part of HE, including at institutions that offer no online learning options. They are often seen as a tool that extends the boundaries of the physical classroom, can connect with plagiarism checkers and impact the culture of teaching and learning. Students have extended autonomy on how they submit assignments and engage with the materials on this self-service system. The technology and culture of education, stemming from the widespread use of LMSs lead to the explosive popularity of MOOCs. This led to the development of LMSs that were established purely for the creation of MOOCs, such as OpenEdx.

Upon their creation in the mid-2000s, MOOCs were perceived to be ground-breaking and likely to bring obsolescence to the traditional HEI (Joksimović et al., 2018; Shirky, 2012). Specifically, their advantages of modularity, flexibility, affordability and low commitment requirements were expected to provide an appeal that could not be matched through traditional HEIs. These courses were initially designed as free (or low cost) online programs, from public and

elite universities, that could accommodate many persons (Kaplan & Haenlein, 2016; Liyanagunawardena et al., 2013). The large number of people is key to the design and reflected in the word, massive, as they did not have the space limitations of a physical classroom. On the micro-level, these allowed persons interested in certification and curiosity-based learners to connect, leveraging embedded discussion forums, and in many cases, students had the option to exchange contact information for a range of social media platforms to continue conversations there (Moreno-Marcos et al., 2018). Hashtags are sometimes used by students as a means of identifying related information across various platforms. Given the flexibility, access and unprecedented student diversity (Joksimović et al., 2018), MOOCS were seen on a larger scale as being able to play a foundational role in universal e-education and achieving the 4th sustainable development goal (Meet & Kala, 2021; Sanchez-Gordon & Luján-Mora, 2018). Wulff (2020) describes this goal as an effort to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” (p. 1). Despite the initial hopes that MOOCs would be the beginning of lifelong learning with universities as lifelong learning providers (Stracke & Trisolini, 2021; Zawacki-Richter et al., 2018), the growth of MOOCs has slowed substantially.

Several factors prevented MOOCs from living up to their anticipated impact. The dropout rates in MOOCs are concerningly high (Badali et al., 2022). Most successful learners engage in some form of self-regulation, yet the extent required in MOOCs is likely to be higher (Wong et al., 2019). Academically, self-regulation refers to a combination of factors related to getting goals, reflecting and measuring to see if those goals are met and making changes as necessary. Research has suggested that MOOCs favour educated and relatively advantaged students (Kaplan & Haenlein, 2016; Sanchez-Gordon & Luján-Mora, 2018). Thus, students who have demonstrated success in traditional learning environments are the same ones who will likely demonstrate success

in MOOCs. This practical implication aligns with some of the theoretical ideas put forward by Houlden and Veletsianos (2019) as it relates to the criticism of flexibility associated with online learning. They argue that instead of truly being flexible for all, it is merely a convenient option for those who would already pursue and have success in traditional learning spaces. As concerns were raised about the educational inequalities, MOOC 2.0 was introduced, which came with fee structures, which further excluded learners (Lambert, 2020).

While the interest and excitement around the phenomena has stabilized, MOOCs remain an active area of research with a growing number of learners (Stracke & Trisolini, 2021). While universities are not pursuing MOOCs as a full-time alternative to traditional education, blended delivery has become increasingly popular. According to Picciano (2017), this is a complex phenomenon in which multiple forms of content are used, along with different instructional tools. Students are able to use mobile devices to interact with content; this gives way to newer related fields, such as game-based and virtual environment learning.

Rapid developments in technology have brought about significant socioeconomic changes that have transformed HE (Harasim, 2000). Online learning is no longer being seen as supplementary; as it becomes integrated in mainstream society, more schools are offering larger numbers of diverse online courses and programs (Allen & Seaman, 2006; Harasim, 2000). Online education continues to be perceived as desirable, democratizing and essential in the intergovernmental goal of ‘massifying’ HE (Houlden & Veletsianos, 2019; Leo-Rhynie & Hamilton, 2007). The hope has been that online education can provide students who have geographical and financial constraints as well as social obligations such as work, the ability to pursue inexpensive high-quality degrees (Protopsaltis & Baum, 2019).

At the turn of the new century, looming pressures on HE continue to challenge universities. These include increased competition, declining enrolments, a shift in the demographic of students and decreased government funding (Baltaci-Goktalay & Ocak, 2006; Eddy & Kirby, 2020). Academia recognized that much like its industrial counterpart, technology may serve as an innovative and cost-effective solution. Such decision-making appears to be in line with longstanding economic analyses that show embracing technology as part of teaching and learning may be the only solution for HEIs to increase productivity while keeping costs minimized (Baltaci-Goktalay, 2006; Massy & Zemsky, 1995).

In addition to research, demand has also played a role in the uptake of online education. The student groups are also becoming increasingly insistent that technology should be integrated in their courses (Baltaci-Goktalay, 2006; Eddy & Kirby, 2020). Fortunately, most schools are able to use the same faculty for in-person and online education, which coincides with school leaders' beliefs that their students are as satisfied in online programs as they are in person (Allen & Seaman, 2006). The mass adoption appears to be here to stay. Increasingly, institutions are rating online education as a critical long-term strategy; schools anticipate continued growth in online education, although growth has slowed (Allen & Seaman, 2004; Allen & Seaman, 2006). Some evidence suggests that the full potential of online education has not been realized (Protopsaltis & Baum, 2019).

The relatively recent increase in adoption has resulted in more research being done in this area. A review of the recent literature reveals that contemporary research of online HE concerns itself largely with quality, student perspectives, efficacy and access.

The quality of education in the online realm remains a consistent theme in the literature. However, scholars have not come to full agreement on the definition. Roberts (2005) said despite

the range of definitions, quality refers to goodness and suitability. Several bodies have sought to establish quality metrics for HE organisations; most notably is the body of work that relates to Quality Matters (QM). The QM rubric places emphasis on the quality of course design (Gregory et al., 2020), yet many acknowledge that this may only be one aspect of the multi-faceted concept. Interestingly, quality may be so challenging to define as it relies on what Houlden and Veletsianos (2019) acknowledge is a false assumption that learners experience education in a universal way, which is known to be untrue given the broader ideological and sociological foundations of the education system. Ultimately, some scholars believe that by placing too much emphasis in the literature on programmatic definitions, the research may neglect advancing the practice and field (Lee, 2017).

Evidently, there is a need for quality education. There is significant agreement from proponents and sceptics that course design, especially as it relates to interactivity, will improve the quality of learning. Studies also show that active learning can occur cognitively, through watching presentations, even if the method of delivery is not tactile (Mayer, 2019). As it currently stands, the technology available can provide students with deeper learning experiences and powerful attainment of learning outcomes if used correctly (Lin & Gao, 2020; Mayer, 2019). Yet, academic leaders remain concerned about the pedagogical quality of online education. The recent pandemic highlighted the need for online education to be a sustainable alternative to in-person education. Currently, student reported outcomes are used as a means of academic achievement and satisfaction. Some scholars note that in the future, learning may be assessed through brain and physiological data (Mayer, 2019).

As students play a crucial role in online education, their perspectives are a salient theme in the literature. Students appear to place significant value on interactivity (with peers, teachers and

the system) in alignment with existing literature from Turley and Graham (2019). Firstly, students report enhanced learning, improved attitudes, more motivation and more connection in cases where peer learning is leveraged in the online environment (Tang et al., 2022). Evidence suggests that peers can promote the development of ‘soft’ skills while also strengthening knowledge of the ‘hard’ applied sciences (Lau et al., 2022). Peer learning can also be combined with social media-based learning to further flexibility (Gamlath, 2022). The notion of peer involvement was also significant during the emergency remote learning that took place during the pandemic (Tang et al., 2022). Students desire connection with their course instructor (Gaina, 2019; Scott & Turrise, 2021). They dislike unprepared facilitators in live sessions and prefer for faculty to participate in discussions (Songo & Zirima, 2022). Interaction is also outlined in literature as a method of reducing the student dropout rates and at-risk students (Protopsaltis & Baum, 2019).

The technological infrastructure that supports online learning, such as system interactivity, matters to students. This makes sense as students interact heavily with the systems and in some cases may be part of the digital native population. Specifically, students value ease of use, features, organisation and clear navigability (Chopra et al., 2019). A well-designed system can help to move away from the traditional unidirectional system of learning (Baskir, 2015). Studies with students during the pandemic reveal that a majority left comfortable adapting to new technology (Etajuri et al., 2022). Students who access the right technology indicate that online delivery is effective (Songo & Zirima, 2022). This may imply that computer-related efficacy and skills play a role. Students also value flexibility and the ability to go at their own pace; there must be balance in providing this as isolation and loneliness is sometimes reported by students (Songo & Zirima, 2022).

Efficacy is largely associated with online education for both teachers and students. Bandura coined this term to refer to one's beliefs on their ability to organize and implement strategies to accomplish a task as well as having power to predict and determine one's behaviour (Kundu, 2020). Low self-efficacy has been associated with less effort exertion (Peechapol et al., 2018). Leaders of academic institutions report that online education requires more effort and discipline for faculty and students (Allen & Seaman, 2016). In the broader context of education, self-efficacy is better able to predict academic success than cognitive processes.

While the concept of self-efficacy has developed prior to the internet, it remains prominent in students' success in online environments (Alqurashi, 2016). A special type of self-efficacy called computer self-efficacy was coined by Murphy and researchers (1989). Similarly, this refers to one's belief that they can use computers to accomplish tasks (Shah, 2023). Both academic and computer efficiency are impacted by content and system, and community; learner motivation and attitude are also important (Chiu & Tsai, 2014; Vayre & Vonthron, 2016). Concepts, such as innovativeness and playfulness with computers, impact e-learning system self-efficacy (Peechapol et al., 2018).

Students appear to learn better in the online environment when their self-efficacy beliefs are high (Corry & Stella, 2018). Broadbent (2016) encourages the use of online education with younger audiences, such as digital natives, as they are very familiar and comfortable with technology, and this has been associated with academic success in online education. Given that studies consistently predict academic success in the online environment using efficacy, as well as dropout rates, some scholars are calling it the recipe for academic success where online education is concerned (Joo et al., 2000; Kundum 2020; Peechapol et al., 2018).

As it relates to teachers' self-efficacy in online education, a wealth of studies exists to investigate its impact. Models of technological acceptance, such as UTAUT, leverage Bandura's SCT as a means of explaining acceptance (Altalhi, 2021). Given the speed at which technology progresses, some scholars believe that to embrace technology as part of pedagogy requires teachers to have a special, ever-evolving form of self-efficacy (Kundu, 2020). Self-efficacy is particularly important due to the increase in access to education, which means students who were not the original target of HE are now able to be involved.

In the discussion on online education, the most prominent advantage is access, largely to the culture of openness brought about by the internet. Matheson and Matheson (2009) define access as it relates to online learning in HE as follows:

Access to higher education might be said to exist when the drivers are stronger than the barriers, and especially when unnecessary barriers are removed, whether these be social, economic, geographical, or disability related, and where potential participants feel that the learning opportunity is for people like themselves. (p. 132)

In the literature, the key tenets of access as it relates to online education include cost, distance, flexibility and accessibility. The matters of cost and location are often combined. Online education has the potential to reduce the cost of degrees. This makes it more available and accessible to students (Protopsaltis & Baum, 2019). Yet, some scholars believe that this remains a strong theoretical idea that has not manifested in practice (Houlden & Veletsianos, 2019). Concretely, the change in the nature of the barriers of geography reduce costs and is thus beneficial to those who cannot afford to move to obtain a degree (Kahu et al., 2014). Overcoming the geographical distance itself increases access. Learners may be bound to location due to disability, employment, social responsibilities as well as preferences. Flexibility, for the aforementioned

reasons, is also associated with access (Houlden & Veletsianos, 2019). In this case, the degree of structure and formality makes the material available to some audiences. It also allows universities to contribute to the achievement of societal goals and needs, such as those that relate to individuals as well as organisations (Wulff, 2020).

While access and accessibility are fundamentally different, they are sometimes brought up together. Accessibility refers broadly to supporting learners towards their knowledge acquisition and development. Kumar and Wideman (2014) provide the following synopsis of accessibility:

In order for a learning environment to be inclusive of the needs of all learners, the learning materials and an understanding of the learning materials must be accessible to all learners (Sapp, 2009). However, accessibility can be difficult to define and achieve because it is a somewhat subjective variable. This is because what is accessible to one student may not be accessible to another. (p. 126)

Some scholars believe that to truly increase access to a wider audience, as opposed to simply making access more convenient to the same audience, accessibility must be considered (Lee, 2017). Serving different non-traditional students is possible with online learning, but it must be prioritized (Lee, 2021). As online education furthers the possibilities of lifelong learning, some believe that it will continue to develop the notions of openness and accessible entry points (Bozkurt, 2019). It is important to note that merely accepting disadvantaged students is not enough if they are unable or unlikely to succeed (Houlden & Veletsianos, 2019). Accommodating these students by leveraging the affordances of technology will allow them to benefit from HE.

In conclusion, online learning develops on many of the foundational principles of learning. The WWW made this experience possible. Since its development, LMSs have revolutionized the amount of autonomy and independence students have. Trends, such as MOOCs, explored a model

of massification in the delivery of education. Ultimately, this leads to an overall mass adoption of online learning, especially as devices are more powerful and available than before. HE leaders face the challenge of ensuring quality of education, while students remain positive and interested in online learning. This is also faced in the Caribbean region. Efficacy plays a major role in learners' ability to continue in the programs as well as teachers' ability to develop material and successfully navigate the online learning environment. Technology can improve access to education to areas that may not otherwise have access, while at the same time, it can also be leveraged to improve the design of material to make it easier to be received by a wide range of students. These innovations give rise to environmental factors and infrastructure considerations that may influence the group of leaders under investigation as they navigate the adoption of online learning. Given the history, significance and possibilities, the fact that online education remains underutilized by HEIs is an area that is increasingly relevant for investigation (Gaffar et al., 2011; Onaolapo & Oyewole, 2018).

### **Teaching and Learning in Online Higher Education**

The quality of teaching in HE gains increasing importance with time. There are many best practices from the past, which have kept their place in the classroom today, as well as methods that have not changed from convenience. In earlier practices, the process of teaching and learning largely involved 'telling' through the lecture format, with the teacher being the expert, authoritarian figure (Hafeez, 2021). World War 2 (WW2) led to a massive revamp of the HE sphere as there was more support for people interested in pursuing a college level, academic or vocational education (Geiger, 2019). Teaching and learning become more student-centred as a result. Many advancements in pedagogy have occurred in the 21<sup>st</sup> century as it relates to theory and practice, largely facilitated through parallel advancements in technology (Shafiee & Ghani, 2022).

Nonetheless, the shifting demographics, changes in teaching approaches and the mediums of delivery have undoubtedly brought their own challenges and advantages. The global trends may inform practice within the small islands of the Caribbean. An investigation into the literature on teaching and learning online provides insight into how well these tasks can be accomplished and so relate to the performance expectations of online learning and its relative advantage. Accordingly, the literature as it relates to the complex history and contemporary research of teaching and learning in HE is analysed and discussed below.

To contextualize this conversation, an investigation into the historical foundations of teaching and learning in HE is needed. HE has long been associated with the lecture format. This method dates to the 5<sup>th</sup> Century BC and primarily involves ‘telling’ or one-way communication, although it is common practice for lecturers to ask questions to establish two-way communication (Rahman, 2020). Prior to WW2, the student demographics of HE was mostly homogenous, with dedicated, fulltime students. Given that the lecture method had such a well-established history and appeared to be working for these students, there was little pressure to change or innovate teaching approaches. However, due to societal changes, there were shifts in the demographics and more attention was placed on the quality and delivery of education. The historical analysis will begin from this point of change.

The HE system began feeling significant pressure to change towards the end of the war, as veterans returned home from service (Geiger, 2019; Trow, 2000). These people were interested in developing their skills and abilities through HE and the government recognized the importance of educating this group as they may otherwise remain out of the workforce (Cochran-Smith & Fries, 2008). Thus, what many scholars consider the most successful social experiment of the twentieth century took place: the G.I Bill of Rights. The bill encouraged the pursuit of HE by covering tuition

and living stipends for veterans (Stuart, 2020). Consequently, this resulted in a massive expansion of the HE systems (Trow, 2005), and drastically increased the prestige and power of universities (Cochran-Smith & Fries, 2008).

This new audience of HE meant that more attention, effort and funding would be placed on the delivery of education. From a theoretical standpoint, two independent psychological movements crossed paths and resulted in increased popularity (McKeachie, 1990). It is worth investigating these two approaches and much of their influence is still seen in the way that education is delivered today. The first approach was developed by Carl Rogers, one of the founders of the humanistic approach in psychology, called the non-directive approach (Shefer et al., 2018). Put simply, it involved changing the dynamic of therapy sessions to be driven by the client and not the therapist (Woodward, 2020). It complimented another theory that was developed by Kurt Lewin, now considered one of the pioneers of social, organisational, and applied psychology (Muldoon, 2020). His theory was the group dynamics theory, which highlighted the power and influence of groups over individuals and communities (Pasqualini et al., 2021). These effectively laid the foundation for the research that followed on group-centred classrooms with a heavy emphasis on student discussions. In turn, the role of the teacher as an expert shifted, and students gained more autonomy, connection and building of their knowledge, to which students appeared to respond favourably (McKeachie, 1990). The shift towards a more collaborative classroom, not centred on passive receipt of knowledge, gave rise to an overall focus on the students' needs.

In the years that followed, student-centred approaches would gain popularity across universities. While there is a wealth of names for the approach to teaching, collaborative learning in this paper will refer generally to learning that encourages human interaction as an essential part of the overall education experience (Al-Samarraie & Saeed, 2018). The research suggests that this

method promotes higher level critical thinking skills, provides a philosophical shift where learning is the goal and not only performance, and increases student retention (Chan et al., 2019; Panitz, 1999). Further benefits of this approach include creating a social support system, development of empathy and self-esteem and team building. Towards the 1970s, the notion of constructivism in education gained popularity, and interest in this topic would be maintained for several decades (Kratochwil & Peltonen, 2017). It supported this move towards student-based approaches as it argued that learning was not a passive experience of knowledge transfer; rather, social discourse played an essential role (Kiraly, 2014; Kratochwil & Peltonen, 2017). Despite the wealth of theoretical and empirical support these collaborative approaches gained, there were still limitations to their widespread adoption in HE. Barriers to achieving this adoption included instructors being unfamiliar with how constructivists theories may be implemented, challenges with facilitating these student-based activities, financial limitations, low instructional autonomy and high-stake examinations (Serrano Corkin et al., 2019).

At the turn of the 21<sup>st</sup> century, societal changes further propelled changes in the field of teaching and learning (Shafiee & Ghani, 2022). The WWW influenced what could be achieved in the process of teaching and learning, for example, any time anywhere interaction with content (in the form of video, text, assessments, to the newer models which can facilitate, game-based learning virtual and augmented reality environments), interaction among students, and with teachers (Liu et al., 2020). Some evidence even suggests that augmented environments may be able to better achieve learning outcomes than traditionally delivered content (Bhagat et al., 2019). With recognition of the paradigm shift, some scholars believed that learning could now occur in a more networked fashion (Ferguson & Sharples, 2014). Thus, a new learning theory for the digital age was developed: connectivism. Connectivism can be described as an approach based on interactions

in networks in the outside world and in the mind (Boyras & Ocak, 2021). In an analysis of connectivism against the traditional theories, Voskoglou (2022) cites a key difference as connectivism being able to address actionable knowledge. One example of this kind of knowledge is when an individual is required to act by drawing information, which is stored within a database manipulated by technology. Advancements in technology and delivery of education have given rise to new topics of investigation in recent decades.

Recent literature reveals a plethora of new themes and ideas that support teaching and learning in online contexts. Interestingly, there have been several key changes that have resulted in the modification of the medium of education. More students are able to access HE than before, which has further shifted the demographic. As the audience changes, so too do the expectations around the methods of teaching (Johnson, 2019b). Thus, this section analyses the literature reflecting the current trends in teaching and learning online.

As adults are the largest audience of online education (Kara et al., 2019), the key theories associated with adult learners are highly relevant to this discussion. The seven principles of adult learning theory are: self-direction, transformation, mentorship, motivation, mental orientation, readiness to learn and experience. Briefly defined, self-directness refers to learning at one's own pace and methods; transformational learning involves changing perspectives; experiential emphasizes hands-on; mentorship means learning from an established figure; orientation deals with reframing assumptions; motivation in adults tends to be intrinsic and ready to learn based on their past experiences (Chen, 2014). Adult learning theory was developed under the name andragogy to differentiate it from the related field, pedagogy, which at the time referred to the teaching of children (Tezcan, 2022). Nowadays, it is common practice that the term pedagogy may be used to refer to either audience of learners. Ultimately, it is recommended in the literature that

the adult learner group would benefit from learning environments where they can bring their knowledge, understand the relevance of what they are learning, and be able to apply these in their contexts. Online education has proven to be able to facilitate this kind of autonomy, self-direction and be particularly helpful for students who are intrinsically motivated.

The adult learner group continues to expand in the direction of ‘non-traditional’ students. To contextualize, in the beginning, HE served young adults, primarily of the upper class, usually men who could dedicate time to being on a university campus as they pursued their education (Johnson, 2019b). Cobley (2000) states that in the Caribbean this group was male and almost exclusively White. As the demand for HE increased, universities began accommodating more students of different races, nationalities, genders and socioeconomic backgrounds. With recognition that some of these students had other demands in addition to studying, flexibility became important. To support these students a variety of strategies were used. One well-known example of the widespread earlier approaches was night classes. As the name implies, these classes were held outside of traditional class and working hours, so students would be available to attend (Vasconcelos et al., 2020). With advancements in technology and its availability, online education has largely been able to fill this need. Online learning’s flexibility has the ability to appeal to students who may not have traditionally had the time or money for HE but have the interest and would benefit from obtaining degrees for better job prospects as well as social mobility (Müller & Mildemberger, 2021). Thus, a larger volume of non-traditional students has begun pursuing HE in recent times.

Cherrstrom and Boden (2018) report that 75% of US undergraduate students are non-traditional students. Moreover, in the context of the Caribbean, an overwhelming majority of students in need of HE would also be considered under this category (Walker & Malcolm, 2022).

Non-traditional students are challenging to define, as they may have a range of characteristics that differentiate them from more traditional groups (Chung et al., 2017). These characteristics include, but are not limited to age, employment status, enrolment status and minority status (Wray & Montgomery, 2019). Some scholars believe that some students have been historically underrepresented in tertiary education, including primary caregivers, financially self-supporting students, or those with physical and learning challenges (Rozvadská & Novotný, 2019). In fact, within a given context, non-traditional may vary. It is imperative to be mindful that regardless of the criteria used to define non-traditional students, the fact that they were not the original audience for which most education systems were designed means that there are often challenges associated with either teaching or learning (Padilla-Carmona et al., 2020). Moreover, the innate challenges associated with the online environment may be exacerbated with this audience (Ren, 2023). Online education is well-known for its extensive advantages, yet to gain a full picture into the problem being investigated, the challenges must be explored.

As the problem surrounds HE's hesitancy to fully embrace online education, the aspect of challenges faced by educators must be considered. If these challenges associated are significant and outweigh the benefits, or are perceived to be insurmountable, there is likely to be more resistance (Venkatesh, 2022). In many cases, novelty can be considered a challenge. For example, when instructors lack online teaching experience, they may be unfamiliar with managing the environment, much in the same way that new teachers face transitory challenges when they begin teaching in a traditional classroom (Dias-Lacy & Guirguis, 2017). As it relates to online education, there are many sources of challenges. Firstly, technology may bring its issues as it relates to availability, training and digital literacy. Secondly, pedagogical knowledge (as it relates to teaching, the delivery of that specific content and the delivery of specific content in the online

environment) as well as preferences may influence the success of teaching (Andyani et al., 2017). Finally, teachers may face different challenges depending on their students. In this section, the challenges documented in the literature are explored.

Technology-related challenges are a consistent theme in the literature. There was an increase in this theme after 2020 as many studies focused on the remote emergency learning that occurred because of the pandemic (Al-Balas et al., 2020; Dubey & Pandey, 2020; Wallace et al., 2021). Prior to this time, technology limitations were still prevalent. Firstly, there is the issue of availability of the kind of technology to support learning (Güzer & Caner, 2014). For these technologies to be available, universities must invest in infrastructure, such as stable high-speed internet connectivity, computers with specifications capable of video calling and developing media for the online environment - from the software perspective, the availability of paid platforms that can be used to engage in online learning, such as LMSs for the online environment and software that supports asynchronous and synchronous video. While hardware and software are essential, there must also be support for these systems, such as information technology units and instructional designers, to assist faculty and provide training. Finally, technology must also be supported by policies to reduce ambiguity. For example, if faculty are expected to offer online education through their personal devices, often called bring your own device (BYOD), there must be clear guidelines to ensure the data is secure and regulations, such as the Family Educational Rights and Privacy Act (FERPA) are not violated (Kiernan, 2016). Within the BYOD paradigm, faculty may have to bear the costs of devices.

Beyond organisational level technology challenges, there are issues associated with digital literacy. As the 'digital natives' or younger audiences who have been using technology for most of their lives, begin entering HE, there is likely to be a widening mismatch between the digital

competencies of students and faculty (Makoe, 2012). Faculty, therefore, must feel comfortable with the technology that they are using, and have the computer self-efficacy required to learn about new technologies as needed. This is undoubtedly challenging for faculty who have significant fulltime workloads. According to Kaplan and Haenlein (2016), this must be taken very seriously. They make the case that if online education is not ideal for all types of students, then it may also not be suited for all types of professors. In cases where students are very comfortable with technology, there may be higher expectations on the level of technology and the extent to which it is used in the education process.

Expectations around communication can be difficult to manage in the online environment (Rahmawati & Sujono, 2021). It can be challenging to communicate tone and information via text. Many teachers value being able to perceive students' body language to be able to gauge their interest and understanding of the content (Pratolo, 2019). In many cases, this kind of body language information is not available over large distances. Some policies, such as requiring video cameras to be on during synchronous classes, may be one option. However, creating relevant formative assignments may be a method of gauging students' progress and understanding more effectively (Bhat & Bhat, 2019). Most learning and video management systems also provide analytics on how videos are watched and how content is accessed (Elias, 2011). These key insights may be able to inform faculty as to what students' attention is being drawn towards. However, these are most reliable when the course is well structured.

Online courses require, by nature, more structure and clarity than in-person courses (Young & Norgard, 2006). This is largely because of the lack of casual opportunities to ask questions on a typical campus and an overall cultural shared understanding of expectations. As the range of students in a classroom increases, there is more possibility that things may be interpreted to greater

degrees of variation. Thus, on the front end, there is extra work to be done to ensure objectives are clear, deadlines and assignment instructions are well communicated, and weekly progress goals are well-defined, so students can feel guided through the learning experience without the physical presence of an instructor (Cole et al., 2021). The challenge of creating well-structured courses lies with instructional design knowledge or support and sufficient time.

In the same way that time management is important for students, teachers also face this challenge with the online environment. According to Hanson and Gray (2018), there are no natural boundaries to online teaching, like traditional face-to-face classes. Thus, in the absence of a physical classroom and designed time, the demands of online teaching take from the available time, and energy from instructors. It is important to state at this juncture that faculty greatly appreciate the flexibility of online teaching (Kain, 2016 as cited by Hanson & Gray, 2018). However, according to Beziudenhout (2015), they still report difficulty with the expectation of being available all day, seven days a week. In many cases, this translates to online classes requiring more effort, time and resources than their in-person counterparts (Owens, 2015). Ultimately, the consensus remains that work-life balance can be difficult to practically achieve when teaching online (Beziudenhout, 2015; Owens, 2015).

Finally, the online environment has consistently faced the critical challenge of retention (Bawa, 2016). More specifically, it tends to have higher dropout rates than its in-person counterpart (Hsu et al., 2019). There are a range of reasons for these, and it may be the case that some of the challenges faced by teachers worsen the attrition rate. For example, courses that are of low quality have higher dropout rates (Andrade et al., 2020; Grace et al., 2012). Students may find it frustrating and harder to navigate, which translates to an overall sense of negative emotions related to learning. Furthermore, without a sense of community, students may suffer from feelings of

isolation and low connection (Kyei-Blankson et al., 2019). As students may not feel that they are able to reach out with questions or find solidarity with their challenges, they may choose to withdraw. While students appreciate certain aspects of online education, such as a strong community of learning, it is important to note that attrition and retention are complex, multivariate phenomena that can be challenging to predict, determine and regulate (Andrade et al., 2020). Drop-out rates affect teachers and institutions, but individual learners who drop out or are also directly affected.

Learning in HE presents a wide range of challenges for students, both online and in-person. However, in the online environment, while some challenges may be minimized, others may be increased, and new ones may come about. The flexibility associated with online learning lies at the root of many of the challenges experienced by students (Houlden & Veletsianos, 2019). These include motivation, managing distractions, isolation and time management.

Student performance in online education, as well as their overall success, is linked to motivation (Esra & Sevilen, 2021). The challenge as it relates to learning is thus that students find motivation challenging to maintain in the online learning environment (Hartnett & Hartnett, 2016; Kim & Frick, 2011). Motivation fluctuates and can be impacted by a number of things such as individual traits and specific circumstances (Hartnett et al., 2021). Therefore, some aspects of motivation cannot be controlled by the instructor or institution. To illustrate, intrinsic motivation, which is internal, may be impacted by students' satisfaction with course content, communication needs being met and their self-regulatory abilities, whereas extrinsic or external motivation may be influenced by teachers, classmates, organisational issues as well as their unique living situations. According to Dörnyei (2020), motivation is associated with student engagement and thus, if students are not motivated, they are less likely to engage in the online classroom. Given

that reduction in engagement and participation in students who are less motivated, instructional designers are concerned with if low motivation itself may contribute to higher attrition rates in these classes.

Distractions in the way of learning occur in all settings, but Blasiman and researchers (2018) state that non-classroom learning environments present unique distractions. Beyond that, Houlden and Veletsianos (2019) make the case that in the absence of dedicated study time and location, distractions can easily compete with the time and space of studies. Particularly, they posit that non-traditional students may often study in an environment that may be shared with family or work-related items, which leaves the study space unprotected, as compared to the traditional classroom. Being pulled in multiple directions also impacts students' ability to focus and process information. Distractions, such as folding laundry, playing video games, using a smartphone, speaking to people in the environment, passively watching videos or actively watching an engaging video, was found to significantly impact test performance (Blasiman et al., 2018). Even without an external distractor, such as those mentioned above, something as simple as mind wandering while consuming content is able to have a significant negative impact on performance (Hollis & Was, 2016). Winter and researchers (2016) make the case that technological skill may impact this problem. Specifically, students who use technology less effectively may also struggle with concentrating and problem-solving skills. Unfortunately, according to Winter and researchers, these students may also have limited self-direction, motivation, confidence and may not be able to evaluate web sources. Interestingly, unlike in the traditional classroom, classmates in the online environment were not listed as distractors.

Students also face issues with their social presence, identity and sense of community in online education. Some scholars believe that the high attrition rates in this context, suggests that

students are isolated and disconnected due to the physical separation from their classmates and instructors (Phirangee & Malec, 2017). One of the main ways online learning is different from traditional is the physical absence of an instructor. As instructors play a vital role in the classroom, it is very important for the learner-instructor relationship to be maintained in online environments (Baber, 2021). It is important to note that while technology exists for ease of interaction and connection, there are still challenges with loneliness, which some are calling the crisis of connection (Kaufmann & Vallade, 2020). The lack of true connection means that efforts must be made to foster meaningful and safe interaction. Psychological safety in learning environments is extremely important as it impacts the process of learning (Weiner et al., 2021). Thus, it stands to reason that online learning communities should involve trust, commonality and connection to alleviate the feelings of separation, as interaction is more important in this context (Baber, 2021).

Much in the same way that teachers grapple with finding balance in the online environment, students do as well. In the absence of a well-structured schedule, students must self-regulate to manage their time. Students have personal responsibility for achieving their academic outcomes, but some students do not have the skills to manage this responsibility (Balina et al., 2015). To assist with this, there may be numerous options, such as providing recommended schedules, indicating the volume of work and having check-ins, to help students keep up and feel a sense of accountability. Unlike with teachers' expectations to be fully connected, students' time management challenges may be from a wide range of factors, such as lack of motivation, low commitment, inability to set goals as well as poor time management skills (Berry, 2018). Overall, students who tend to do well in online classes usually have high digital literacy, appreciate the format and have excellent self-discipline and time management skills (Martin et al., 2020).

In summary, teaching and learning in HE has undergone many shifts in recent history. The G.I Bill of Rights led to a massive expansion of HE as a larger group of people now had access to degrees. In the context of the Caribbean, the independence of countries and massification of education have led to more people having access, especially those who traditionally did not. With expansion came many benefits such as improved prestige, but also challenges such as accommodating an ever-changing audience. Pedagogical and andragogical principles often guide the design of teaching and learning. Now, online learning plays a huge role in HE as it is able to provide flexibility, cost-appeal and improved access to the audience of non-traditional students. Nonetheless, teachers face some challenges with technology as a medium, developing their skills in this changing environment and connecting with students. On the other hand, there are also challenges with learning in the online classroom. These include managing motivation, combating distraction, feeling connected and managing time. This area of research as it relates to teaching and learning in the online environment remains an active area, especially post COVID-19 pandemic, as scholars are interested in finding out what makes teaching and learning effective in the online environment. Given the challenges within the region of investigation, it becomes increasingly relevant to understand how education leaders perceive the efficiency of teaching and learning in the online environment (Barclay et al., 2018; Masino, 2013).

### **Educational Leadership in Online Higher Education**

Today's HEIs are complex entities, operating with limited resources, in highly competitive environments. Leading these organisations is an immensely challenging task as budget cuts, newer technologies and changing expectations are the norm (Barnes, 2015). Educational leadership has been an active area of research in recent years, even more so now with the context of online education. The leadership of HEIs have served to guide the development of curriculums, policies,

and the overall direction of HE and often have little prior leadership experience (Corbett, 2017). In recent decades, it has been plagued by a range of novel challenges. While HE has long been accused of being divorced from the needs of society, drastic changes in the way people live, work and gain knowledge have pulled into question the value of degrees (Eddy & Kirby, 2020). Leaders in this context remain the most misunderstood and under-researched group; thus, investigations into their experiences and perspectives may provide deep insight into the future of academia (Alward & Phelps, 2019; Eddy & Kirby, 2020). Navigating beyond the theories of leadership and their manifestation in universities, recent times have brought additional themes into the debate - for example, the unique path to leadership in this context, which differs from its industry and business counterparts, wherein leaders are often chosen based on their contribution to the body of academic research. With the Caribbean, leadership is not well explored in the literature, so the broader literature is pulled on to provide insight. Thus, the literature surrounds the current challenges, perspectives on education leadership and more contemporary ideas of research.

To fully investigate the matter of educational leadership as it relates to online learning, the broader context of challenges must be analysed. As it currently stands, universities are facing an unprecedented volume of challenges, many of these worsened by the recent COVID-19 pandemic. Perhaps most significantly, is the major challenge of student enrolment as universities find that their intake numbers are slowing in growth and in some cases are flatlining (Johnson, 2018). In efforts to reach a wider audience, many have turned to newer methods of delivering education such as the online method (Palvia et al., 2018). While this may increase enrolment, particularly in the online environment, keeping the students who are enrolled within the program becomes an area of extreme concern (Jindal & Chahal, 2018). Overall, online education is increasing in demand by students, and is seen as a viable solution to address the combination of low funding from

governments and external organisations, as well as low enrolments and a change in the student demographics of HE (Boisselle, 2014; Lin & Gao, 2020). Accordingly, the challenges of enrolment, retention and financial changes are discussed.

A critical issue in HE is that student enrolment is dwindling. Wu and researchers (2021) acknowledge that the situation is so dire that it is currently considered a crisis. This has been well-observed by society as even news reports report that this is the third straight year of declining enrolment for colleges and universities (Anderson, 2022). While the public universities have seen a detrimental decline, private institutions report an even steeper decrease (Buchanan, 2022). As students are the primary consumers of the service of education, this can have a significantly negative financial impact on the field, Wu and researchers note. The current trend was noted in the last decade and was exacerbated during the pandemic. Despite the overall reduction in lockdowns, increase in vaccines and overall management of the pandemic, HE has not yet recovered. This is at a very inopportune time for shrinking spaces in this sector as future challenges are looming.

An 'enrolment cliff' or steep decline in potential students is likely to occur within the next couple of years. This is because of lower birth rates during the Great Recession, which began in 2008. Overall, from the year 2008 - 2011 the number of births declined sharply; thus, from 2025, there will be about 15% less 18 year olds to enter colleges (Drozdowski, 2023). Seaman and Seaman (2022) reveal that administrators are concerned about the future of enrolments in their HEIs. Taking innovative approaches, such as leveraging online education, may allow for a reduction in costs, reaching wider audiences, and being more attractive to students (Maatuk et al., 2022). Moreover, with smaller groups of learners, it becomes essential for the leadership to ensure that courses meet students' specific learning needs (Dieterich et al., 2022). The challenge of enrolment is alarming but even more significant when combined with the challenge of retention.

Ensuring students' continued enrolment increases in criticality with the current climate. Continued enrolment has a significant impact on academic institutions' overall success, financially, as well as maintaining accreditation and reputation (Burke, 2019). Given the wealth of benefits associated with having an educated population, including those related to meeting the needs of the job market, lower crime rates and improved quality of life, this moves beyond merely an institutional or academic level problem and becomes one that is also societal (Mazur Yuliia, 2022). Unsurprisingly, this is a multifaceted concept in the literature. It is worth exploring these various naming conventions and meanings associated with the phenomena to establish an understanding. To begin, retention particularly refers to students staying enrolled from the first year of college to the second year (Banks & Dohy, 2019). It is related to the idea of persistence, which extends to capture a student staying enrolled until graduation (Rodriguez-Hernandez et al., 2020). The body of literature also refers to the matter of continued enrolment with other phrases, such as withdrawal, drop-outs or student attrition (Tight, 2020). The varying names are largely as a result of the shifting nature of the research, practice and theoretical models related to this matter over the decades.

Theoretical models to describe this phenomenon were developed in the 1970s, despite the issue being a major concern since the establishment of the education system (Aljohani, 2016). Logically, with the expansion of the education system in the 1950s, there were several papers seeking to investigate this problem. In the beginning, within the 1950s and 1960s, these studies focused on individuals in an attempt to prevent student withdrawal. Thus, they looked at individual level characteristics (such as race and gender), putting more emphasis on the psychological aspects than the sociological factors (Berger et al., 2012). In the late 1960s and 1970s, there was another shift. At this time, investigations relating to student attrition became more systematic in nature

with recognition that academic and social factors had an influence in a students' decision (Bowman et al., 2019). Overall, retention became a global concern after the initial expansion of HE, and further increased in relevance in recent times.

Online education has brought another major challenge as it relates to continued enrolment. As students are not physically connected to others or the instructor, there are sometimes challenges with establishing a sense of community (Borup et al., 2020). This is particularly problematic; many scholars believe the root of students voluntarily withdrawing from school often is an inability to integrate socially (Bowman et al., 2019). Even smaller, shorter online courses, like MOOCs, are known for alarmingly high dropout rates (Badali et al., 2022). Beyond simply remaining enrolled, there is the related challenge of ensuring students are getting the most from the experience.

Student engagement occurs in the literature as a key area for investigation (Tight, 2020). As the name implies, engagement refers to the degree to which students are immersed in a high-quality experience. This is seen from two perspectives. From the standpoint of the organisation, there should be well-structured opportunity and support for students to be engaged in the academic experience (Chiu, 2021). In online environments, special effort may be required to ensure that these are successful, as they may not organically occur. Secondly, it is the responsibility of the students to engage with these resources and support. Ultimately, keeping students enrolled and engaged in online environments must be a priority of institutions.

The fiscal impact of these challenges is so significant, it threatens the sustainability of HE (Eddy & Kirby, 2020). In fact, the 'massification' of HE has led to an increase in the unit costs for instruction, which appears to be rising faster than inflation (Altbach et al., 2010). Unfortunately, this is combined in many cases with less funding from governments, as tax revenues fail to keep up with the education costs (Mitchell et al., 2016). To assist with managing the changes,

governmental laws and regulations have shifted to support universities having more autonomy and authority. For example, unlike in the past, public universities are now able to incur debt, carry funds forward, determine salary policies and reallocate expenses (Altbach et al., 2020). This is an excellent step towards helping universities, but there are still major challenges.

As state funding and subsidies for HE become increasingly limited, public and private education institutions end up increasing their tuition dependence and trying to reduce expenditure (Johnson, 2019b). University's dependence on non-governmental funding is still a challenge due to worsening financial challenges across the globe: slowing economic growth and contracting economies (Altbach et al., 2010). Unfortunately, there is no easy fix to this situation. Efforts to keep costs low while increasing income often manifests as overcrowded lecture halls, unhappy overworked faculty, outdated resources such as computer and library resources, dilapidated campuses as well as an assumption that the quality of teaching, learning and research has been compromised. Altbach and researchers continue that with most of the 'easy' cuts having already been made, evidence suggests that cost sharing or increasing revenue is the best approach going forward. Unfortunately, tuition increases, coupled with grant and scholarship reductions, limit the students who can afford HE and thus negatively impact enrolment rates (Allen & Wolniak, 2019).

Universities attempting to increase revenue have found it very challenging with the decrease in interest in degrees. Their target audience has not kept up the anticipated interest in pursuing degrees. Eddy and Kirkby (2020) believe that society as a whole is questioning the value of HE, and holding on to traditional methods in modern times may be detrimental. In fact, potential students are subject to the same financial challenges that are occurring globally. Therefore, they may not have the resources required to engage in a fulltime degree; this coincides with the fact that the majority of students in HE today is non-traditional (Vasconcelos et al., 2020). One

consistent theme appears in the literature as a possible solution to solve this: online education (Beckles & Richards-Kennedy, 2021; Lee, 2021; Lin & Gao, 2020). While many of the practical benefits have not yet been realized, online education has the ability to meet students where they are, to deliver flexible, relevant, engaging and cost-effective methods of learning (Uroкова, 2020). As technology is already integrated in every aspect of our lives, the resistance of academia to embrace technology-enhanced learning as a possible solution remains problematic. With so much at stake, it is important that this sector connects strongly with its potential target audience; yet there have been challenges. In these volatile, uncertain, complex and ambiguous times, leadership plays an essential role in successful navigation. Johnson (2018) posits that in order for universities to meet the upcoming challenges, they must be responsive to disruptive innovations like technology.

Given the range of challenges and expectations from HEIs, the leadership styles of educational leaders are a critical topic of discussion (Erkutlu & Chafra, 2017). Prestiadi and researchers, (2020) report that these leaders have a central role in advancing the institutions. There are a range of different schools of thought as it relates to leadership approaches. It is recognized that each of these have their strengths and weaknesses, and thus may be more advantageous in some situations than others. Importantly, a leader may display a combination of approaches. The literature on Caribbean leadership styles is sparse but reveals two key things. Firstly, the leadership is seen as centralized and patrimonialist (Horblitt, 1996). However, more recently, it is changing from being authoritarian to more open (Rickards, 2007). Given the absence of significant literature from this context, a broader conversation must be used to establish an understanding of the phenomena. Therefore, some of the approaches on educational leadership in the online learning context will be analysed.

The transactional leadership approach is one of the oldest, most well-known and most widely used approaches in educational contexts (Khan, 2017). At its core, this method involves rewards (such as promotions) based on employees meeting performance metrics, using a leader-follower paradigm (Pope Zinsser, 2017). It is commonly used in the classroom settings with the instructor-student relationship in which students are expected to complete a task and receive a score that corresponds with the effort put in. Students have rated transactional professors more favourably when it comes to the issuing of exams (Dick et al., 2017). Within the leadership of academia, there are inconsistencies with how this style is received. On the one hand, it is extremely effective in motivating for goal achievement (DeLotell, 2014; Khan, 2017), provides a solid direction and clarity, with rewards having a positive influence on organisational commitment (Pope Zinsser, 2017), and often correlates with high faculty job satisfaction in HE and less bullying within the workplace (Barnett, 2017). However, Khan notes that there are concerns that this approach is less effective for complex educational organisations and creates a paradigm in which leaders focus on mistakes (DeLotell, 2014). Specifically, as it relates to the problem of investigating leadership's acceptance of online teaching and learning, the transactional approach may present several challenges. Transactional leadership may not account for potential change or be as willing to change approaches flexibly. Thus, these types of leaders may not see the value in making a significant shift to online education, despite the current challenges being faced by HE, as Khan continues. Moreover, DeLotell says that these leaders may lack the communication skills for virtual environments. Recently, there has been interest in this leadership style being used in combination with the transformational style.

Transformational leadership is gaining popularity in academic contexts. This style focuses on the commitment and capacity of organisational members (Prestiadi et al., 2020). As an

approach, its strengths include being more effective during organisational change (Arar & Masry-Harzallah, 2018), motivating followers (Antonopoulou et al., 2021), visioning for the future (Prestiadi et al., 2020) and sustaining competitive advantage (Abu-Rumman, 2021). While this tends to be the most successful model, there are concerns that it is linked to leader enthusiasm and often needs detail-oriented people or support from transactional leaders (Kibbe, 2019). The transformational model is believed to be well-suited to HEIs, due to the number of disruptions, challenges and changes. The ideal education leader, in line with education 4.0, must be able to develop new ideas and use technology in the delivery and management of HE (Antonopoulou et al., 2021; Prestiadi et al., 2020), as it will be essential in creating competitive advantage (Abu-Rumman, 2021). Ultimately, given the climate and direction of higher education, transformational leaders are seen as essential. Yet, there are other styles that can be helpful in this context.

Servant leadership is an extraordinary style of leadership which focuses on the growth and development of their followers (Aboramadan et al., 2020). Specifically, servant leaders are known for interpersonal acceptance, empowerment, direction and humility to unite their teams into achieving goals (Carter & Baghurst, 2014). Their essential characteristics are the ability to listen and empathize, the desire to heal and inspire, and the belief in new ideas and possibilities (Cahyono et al., 2020; Fahmi et al., 2020). It is advantageous within higher education as it has been shown to positively and significantly improve university performance (Quddus et al., 2020). Moreover, it creates a strong organisational culture within higher education where employees feel committed and engaged (Ling et al., 2017) and is thus particularly suited for high-level positions in academia (Barnes, 2015). However, it is not without challenges; for example, it often disturbs the concept of hierarchy, and, to some workers, humility may be perceived as weakness (Finley, 2012). Within the context of online higher education, the willingness of a servant leader to think beyond

traditional approaches and motivate others is crucial. Some scholars believe that servant leadership and authentic leadership styles offer a complimentary framework for leading in this context (Kiersch & Peters, 2017).

Authentic leadership theory is a relatively new idea that has developed as an extension of current theories such as ethical and transformational leadership (Erkutlu & Chafra, 2017). This approach puts forward the notion that leadership should be based on ethical foundations, respect and honest relationships with followers (Elrehail et al., 2018). More formally, it is seen as leadership behaviour that promotes and demonstrates positive psychological capacities, self-awareness, moral perspectives, relational transparency, self-development and ethical approaches (Erkutlu & Chafra, 2017). Thus, in practice, authentic leaders identify and are concerned with moral issues (Peus et al., 2012). The overall impact of authentic leadership appears to be positive. It has been seen to have a positive impact on psychological ownership, and job embeddedness, as Erkutlu and Chafra note. As schools transition to online education, the creativity and positivity encouraged by this approach can be a central component of innovation. These leaders focus on positive behaviours that are likely to create an environment that is able to handle change (Ahmad et al., 2015). When teachers perceive deans to be authentic leaders, the teachers tend to have stronger organisational commitment and engage in extra-role behaviour (Roncesvalles & Gaerlan, 2021). Authentic leadership is often preferred as it supports educational institutions with effective learning through purpose (Abbas et al., 2022; Malcolm, 2024). Beyond supporting engagement, these leaders enable greater trust and greater digital fluency in their students, which is essential in online environments (Butler-Henderson & Crawford, 2020). This responsiveness to change is also seen in the distributive leadership model.

Distributive leadership is a non-individualistic, post-heroic and non-hierarchical approach (Vuori, 2019). Despite its seemingly widespread adoption, it can be challenging to specifically define this approach as there is no formally agreed upon definition in the literature, and there are several gaps in the research as it relates to this approach being used in higher education (Tian et al., 2016). An investigation into the phenomena returns a range of terms including distributed and distributive leadership, shared leadership and even hybrid leadership, Vuori notes. Given the lack of research, its implementation can vary significantly, but it fundamentally involves a group of individuals and shared expertise (Lizier et al., 2022). It is, importantly, not merely the delegation of tasks by management, but when it is uncritically adopted, faculty may struggle to understand what is or should be distributed and how this occurs (Floyd & Preston, 2018; Lizier et al., 2022). As universities place more emphasis on tasks and metrics, this type of leadership is seen as valuable in navigating this new climate (Heffernan & Bosetti, 2020). This form of leadership supports online education by promoting autonomy, managing unpredictable times through shared expertise and more complex thinking (Kezar & Holcombe, 2017). It is also seen as a way of negotiating the identity challenges faced by leaders in higher education who navigate the finding balance between the position of manager and academic, Lizier and researchers argue.

The demands of leadership in higher education are significant (Rathmell et al., 2019). The themes in contemporary research related to education leaders in the online context provide further background into the problem. Higher education leadership remains a unique and under-researched phenomenon due to several factors, including how leaders are chosen (Eddy & Kirby, 2020). It further warrants interest given the crisis that the field is currently experiencing externally, as well as internal challenges such as equity. Thus, these themes are analysed here.

The path from scholar to leader usually best summarizes the pathway of leadership in higher education (Wrighting et al., 2022). This means that typically, leaders are chosen based on criteria such as their expertise in the field or number of publications. While these are considered highly prestigious in academia, they do not automatically imply strong leadership skills. According to Eddy and Kirby (2020), new leaders in higher education rarely have leadership training or administrative experience. Therefore, these leaders must now navigate the complexity of transitioning from a career such as scientist or physician into the role of academic leader, which requires an almost entirely new skillset (Rathmell et al., 2019; Thornton et al., 2018). This transition may be very challenging when one accounts for the fact that faculty in higher education tend to feel more connected with their profession (for example, computer scientists) as opposed to their academic role, department or university (White et al., 2012). So, the transition becomes more than merely about skillset but also about reconciliation of identity which White and researchers describe as a change from doer to manager.

This pathway can be complicated for several reasons, according to the literature. Firstly, the role of faculty is often seen as distinctly separate from the role of the middle and upper management, and in some organisations, they may often act as opposing forces (Thornton et al., 2018). While receiving a leadership position in many cases is celebrated, research shows that the transition from faculty to a member of leadership in higher education is not perceived often as celebratory. In fact, some believe that these challenges can be so significant that they lead to an erosion of academic identity and may prevent one from career progression, due to the limited opportunity to engage in research, aligned with Thornton and researchers. In fact, according to Degn (2015), to cope, some faculty report seeing a management role as a ‘temporary’ inconvenience. Interestingly, the fact that research remains a core aspect of promotions into

leadership positions can contribute to the challenge of transition. This is because the nature of research (for example, independence and solitude) differs significantly from the nature of leadership, which is heavily based on interactions and interruptions, Thornton and team contend. Moreover, the nature of the leadership role itself is complicated because of the number of significant unprecedented environmental factors, such as declining revenue and the need for increased accountability and compliance (Eddy & Kirby, 2020). The most common themes as it relates to the challenge of transitioning involve being overworked, undertrained and under supported (Corbett, 2017; Eddy & Kirby, 2020; Thornton et al., 2018; White et al., 2012).

Given that the challenges are well-articulated, potential solutions have also been put forward. Across the board, there appears to be no substantial training for these transitions other than generic management training; this gap needs to be addressed along with providing opportunity to practice (Corbett, 2017; Eddy & Kirby, 2020; Thornton et al., 2018; White et al., 2012). Moreover, the development of professional standards can be useful in setting expectations as well as reducing inconsistencies across universities, Corbett argues. In addition to training, some believed that a gradual handover and support from colleagues would be beneficial, according to Thornton and researchers. Eddy and Kirby further state that there remains a significant gap in the literature as it relates to academic leadership, especially as these roles and demands change with new challenges, such as technology, which has impacted teaching and learning as well as work dynamics.

Given the uncertainty being faced by higher education, crisis leadership appears as a salient theme. Gigliotti (2017) acknowledges that while crisis management was originally developed for the corporate world, it has gained increasing relevance in higher education. Crisis refers to a period of major change, development of complex issues and overall deviation from what is expected; they

are inevitable (Russell et al., 2021). For higher education, the crisis has been associated not just with the recent COVID-19 pandemic, but according to Eddy and Kirby (2020), the challenges include less funding, changes in student demographics, demands for accountability, societal concern about the value of a degree and the mass retirement of leaders across the field. Marshall and researchers (2020) note that crises increase the demand on leaders as their roles become more time-sensitive and complex.

Crisis leadership is proactive and refers to all the activities that detect, prevent and manage the challenges and promote trust, transparency and learning throughout the crisis and after it has concluded (Gigliotti, 2017). These times of crisis require innovative and adaptive educational leadership (Marshall et al., 2020). The pandemic provided some insight into how academic leadership addressed the crisis and presents many opportunities to learn as the path towards innovative delivery of education is developed. Firstly, institutions using distributed leadership models are reported to have been able to very quickly engage in remote learning (Berjaoui & Karami-Akkary, 2020; Fernandez & Shaw, 2020). Creating a culture of trust, collaboration and distributing leadership, before a crisis occurs, was viewed as an essential indicator that the institution will be able to better survive the challenge (Kezar et al., 2018). Furthermore, vision and planning are essential in letting stakeholders feel reassured during these times, Marshall and researchers note. Beyond the crisis itself, the transition to remote distance learning revealed some key insights that can be transferred more broadly to online learning. Authentic distributed leadership is key to embracing change (Kazer & Holcombe, 2017). The provision of training, intellectual stimulation and inspiration supports the change to remote learning (Fernandez & Shaw, 2020). Ultimately, the shift is not merely technological but requires changes to attitudes, values,

processes and methods of doing business, which are heavily dependent on the leaders (Fernandez & Shaw, 2020).

The well-established need for cultural change in higher education also leads to the conversation on equity. In this context, equity remains a major challenge that requires attention (Moodly, 2015). Redmond and researchers (2017) state that equity in leadership allows for a range of expertise and capabilities, which is required in this critical period for academia. The lack of inclusivity in educational leadership is often focused on gender but also applies to ethnicity and disability (Shepherd, 2017). The implementation of strategies to ensure equity has been challenging as universities tend to have conservative and risk-averse organisations, Shepherd further elaborates.

Moodly (2015) argues that there have been negative implications as it relates to decision-making in higher education, as women remain under-represented globally. The foundational reasons are complex, a combination of individual- and institutional-level issues (Redmond et al., 2017). In some cases, these are related to recruitment practices and the perception that successful leadership traits are often masculine (Moodly, 2015; Shepherd, 2017). Redmond and researchers state that the literature reveals a range of issues such as: corporate culture, networks, personal barriers, work-life balance and invisibility. Overall, Barrow and Grant (2019) state that while equity does not mean lower standards, universities are often placed in a contradictory position in selecting who is presumed to be the most talented, which can weaken equity's fortune. Finally, another challenge is the wealth of work academics are faced with. This leads to the deprioritization of equity-related work, which can be time-consuming and not measurable. As it relates to solutions, the ideas of personal ownership, resilience and agency are offered at the individual level

(Coate et al., 2015; Shepherd, 2017). The lack of research in this area may be indicative of the low importance attached to the issue, Shepherd notes.

In summary, HE leadership is facing a range of challenges that have increased in severity with recent times. An analysis of the literature reveals that there are alarming issues with student enrolment numbers, and, beyond that, much difficulty in retaining students that are enrolled. As funding sources change and student numbers flatline, most institutions are operating in a very limited fiscal space (Johnson, 2019b). Perhaps one of the underlying issues is the change in demographics of students at HEIs. While students' needs change to match drastic changes in society, higher education leaders must find a way to navigate this uncertainty. Overall, academic leaders remain one of the most misunderstood and under-researched group of leaders, but there are many common leadership theories that support how academic organisations run. It is suggested that within the online context, leadership requires strong communication and flexibility. More recently, common trends in the literature involve analysing the path from scholar to leader within the academy and its associated challenges. Another common trend is crisis leadership, which investigates how leadership occurs in volatile and uncertain times. Finally, equity appears as an issue that must be addressed to support faculty and students. The kind of leadership used in an organisation may inform the kinds of effort required to transition the organisation to online learning. Given the absence of literature on this in the Caribbean and its importance in investigating the problem, higher education leadership should be further researched (Roofe, 2022).

### **Historical Influences on Caribbean Society and Higher Education**

The historical leadership influences on Caribbean society, and, by extension, the education system, give rise to the existing systems. The Caribbean region is a multi-ethnic, multilingual region, situated between the North and South American continents. Of particular interest is a sub-

region grouped by their union called the OECS. As a region it has a complex past, influenced by a range of leaders, that has undoubtedly shaped its cultural and societal elements, and, in turn, its education systems. The earliest settlers in the Caribbean such as the Amerindian tribes like the Caribs and Arawaks engaged in relatively simple activities (Cobley, 2000). Thus, the region did not have a major need for highly specialized education or training, such as the kind provided by higher education. During the transatlantic slave trade, plantation leaders saw little value in developing education systems. Beyond that, as the Dutch, French, Spanish and English leaders fought over and colonized these islands, their economic decisions and priorities influenced the development of the education systems (Baker & Maxwell, 2012). Currently, it is not surprising that it is particularly challenging for the higher education sector to meet the demands of the population. As the context of this study is essential in understanding the novelty and significance of this educational leadership research, the unique influences on the education system, the economic, social and ecological challenges and education scarcity within the region is investigated.

For historical context, when the transatlantic slave trade occurred, higher education was being developed across the globe. Within the sub-region under investigation, the higher education sector was stunted. In search of financial gain, Europeans discovered the ease of growing sugar cane within the region and quickly developed several plantations. Given the distance of the Caribbean from England, some plantation leaders sought to develop education systems within the region to educate their children, although the number of planters who sought to do so was significantly less than in other neighbouring areas (Cobley, 2000). For example, while the North American colonies had at least nine colleges in 1770, this was not the case for the Caribbean, Cobley notes. The first college within the Anglo-speaking Caribbean was a theological one

developed by a wealthy plantation and slave owner, approximately 200 years after the establishment of Harvard, in Barbados – a country outside of the OECS (Thompson, 2015). Thus, much of the core of the education system was the primary and secondary systems developed by missionaries who visited the sub-region to bring religious ideology and by extension literacy (Bacchus, 2001). While there have been many changes since its inception, the primary and secondary education systems are still influenced by the church today in OECS countries, such as in Grenada and St. Lucia, and, to some extent, Dominica and St. Vincent (Miller, 1999). The decisions made at this period would prove to have long-standing impacts.

These times set the foundation for the steep inequalities of wealth and power that limit access to the education system. Plantations were worked mainly by people brought in from the African continent, who were enslaved. In justification of the inhumane treatment of these people, various social hierarchies were developed in which the ‘White’ people were at the top, ‘Black’ people were at the bottom and mixed groups were in between (Roberts, 2014). This sense of privileged and underprivileged groups is still seen today, as this region is known for its disparities and significant inequalities (Bobb-Smith, 2006; Mujica & Victora, 2019; World Bank Group, n.d.). At the individual level, this means that some people have generational wealth and own large companies, which may allow them to afford higher tuition rates and travel abroad for education, while the rest of the population remains very limited with their purchasing power and oftentimes are around the poverty line. As higher education was within financial reach for the ruling class, there was little incentive to develop local alternatives.

Past the abolition of slavery, leaders of the Dutch, French, Spanish and English colonized these islands. As many of the islands remained colonies of European countries and were forced to adopt many of the cultural aspects of these countries (Kirton-Roberts, 2022). Unfortunately, the

initial influence of these leaders was to place emphasis on using these islands to create resources that would bring profit to the mainland. Thus, education was not heavily prioritized.

Due to the absence of HEIs, during the early 20th century, the call for a higher education institution was put forward. According to Cobley (2000), the intent by colonizers was to provide convenient access to education for the elite to limit anticolonialism; however, nationalists had a different perspective and saw the ability of an institution to serve the Indigenous people and local businesses. Ultimately, this led to the establishment of UWI in Jamaica and Trinidad. Interestingly, within a month, these two countries applied for their independence from colonization. By 1972, the number of university centres expanded from two to seven with several being located within some of the ‘little eight’ OECS countries (Cobley, 2000). This marked the beginning of a higher education sector owned by these independent countries.

In the recent past, there has been less influence from external leaders. This is because most of these countries sought independence from the colonies and began developing their own governments, flags, identities as nations and education systems (Clegg, 2012). While such growth and independence are admirable, it must be noted that the countries are small with limited resources and small populations, working against many challenges to find economic stability. Miller (1999) notes that despite alternating periods of growth and recession, some aspects of the education system are robust, and women have been strongly involved. Paradoxically, the relatively new and underdeveloped education systems contribute to and are a result of current societal and economic issues faced in the region (Frederick et al., 2019). Social and economic issues here are largely rooted in and worsened by geographical challenges.

The unique geographical layout of this region is discussed to provide the foundation for many of the challenges that arise. The Caribbean is a large area that encompasses three

archipelagos: the Greater Antilles, the Lesser Antilles and the Lucayan Archipelago. Within the entire region, there are approximately 700 islands, islets, reefs and cays, which are divided into 30 territories, with almost 44.5 million people (Boisselle, 2014). Of particular interest in this study is the Lesser Antilles: this region is divided into eight independent nations (and several dependent and non-sovereign states, which are not of interest to this study as they often have different economic and cultural situations) (Lewis, 2009). Seven of these eight nations may be considered microstates that have a past rooted in economic difficulty (Roberts, 2005). The 8th nation, Trinidad and Tobago comprises over half of the total area of this region, such that only approximately 3,536 km squared are divided up for the other nations. As mentioned, these nations are islands and, therefore, geographically separated from each other and any other land masses by bodies of water (Roberts, 2005). On a global scale, these small islands are comparatively more at risk than larger countries with significant resources and populations.

The UN recognizes these as SIDS, known for being very vulnerable (Scandurra et al., 2018). Currently, they face a plethora of challenges because of physical and other forms of remoteness for international markets, high transportation costs, small populations that limit their ability to achieve economies of scale internally, high vulnerability to exogenous economic shocks as well as fragile land and marine ecosystems that are vulnerable in the face of changing climates (Cantu-Bazaldua, 2021). As the marine ecosystem provides food, jobs and income to millions, threats to the system are detrimental for the region. The United Nations (2015) acknowledged that SIDS must be monitored and given special attention as they progress towards achieving sustainable development goals. In the context of this study, sustainable development goal four, which broadly relates to quality education and lifelong learning opportunities, must be prioritized by the islands of the sub-region in order for their development to continue.

Physical limitations contribute significantly to widening disparities. Even on a macroscale, this is observable, as the Worldbank (2022) reports that the country with the fastest growing economy also had the highest levels of poverty within the OECS. As the rest of the world enters the FIR, the Caribbean faces new urgent challenges (Louisy, 2004). The first is the widening gap as newer global markets develop, in which the region remains unable to participate. In this digital economy, remoteness refers not only to geographical distances, but an inability to perform in digital networks (Frederick et al., 2019). Globalization, many argue, favours the larger, wealthier nations for whom global is often synonymous with local (Louisy, 2004). This is largely because their strong export power threatens to keep this region in a place of consumerism and importing without any income from export (Boisselle, 2014; Leo-Rhynie & Hamilton, 2007).

While access to higher education is increasing, access to culturally relevant education remains limited. As laws are developed to allow international education (such as the General Agreement on Trade Services or GATS), more Indigenous people may have access to education. However, this comes at a significantly high cost. Given the historical exploitation this region has faced, some are concerned that this opens the door for predatory universities to deliver education, while threatening the local universities and institutions with their large size and economic base (Boiselle, 2014; Roberts, 2003; Tewarie, 2009). Moreover, given the already existing mismatch between jobs and skills, culturally irrelevant skills may prove to have a negative impact on the economy (Louisy, 2004). Thus, a solution is needed whereby the Caribbean can meet its demand for higher education as well as align with the needs of the market to continue the development of local institutions and communities.

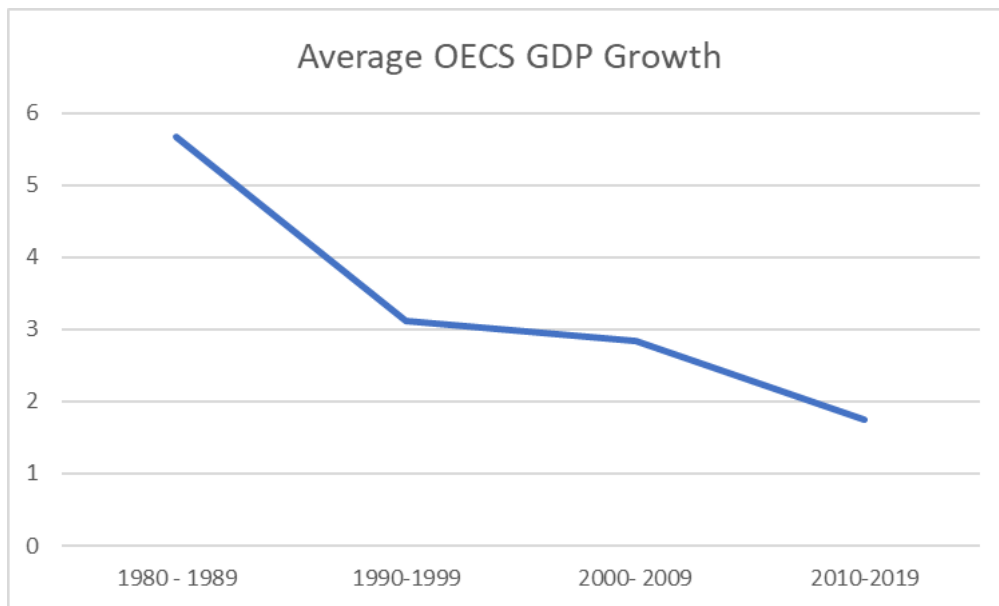
Challenges related to the access of culturally relevant education significantly impact economic prosperity. For example, in one of the OECS islands, Tewarie (2011) reports that

businesses claim they are unable to engage in competitive activities because of the limited human capacity. Tewarie (2009) reiterates that the market is really a social institution that reflects the population and their skills, thus can easily be limited by these factors. With the lowest tertiary education rates in the hemisphere (Beckles & Richards-Kennedy, 2021), the development of new professions and ideas within the sub-region, often encouraged by higher education, is severely limited. Unfortunately, the heavy reliance on tourism as one of the primary drivers of GDP and economic productivity is problematic (McCaskie, 2020). Tourism accounts for more than half of all jobs, increasing the vulnerability of these countries to exogenous shocks. However, this causes a paradoxical problem as the limited underdeveloped institutions and economies restrict the opportunities available for the small group of the population that holds degrees. Over the last 150 years, the Anglo-speaking Caribbean has been unable to absorb much of the talent it has created; yet this talent is needed for its developmental growth (Boisselle, 2014; Miller 2007). Overall, it is imperative that these islands create more robust and varied industries, but civic capacity and financial limitations often prevent this.

From the time of achieving independence in the latter half of the 20th century, these islands have engaged in various attempts at unifying to create a regionally competitive economy and address their individual challenges. In practice, many of these attempts were unsuccessful (such as the West Indian Federation, and the CARIFTA), but due to the perceived importance, unity remains a priority. Many scholars (Frederick et al., 2019; Rampha, 2012), early leaders (such as Marcus Garvey, George Padmore), as well as socialist and capitalist perspectives (Levine, 2019) agree that regional integration and unity are means of improving the stability of these islands and building a competitive regional economy. With complex and shared histories of slavery, imperialism and colonization, many of these islands have only relatively recently received

economic independence. And, undoubtedly, uniting the region may reduce some of these challenges.

In fact, despite a history of failed unions, the region has within recent decades successfully launched the OECS. The aforementioned economic union includes a shared currency, jurisdiction, telecommunication and aviation authorities (OECS, n.d.). Its priorities are to accelerate regional integration, reinvent the economy, value the environment, build resilience and advance equity and inclusion. Yet, there remain severe economic challenges to be overcome. Firstly, the real GDP growth has been relatively low, according to the World Bank, with the income gap widening when compared to peer countries (McCaskie, 2020). Moreover, the OECS borders on financial crises and recessionary economic trends. According to the OECS (n.d.), while the other countries in the Caribbean and Latin American (LAC) continue to experience growth, the OECS countries have been on the reverse trend, as outlined by Figure 1. These countries navigated the pandemic very successfully with minimal spread of the virus and few deaths. However, the combination of lockdowns and global recessionary trends, and the economic impact of the pandemic have been severe, resulting in a surge in debt in these countries. In fact, similar trends were experienced during the mid-2000s recession, where global events had a major impact on these islands. This reinforces the overall need to ensure that economies have the ability to sustain themselves, protect against severe effects of external factors and recover after periods of significant downturn.

**Figure 7***Prepandemic Chart of Growth of OECS*

*Note.* Chart created using data from the World Bank Open Data CC-BY 4.0

While integration represents a powerful opportunity for collaboration and stronger economies (Frederick et al., 2019), it may not be as simple as changes in policy. For example, it is recognized that the single market initiative within the region is “unquestionably the most complex, most ambitious, and most difficult enterprise ever” (Miller, 2007, p. 74). Undoubtedly, significant sacrifices will need to be made in the interest of the common good (Roberts, 2003); however, as these nations have been independent states for some time, collaboration and unity will take time. Even if the goal of unlimited freedom of movement between people and items was achieved, there are still major financial costs related to transportation over the ocean that will pose a challenge. Thus, a more efficient solution to economic development is needed.

Technology may provide the solution to overcome some of these challenges. For example, in the 21st century and for the first time in history, these transportation costs can be alleviated through technological integrations. For example, technology can be a viable alternative to integrate and engage in digital economies as costs of transportation will experience a much-needed reduction (Boisselle, 2014). Education is seen as essential in the development of societies and

economies; yet access to education is challenging in this region due to transportation and separation. Leveraging technology to deliver education more flexibly can be a cost-effective method of meeting the demand. Therefore, education, in particular, would benefit from increased access that can be provided by technology.

The OECS is well positioned to address its higher education scarcity challenges, as it has developed a strong foundational system. For example, the primary education system is robust. The micro and mini states that constitute the English-speaking Caribbean provide basic education to their populations and have been doing this for some time (Haßler, 2021; OECS, 2021). The education provided at the primary level, which spans the first seven years of school, offers wide coverage of the population. Most of the countries have now successfully achieved universal primary education, stated the OECS. This is recognized as a significant accomplishment. The curriculum at this level has been harmonized across multiple countries and is considered to be high quality, according to the OECS. Upon completion of the primary exit exams, students are promoted to secondary education.

Similarly, the secondary education systems are well-established. The culminating secondary examinations, which occur after five years, are external tests that are held to subregional standards. While previously these exams were from the United Kingdom's curriculum, they have since been regional ones, promoting a culturally- and regionally relevant curriculum (Miller, 1999). Despite the financial constraints, these islands have been able to provide high quality education, comparable to the first world, that is accessible to the entire population. Thus, most of the countries have also achieved universal secondary education, an outstanding accomplishment (King, 2009). The disconnect occurs from this point as students exiting secondary education do not often go further in education.

Unfortunately, higher education, or tertiary education as it is called within the region, is still in relative infancy (Roberts, 2003; Tewarie, n.d.). Currently, less than 15% of secondary graduates go on to pursue some form of post-secondary education, resulting in less than 10% of the adults in the OECS countries completing higher education (OECS, 2021). This has detrimental impacts. The OECS states that many people are unprepared for the job market due to a lack of critical thinking skills and will therefore be further disadvantaged in future economies where knowledge is prioritized. Ultimately, this has revealed some inequalities and recognition that the most disadvantaged groups are not able to benefit fully from the education system. Due to the high quality of local education, Caribbean nationals have been able to travel abroad to access higher education and have a good record of successfully completing these degrees (Miller, 2007). As populations and disparities grow, the need exists to develop local systems that can meet the demand.

Given the recency of the higher education sector, it has not expanded sufficiently to match the population growth. Yet, an increase in tertiary level education is essential for innovation (Murthi et al., 2021; Richard Rose, 2019). At the turn of the millennium, tertiary education provision in the sub-region was only able to accommodate 5-6% of the 18-24 years of age cohort (Miller, 1999). This part of the Caribbean lags in terms of its ability to educate the population (Miller, 2007). In many cases, local college spots are incredibly limited (Smith, 2011). As human development increases (measured through the HDI) and correlates with higher rates of tertiary education, it is therefore unsurprising that currently, the region is unable to satisfy its human capital needs (Smith, 2011).

This relationship between the education system and societal challenges is clearly acknowledged in the literature. The theme upon which seemingly every scholar in literature agrees

is that education must be a priority to develop human and institutional capacities for the sub-region in order to achieve some form of economic sustainability (Ellis, 2009; Leo-Rhynie & Hamilton, 2007; Marquez, 2014, Miller, 2007; Richard Rose, 2019). Tewarie (2009) went so far as to articulate that it is the one investment that will bring immediate returns while the cost of not educating citizens is unpredictable. Looking ahead, one scholar reports that education may be key in saving the region from being inevitably beaten, battered and bruised by external economic and political shocks (Miller, 2007).

There are also internal considerations that impact how higher education may be developed in this area. The countries' recent independence means that some education laws and acts are outdated, incomplete and no longer relevant, and they are still grappling to create integrated, harmonized approaches to tackle education issues (OECS, 2021; Tewarie, 2011). Miller (2007) reports that many of the people seeking higher education within the Caribbean are non-traditional students with some form of unemployment or family obligations that prevent them from moving to a different island to pursue education. For some, it is financially impossible, as some of these islands report poverty rates of 38% along with globally high unemployment rates (OECS, 2021). Online education appears as a viable option for local universities to reach their audiences and address these critical issues.

It has been recognized in the literature that the best way to achieve this demand is by leveraging digital technologies to improve access to education (Frederick et al., 2019). Such approaches will not only serve traditional students but the plethora of underserved adult (non-traditional) populations in the Caribbean (Kistow, 2011). The information and communications technology systems in the region are currently being strengthened. The World Bank (2016) reports funding a project called the Caribbean Regional Communications Infrastructure Program

(CARCIP) aimed at providing high speed broadband internet. While this obvious solution may serve to improve access, and reduce costs associated for both students and institutions, much of the acceptance of technology relies heavily on cultural factors (Muhammad et al., 2017). Caribbean societies have always been oral and collectivist societies with a tendency to favour face-to-face interactions (Boiselle, 2014; Vété-Congolo, 2016). One scholar suggests that this reason may be behind some of the resistance of the technological creep that has happened across the world, Boiselle elaborates. Thus, the topic of investigation is highly relevant. Given the importance of this topic, the lack of reliable data for most of the region is unacceptable, especially as organisations such as the World Bank (2022a) report that a lack of data in this region limits policy development and decision-making.

In summary, to understand the complexities that are currently at play in the social and educational sphere within the OECS, there are many contextual factors to be considered. Many scholars acknowledge that this region is very different from its surrounding regions for geographical, political and historical reasons. Thus, there are significant challenges that the region has overcome so far and will continue to overcome as it steers towards a bright future. The most outstanding concern in the literature is the way that the current level of education provided by the region limits economic growth and threatens economic stability. Higher education is relatively new to the region, when compared to its peers, but within the last several decades, significant strides have been made through the development of UWI. While physical limitations have historically forced the islands into a disadvantaged position, the advent of information and communication technologies may be revolutionary in changing the condition. On the one hand, there are few limitations to participating in digital economies, and as digital goods and services gain popularity, these countries are no longer completely at the mercy of travel and shipping costs.

However, such can be equally detrimental to the region. As the wider world tackles industry 4.0 and education 4.0, there is opportunity for wealthier countries, that have historically had significant export power, to now have unlimited low-cost exposure to Caribbean markets. Thus, the Caribbean is pushed back in its longstanding position as a consumer. As the demand for higher education continues to exceed the supply and access, nationals turn to external institutions. While this has the advantage of educating the population, there are valid concerns that this limits local institutions, and if they are not responsive, they may be pushed to close down completely. Moreover, this perpetuates and exacerbates the mismatch of skills between the people and the market needs, through culturally relevant education. Another concern raised is that despite the lying between north and south America, the Caribbean remains responsible for its own and may end up in its historically unfavourable position - in this case, with schools that may lack accreditations or fail to meet satisfactory conditions within their home nation engaging in predatory activities in the delivery of education within the region. Ultimately, given the complicated history and nature of challenges, it is obvious that information and communications technology (ICT) remains the way forward, especially in the delivery of education. It should be investigated how factors like the orality and other socio-cultural factors impact leadership of these institutions (Ahmad, 2020a; Roofe, 2021).

### **Online Higher Education Leadership in the Caribbean**

Academic leaders are severely under-researched (Eddy & Kirby, 2020). Within the Caribbean context, research in general is sparse such that the World Bank (2022a) reports decision-making is often limited. As regards online higher education leadership within the Caribbean, there are very few articles along with significant suggestions for the development of more research. Despite the small body of research, there are some salient themes that must be considered in order

to develop a deep understanding of the situation. The global challenges in higher education are well-established in previous sections and are very applicable to this region. Beyond that, several socio-political, geographic and financial limitations have resulted in a sector that is in the state of infancy, which worsens existing challenges and introduces newer considerations (Tewarie, 2011). Across the board, online education is presented as an option for leaders of these institutions to not only mediate challenges but even reap many advantages in strengthening the overall sector (Boiselle, 2014; Smith, 2011). Importantly, there is an immense time crunch and urgency with which leaders must embrace these technologies. As globalization accelerates, the realm expands, and competition becomes more intense (Louisy, 2004). Thus, if these institutions are not adaptive, they may be completely eliminated, which has sobering implications for the region's growth and development. Leaders remain at the core of this matter as multiple studies show that the direction of organisations are impacted significantly by the individual beliefs, ideas and idiosyncrasies of the leaders, even more so in times of crisis (Oreg & Berson, 2018). A review of the literature reveals that higher education leaders face the challenges of sustainability, managing resources, competing with wealthier schools, a lack of technology infrastructure, but are also very well-positioned to make a significant regional and global impact through the embrace of online education. Inadequate sources of published data (World Bank, 2022a), combined with industrial and technological changes (Hamdan et al., 2021; Xu et al., 2018) and recommendations from scholars (Eddy & Kirby, 2020; Fisher, 2020; Greaves, 2021) illustrate a well-defined gap in the literature.

In efforts to fully capture what the online higher education leadership realm is facing, some unique historical factors of the context must be discussed. It has been noted by Bernal (2018) that universities in this region have been slow to move to online and global markets when compared to

North America, Europe and some parts of Asia. An analysis of the historical components of the system may reveal why. Crossley and Louisy (1994) report that typically, only a small and influential group of people have had the ability to access higher education in this region. Cobley (2000) specifies that these were initially only male and primarily white. This meant that the higher education sector within the region had no need to be developed and is, according to Tewarie (2011), still currently in a state of infancy.

Firstly, up until the end of the 18th century, there were no colleges within the West Indies, and most institutions can be traced to post institutions and post-independence periods (Miller, 2002). So, the field itself is relatively new. According to Cobley (2000), when the call was made to start a university within the region, two islands did so as British subjects, and within a month appealed for their independence. From the 1960s to 1970s, these moved from two campuses to several campuses, including some in the smaller islands. To draw parallels to the surrounding areas, North America passed the G.I Bill, which significantly expanded their higher education systems in 1944; it was almost two decades later that UWI was created. The first wave of massification of higher education occurred in North America during the 1960s. However, within the OECS at this time, only the elite few were able to pursue higher education due to financial limitations. The decision was then made to develop community colleges in the islands.

It must still be recognized that even with limited resources, UWI began to engage in strategies to increase education reach. Firstly, the residential requirements were removed so that students were not required to live on campus to get an education, which opened the door for part-time studies and evening classes (Cobley, 2000), and later correspondence education and online learning (Peart, 2019). Unfortunately, while the 90s were marked by rapid development of technology for the wider world, the region remained limited in its ability to engage due to lacking

infrastructure and financial challenges. It was at this point that local leaders saw how size, distance and location were losing relevance with the advent of technology but were struggling to leverage it and concerned about the cost of telecommunications infrastructure (Economic Commission for Latin America and the Caribbean, 1999). This is not to be taken lightly, because poor countries are reported to be a century behind in education attainment, such that the average level of education being achieved in the 21<sup>st</sup> century by these countries are what western countries achieved by early decades of the 20<sup>th</sup> century (Morrisson & Murtin, 2013). Yet, importantly, this region has achieved UPE and USE significant strides towards closing the gap. Given that higher education enrolment rates are still the lowest in the hemisphere (Beckles & Richards-Kennedy, 2021), it is therefore relatively unsurprising that most of these countries lack the capacity to generate knowledge (Morais & Lopes, 2013).

While the data as it relates to higher education leadership in this region is scarce, some observations have been reported. As it stands, several universities have begun offering online and hybrid options for studying, which supplement the tertiary education system in countries where there are only two-year universities. This demonstrates a commitment to mass education and lifelong learning and has opened the door for some preliminary research in the Caribbean. The types of available data for this area is largely through literature reviews and studies not involving the collection of primary data. There are also valuable sources of raw data such as the World Bank, UN and Organisation for Economic Co-operation and Development (OECD). However, in recent times there has been a greater interest in this region in the literature, and so there have been a few relevant articles engaging in primary data collection. For example, Williams (2014) investigated higher education leaders in a larger Caribbean Island as it regards their perspectives on online learning. She engaged in a quantitative approach and found that perspectives were positive towards

online learning overall, although they did not uniformly embrace it. Several barriers were identified, and the scholar put forward practical steps as increasing training and support services. From a research perspective, she recommended a qualitative study should be done for greater detail and information on which aspects were viewed favourably. Similarly, Cassie (2022) looked at attitudes and perceptions of higher education leaders related to chemistry teaching online. The design of the study was mixed methods and thus gathered survey data as well as perspectives through interviews. The results ultimately made the case for more formal training for leaders and teachers to manage the online environment. Its limitation only to the subject of chemistry was identified as a major weakness. Finally, Solis (2022) investigated this topic with the kinesiology faculty and found the lack of leadership, policies and the need for professional development as themes. Further research was recommended at other institutions and investigations into institutional level support for online education.

Beyond these highly relevant articles, there are other honourable mentions regarding online higher education in the Caribbean as it relates to students. Most recently, is a qualitative case study of students' perspectives done by Greaves (2021). Students in this context were reported to value course structure, communication and accessibility of online content. Moreover, Ahmad (2020b) gathered students' perspectives on mobile learning through a quantitative study. Students on a larger island found it favourable. Previously, Warrican and researchers (2014) investigated student success in online higher education in the Caribbean. Overall, they found that age, location, GPA after the first year and engagement with course resources were predictors of student success. Building upon the emerging literature, this research project seeks to contribute to developing a better understanding of higher education leaders' perceptions towards online education. Thus, this research contributes to a well-identified area of interest that has not been addressed.

The current climate of online higher education leadership is constantly evolving. With recognition of the numerous challenges being faced by the higher education sector in this region, a shift in leadership was made. The earliest higher education movements in the Caribbean began as largely government-run institutions, such as the UWI (Cobley, 2000). This means that government funding would be responsible for many of the expenses associated with the running of the institutions. However, with time, fiscal challenges faced by governments encouraged them to revisit the policies around HEIs. One notable decision was the move to liberalize the expansion of private higher education - a decision largely made in response to satisfy the increasing demand, which could not be achieved with financing from the public sector (Altbach et al., 2010). Thus, the climate of higher education in the Caribbean is now largely competitive (Leo-Rhynie, 2007), especially as student enrolment continues to decline. It is idyllic that organisations work together to ensure cohesion and standards regarding accreditation. However, scholars have acknowledged that the very nature of the Caribbean's diverse and complex higher education system, means that it is easier for heterogeneity, segmentation and competition to prevail as opposed to cooperation and coordination (Leo-Rhynie, 2007). Typically, the competition in the market influences a company's willingness to engage in risk-related decision-making, as online education may be viewed by these leaders (Ostler, 2013).

Online education may be seen as a significant investment and commitment. The transition leveraging online mediums to deliver education has been known to require changes in organisational structures, cultures, technology and in some cases pedagogical practices (Li & Yu, 2022). In educational institutions undergoing change, some factors have been considered essential. These place emphasis on pedagogy, organisational culture and leadership (Marshall et al., 2020). For example, within the region when UWI leadership created an open campus, a major challenge

reported by the leadership of that institution was the need to shift cultural norms to place more emphasis on quality (Leo-Rhynie, 2007). Moreover, it is often required to invest in new material and approaches related to teaching and learning to seamlessly transition to online. Yet, the advantages are significant enough in this context to outweigh the challenges with transition. Importantly, some literature suggests that staff and faculty feel that the organisation's leaders are responsible for initiating and affecting this change (Woodall, 2010). In reality, leaders have significant influence on the direction of their organisations, so an investigation into their perspectives on the matter may provide key insights into the underuse.

Eastern Caribbean academic leaders must expand the reach of their education in hopes of protecting the sustainability of their organisations (Bernal, 2018). In this context, institutional sustainability refers to the ability of the institution to run long-term. A major threat to this is the funding of academic institutions has been significantly impacted across the Caribbean (Woodall, 2010). Governments are unable to keep funding, for many government-run universities and leaders must prioritize increasing student numbers as their reliance on tuition increases. As institutions privatize and become more income-driven, more emphasis is placed on meeting profits to remain open (Altbach et al., 2010). To illustrate, online education provides a method for leaders in this context to expand their school's reach of students beyond the local country, appealing to a larger audience, without the cost of physical expansion of a new campus. This is especially relevant as populations within small islands are lower and thus a smaller market. Moreover, this method removes the high barriers to receiving higher education currently in place, such as relocation to a different country or island. Walker and Malcolm (2022) discuss the idea that most of the audience of these schools are non-traditional students who may appreciate the flexibility of online education.

From a sustainability perspective, online learning is the most cost-effective for increasing the reachable population without increasing the cost per unit of instruction (de Oliveira et al., 2018).

Leaders are also required to manage human resources in support of online learning. This gives rise to the notion of e-leadership. According to Ahuja and researchers, (2023) e-Leadership is “the effective way and blending of electronic and traditional methods of communication, implying awareness of current information and communication technology (ICT), selective adoption of new ICT for oneself, and the organisational and technical competence in using those ICTs selected” (p. 2). In the study by Cassie (2022), the lack of e-leadership skills in the Caribbean region is seen as detrimental to the success of online education. Firstly, as institutions move online and hire regional faculty, leaders must have the communication and other skills to manage these distributed teams. Moreover, many of the perspectives and skills of the leaders impact the quality of education students receive. Leaders leverage these leadership skills to develop their teaching faculty to navigate the world of online learning. Realistically, academics have high workloads and often do not enter teaching with the skills to take on these new modalities (Gregory et al., 2015). It is imperative that they receive support, guidance and vision from their leaders. Ultimately, strong leadership is required in order for institutions to successfully use online learning in a meaningful way (Brigance, 2011).

Leaders also recognize that the market is larger than it has ever been. This is because globalization and technology have created a high-stakes global market. In addition to regional conflict, international threats to the stability of higher education in the Caribbean loom. There is one specific trade law that has stirred up the region’s concern. The GATS has recurred as a theme in the literature (Brandon, 2005; Jules, 2008; Leo-Rhynie, 2007). In 1995, this was established as a treaty of the World Trade Organisation. This broadly allowed trade to occur at a wider level.

Succinctly, as it relates to education, the GATS facilitated the cross-border supply of education material through DE and commercial presence of foreign universities among other open trade related policies (Knight, 2003). Literature discussing the motivation of its development indicates that the goal appears to be one that favours the region by facilitating the growth of international trade in services and contributing to economic development world-wide (Verger, 2010). However, its practical implications have caused worry for academic leaders who feel that their audience is being jeopardized.

There are several potential pitfalls for leaders to navigate in a more open market for education. One major concern expressed by leaders relates to ensuring quality across borders (Gift et al., 2006). Relaxed regulatory conditions increase the possibility of the presence of schools (physical or electronic) that are rooted in financial gain with very little emphasis on regional and national priorities or needs. Moreover, the schools themselves may not even adhere to the high academic standards of their country of origin, yet operate freely in this region, Gift and researchers note.

International schools now have the opportunity to actively compete with existing universities in the region. While competition itself is not problematic, it favours more developed universities that have a wider financial base and are able to take advantage of it. For example, larger, wealthier schools may find it easier to launch large marketing campaigns to target the region. Moreover, they may be able to offer cheaper programs that appeal to a wide audience and lead to the closure of these regional universities that simply lack the capacity. Vass (2002) reports that international trade laws often prevent the development of poor countries as they are “rigged in favour of the rich” (p. 1). The reality is that the Caribbean does not currently have (and has never independently had) strong export power, by way of education as it lags in its development

of online education (Bernal, 2018) and is not currently in a place where it can effectively compete. This uneven footing may widen disparities and threaten the economic prosperity of the region.

Finally, there is some perception of possible unfairness. To illustrate, university leaders within the region have raised the valid concern that it is likely that developing countries will welcome overseas educational providers yet will not be welcomed in the wealthier countries (Leo-Rhynie, 2007). If these nations retain their barriers around the trade of education while the Caribbean lowers theirs then the Caribbean remains as a consumer - and remains forced to share from a limited pool of potential students as the islands have relatively low populations. Barriers to entry in international markets may not only be legal but also be those related to perceived prestige and the acceptance of only limited kinds of accreditations. While these concerns are valid and must be acknowledged, there is also a possibility for this change to be leveraged by the region.

A more positive perspective suggests that these leaders can maximize their success by leveraging GATS. Bernal (2018) believes that the Caribbean is well-positioned to use GATS to facilitate the regional export of higher education. As the region is positioned next to a significant and the most expensive higher education market, the United States of America, high quality education can be developed and marketed to this group. Through united efforts, students can experience a prestigious multicultural education that also facilitates foreign exchange with recognition that some schools already target North American students and have had success. It is not an easy feat but one worth seriously exploring as the barriers to entry that have historically existed are now minimized. Unlike the export of physical goods and services, which are burdened with high transportation costs, the export of higher education (or other internet-based services) does not have such associated fees. This overcomes a significant limitation the region has always faced before the internet. Importantly, local students benefit from high quality, prestigious

education that will be globally recognized and also tailored to the needs of the market (Bernal, 2018).

The literature also suggests that leaders must prioritize the development of culturally relevant curriculums. For example, there is the potential for other universities to market degrees and curriculums that contribute to the disconnect between the needs of the market and skills of the market (Leo-Rhynie, 2007; Louisy, 2004). Yet, of critical importance is the recognition that this can also be done by local institutions if they attempt to develop online education that merely copies that of other contexts. Lewis-Cameron (2015) suggests that institutions may be prone to doing so. To illustrate, as mentioned previously, tourism is the most significant sector for the Caribbean. In fact, as a region, it is four times more dependent on the field of tourism than any other region on the planet. Yet, the delivery of tourism education in the Caribbean has been criticized for being disconnected from the actual practice and following extremely western curricula that are not a good fit (Lewis-Cameron, 2015). Globally, academia is facing the accusation that it is divorced from the needs of society (Eddy & Kirby, 2020). However, in this context, the impact of this divorce is truly detrimental as it eliminates one of the core and distinguishing potential strengths of regional universities. Students are more likely to find value in programs that will benefit their practice and jobs. This in turn strengthens the value of higher education and improves its impact on society.

Education leaders' decisions regarding online learning and its access also significantly shape the core of Caribbean societies. For example, the region suffers from the lowest higher education enrolment rates in the hemisphere (Beckles & Richards-Kennedy, 2021). Such crippling low rates have been seen to significantly impact the economy and the ability of students who have degrees to be meaningfully engaged in work related to their education (Boiselle, 2014;

Miller, 2007). While regional businesses report feeling like their ability to be economically competitive activities are severely limited by the lack of human capacity, the issue is also recognized by governments. As knowledge-based societies are recognized as the way forward for the development of countries, there has been a notable increase in governments wanting the prioritization of higher education (Morais & Lopes, 2013). This aligns with the idea of the Ideal Caribbean person put forward by regional leaders to more clearly lay the path towards achieving the EFA goal (Jules & Arnold, 2021). It is critical to address the higher education enrolment rates as studies suggest that the developing world is about a century behind its developed counterparts as it relates education attainment and years in education.

The leaders of these organisations are seen as having a significant role to play in addressing the education gap. Firstly, it must be acknowledged that the Caribbean small states' higher education enrolment rates are currently on an upward trend (World Bank, 2023). Yet, these rates are still comparatively low when viewed against neighbouring regions. Both governmental and private institutions are invested. On one hand, the majority of HEIs are government led within the region (Boiselle, 2014). This means that government level initiatives and goals are implemented through these organisations. Thus, it stands to reason that as the CARICOM (Caribbean Community) has been tasked with educating the region (Boiselle, 2014), leaders of government-owned universities will be expected to contribute to the achievement of this goal. Similarly, leaders of private organisations are also putting emphasis on this goal. Firstly, a population that is highly educated may increase the value of having a degree and its overall appeal, as well as create new fields and a climate in which universities can thrive. Beyond this, universities often feel a moral obligation to give back to the communities in which they operate and interact (Ferguson & Roofe, 2020). In fact, in the Caribbean, some scholars note that some of the internationally owned schools

that are physically based in the Caribbean and serve their audience are considered ‘off-shore,’ but they take on the more ‘on-shore’ qualities as they integrate into society and improve access to education becoming a part of the landscape (Bobb-Smith, 2005; Brandon, 2005; Miller, 2007).

Unity has been a recurring theme in this region and is very valuable for leaders of the education systems. A number of scholars and leaders have advocated for uniting and sharing resources in efforts to address the complex needs of each small island (Crossley & Louisy, 1994). Most have recognized that the advent of technology can be used to facilitate the spread of much needed education access. It was this realization that prompted some universities to create open campuses, in which students can access materials for learning even in the absence of an official campus located on their island. Moreover, despite the combination of national universities and mega-universities, such as UWI, there is a significant need for further expansion of the education delivery systems as the needs far exceed what can currently be supplied by an individual country (Crossley & Louisy, 1994; Miller, 2007). ICT can therefore be very useful in the sharing of knowledge-based resources.

Finally, leaders must also navigate a strenuous technological environment. To illustrate, the technological infrastructure of the Caribbean is still being developed, but strides are being made. World Bank (2022b) reports the following technological innovations in the OECS islands:

In 2020, the Caribbean Regional Communications Infrastructure Program (CARCIP) increased access to high quality, low-cost digital connectivity for 53.3 percent of the population of St. Lucia, 57 percent of Grenada, and 56 percent of St. Vincent and the Grenadines. Prior to the implementation of CARCIP, 30 percent of the population in each respective country had access to such high-quality services. (p. 1)

This influences how online learning may be delivered as students may require flexibility. Cellular phones have clearly saturated the market with at least 80% of people having access (Statistica, 2021), but laptops have not. Thus, students may benefit from mobile learning in particular as seen in a few case studies of other developing countries (Ahmad, 2020a; Al-Emran et al., 2021; Kaliisa et al, 2019). Beyond this, there are aspects that relate to integrating technology meaningfully into the curriculum, so it is not a hindrance to learning. For example, quality assurance is always challenging, but existing frameworks already exist, and some island schools have published their standards and recommendations to encourage their use (Leo-Rhymie, 2007). Technology itself is important, but there are also sociocultural factors that must be considered as it is being delivered. It has, for example, been documented that Caribbean societies have often been oral ones where face-to-face discussion is essential (Boiselle, 2014; Vété-Congolo, 2016). Thus, these must be factored into the design of relevant regional online education.

To summarize, a range of complex historical factors have resulted in the modern day online higher education system being underdeveloped. The implications of this mean that the population struggles with access to education. Unfortunately, and expectedly, literature in this field is also in the developing stages with only two articles attempting to capture perspectives of these leaders. As with the broader HE world, there are ever-changing conditions to navigate. Online education requires effort to implement but is seen particularly in this context as one of the few, if not the only, possible options for increasing access. Leaders are in need of expanding their audiences to sustainably operate as funding is limited. E-leadership is recognized in the literature as an area that leaders in this context must work on developing. There are also global level threats as globalization remains barriers to entry in the education market; yet some have positioned it as a potential opportunity for the export of higher ed. Culturally relevant education is already a challenge to

achieve and may disappear completely if the system becomes dominated by non-native intuitions. In fact, current institutions appear vested in the overall region. Unity is also a potential strength but may be difficult to achieve. While not as influential as sociocultural and education factors, leaders also grapple with managing the limited technological infrastructure available to them and local students. The paucity of literature for this context as well as extensive recommendations (Tarhini et al., 2017; Thongsri, et al., 2019; Valencia-Arias et al., 2019; Vululleh, 2018) establish a gap that can be addressed through the proposed study.

### **Summary**

The literature review has provided critical evaluation and developed key concepts associated with the leadership of online learning in the Caribbean context. Firstly, the researcher leverages a framework for the discussion and study that has been extensively validated in the literature and has been recommended for this context. Moreover, an extensive review is then conducted to provide insight into the historical foundations of distance learning, the transition to online education as the internet and other advancements arose and the implications of this on teaching and learning. Further to that, it situates educational leadership, and provides deep insight into the complexities of the Caribbean region and its online education realm. It has revealed the well-established need for further investigation into the leadership perspectives and acceptance of technology with the region of the Caribbean.

The study utilizes a strong theoretical framework to guide its development. Firstly, Venkatesh's (2003) UTAUT, which is one of the most well-used theories in the literature on this topic, is used as the basis for this study. It is the first of its kind to use a combination of eight theories, including cognitive- and technology-based, and has not been sufficiently explored in developing contexts (Malik, 2020; Thongsri et al., 2018). The foundational concepts are

performance expectancy, effort expectancy, social influences and facilitating conditions. The definitions are summarized as follows: performance expectancy is how well online learning is expected to work; effort expectancy refers to how much effort will be required for the transition; social influences are external factors such as the opinions of others; and facilitating conditions refer to technological and organisational infrastructure. It is extended to capture a more organisational level perspective by incorporating the TOE framework. This considers the technological characteristics, organisational factors such as culture and structure, and environmental factors, such as industry standards and regulations – the practical applications of all of which are discussed at length in review. Similarly, this conceptual framework informs the development of this study's research questions. When compared against the range of other theories that are possible, such as TAM, these two were identified as the best and most comprehensive. A consistent theme of the literature is that this framework should be applied to the context of developing countries to investigate online learning as it has not been adequately investigated (Brockman, 2018; Graham, 2018; Kayali & Alaaraj, 2020; Thongsri et al., 2018; Williams et al., 2021).

Online education as we know it today has its roots in DE. Higher education systems launched DE as it was in line with societal movements that encouraged the education of newer groups. Interestingly, Queen Victoria, who had a significant impact on education, authorized the first correspondence university. This occurred while the Caribbean was a part of the British Empire, but education was not prioritized in this region. Dewey, Montessori, Thorndike and Skinner were seen as pioneers in the development of asynchronous and autonomous learning. As technology developed, education moved from being delivered via the mailing system, to the radio, and to the television. The sustained push for methods of delivery of education that were non-

traditional was largely responsive to societal changes that significantly increased the demand for higher education across the globe. While all of this happened in the wider world, at this time, DE institutions and leadership did not yet exist in the Caribbean. It would not come about until the establishment of UWI in recent decades (Woodall, 2010). Demand continues to increase for this kind of education within the region, but there are still challenges to meet this demand. These factors tie into the social influences and lay the foundation for the facilitating conditions that are at play in today's higher education leadership context. It is still unexplored sufficiently in the literature how the perception of these social influences and facilitating conditions impact leader's decisions around the acceptance of online learning (Boiselle, 2014; Thomas et al., 2014).

The recent history of online higher education reveals waves of rapid development. It began with the development of the WWW. While this opened the door for online learning in the wider world, the Caribbean was still working on developing its infrastructure, according to the World Bank (2022b). Subsequently, LMSs were created, which are dedicated software platforms for the management of grades, assignments, lessons and the interaction between students and students as well as students and instructors. By the 2010s, MOOCs gained popularity and courses that could be crucial in the massification of higher education. However, they have appeared to make education more convenient to the students who have already been successful in higher education and show higher dropout rates for others. Blended learning appeared as an attempt at finding balance between the fully asynchronous and the fully traditional learning. More recently, higher education has entered a phase of mass adoption of online learning. Although, this is not yet the case for the Eastern Caribbean region (UNESCO Institute for Statistics, 2022). There are some contemporary research topics in higher education. Firstly, ensuring quality for students is a challenge for leaders. Secondly, student perspectives reveal students favouring online learning but

wanting connection, clarity and structure. Moreover, student and faculty efficacy play an important role in the successful rollout of online education. Finally, online education is considered essential in increasing access to higher education. The investigation of online learning provides insight into the technological foundations available to the Caribbean region that form the facilitating conditions, which is an important perspective to investigate given the framework (Gaffar et al., 2011; Onaolapo & Oyewole, 2018).

The nature of teaching and learning in online higher education also has some influence. It was after WW2 that bills were passed to promote the education of a wider audience. Around this time, there was an increase in emphasis on student needs and student-centred pedagogy that involved active discussion and student's having more autonomy over their learning. With newer delivery methods being facilitated through technology, there are newer theories as it relates to learning such as connectivism. More recently in the literature, adult learners have been the centre of discussion as they make up an overwhelming majority. In the Caribbean, non-traditional learners are most of the unserved population and so need flexibility to be able to pursue education. Furthermore, these students are reported to have strengths such as self-regulation, independence and motivation that will assist them in succeeding in the online environment. Some challenges have been reported in online contexts such as student engagement and attrition. This usually occurs as a result of an inadequate sense of community. There have also been challenges with learning such as motivation, self-direction, and time management. As younger students enter the education system, they come with a range of technological skills and expectations. Thus, there are challenges that instructors face, such as managing their time, technology and engaging students. Overall, the capabilities of online education to support teaching and learning will inform the perspectives of leaders as it relates to the performance of online education (Barclay et al., 2018; Masino, 2013).

Narrowing down to the topic of educational leadership, there have been some significant challenges. Firstly, leaders are navigating the challenge of low enrolment numbers and student retention, which have accreditation and financial implications. Moreover, globally, these leaders face financial changes that include less funding by governments. As student demographics change, it is important to continue adapting strategies. Some leadership styles are well-suited to online learning while others are not. Firstly, the transactional leadership model is the oldest of the models and is less suited for transitioning to online learning as the kind of flexibility, responsiveness and empowerment is often not prioritized. Secondly, transformational models are seen to be more successful in the move to online learning due to its support of creativity and innovation. Servant and authentic leadership styles are often combined or used in support of other theories. Distributive leadership, while poorly defined, has been associated with the resilience of an organisation in times of crisis or change. Given the complexity of higher education, the pathway to leadership often does not support the type of skills required at that level. In the Caribbean, leadership has historically been seen as authoritarian but has now experienced change. There is a significant gap in the literature on education leadership, even leadership in general. Scholars are asking us to close this gap by investigating to provide insight into the style of leadership effort that may be associated with leaders in this context (Roofe, 2022).

As the historical foundations of the Caribbean are investigated, several key social influences are established. Firstly, historical factors, such as imperialism and colonization, have impacted the very design and limitations of the education system. Building upon a foundation of significant differences in the distribution of wealth, the region remains as having one of the most notable inequalities of wealth and power, which impact access to education. As SIDS, the UN recognizes that they are particularly at risk in achieving their economic and educational goals. In

fact, geographic limitations mean that these islands are also at risk for negative ecological impacts. Given that jobs in this region are heavily dependent on external factors, such as tourism, there is potential for the impact of external shocks to be severe. It is clear that the region needs a more robust method of creating economic stability. This on-going challenge has been tackled through several attempts at unifying the region through policy, law and currency. However, legal approaches have a very limited impact on geographical isolation challenges, so many issues still exist. Of particular relevance is the matter of sustained scarcity of higher education. For context, culturally relevant education is seen as a potential solution to many of these challenges, and as UPE and USE have already been achieved, higher education is the next frontier for investigation. Technology may be able to overcome these physical limitations. Online education may contribute to solving the problem of education access, as suggested by some literature. However, others have brought to light that the nature of the Caribbean's collectivist and oral society may limit the acceptance of technology. It is still unclear in the literature how these social and historical influences impact the organisational culture and leaders' ability to transition their schools to online learning (Ahmad, 2020b).

Finally, there are gaps within the data on higher education leadership within the Caribbean. This is unsurprising, as independently, both the region and academic leaders are under-researched. We know that in addition to the threats and challenges that are globally present, these leaders have some context-specific issues. Firstly, the history of online higher education in the Caribbean is recent and the region is still in its infancy. While the mass adoption of higher education was occurring in the wider world, the region was yet to develop its higher education sector. Similarly, it struggled to embrace technology in the 1990s, as the rest of the world piloted online delivery of education. Earlier research by Williams (2014) shows that faculty appeared to be interested in

online learning but did not uniformly accept it and reveals the need for qualitative data to fill the gap. Similarly, Cassie (2022) and Solis (2022) investigated this topic with chemistry faculty and kinesiology faculty respectively. And, while responses were favourable, leaders themselves were not targeted by this study. Solis revealed that a lack of leadership would impact perspectives and that institutional support for online learning should be investigated. Ultimately, the transition takes up significant investment in money, time, training and requires the creation of new organisational cultures. However, leaders in this region are required to adopt online learning in the interest of sustaining the field of HE. Moreover, leaders must use a range of e-leadership skills to successfully run an organisation that offers online education. While this may be daunting, an open market space due to international trade laws may disadvantage the region, as it has not yet mastered export. Notwithstanding, some see the export of higher education by the Caribbean to be a lucrative and achievable initiative. By positioning the region in this way, local students also receive high quality education that is culturally relevant and meets the needs of society. There are a mix of schools in this region, but it is clear those that have invested physically have also demonstrated commitment to developing the region. Technology limitations that may have been present before are being rectified and have been reported to not have a major impact on decisions. Ultimately, the leaders themselves should be investigated as they are the ones with the deepest insight into the problem and solution. Moreover, the limited body of research has not been able to show what factors, such as social, technological, organisational, pedagogical and leader-related, are at the core of the underutilization. In the absence of this information, the problem remains difficult to address.

To summarize, the literature reveals the dire need for the adoption of technology. It has shown a combination of the importance for adoption in this region as well as the fact that it is underutilized. These two components reveal a disconnect that must be investigated to provide

resolve. Yet, the matter has not been sufficiently analysed. Building upon the existing research and identified gaps specific to this context by Solis (2022) and Cassie (2022) as well as broader research completed by others (Tarhini et al., 2017; Thongsri, et al., 2019; Valencia-Arias et al., 2019; Vululleh, 2018) suggests the need for this kind of investigation.

## **CHAPTER 3: RESEARCH METHOD**

### **Introduction**

As technology continues to evolve, it has impacted most fields, arguably education to a lesser extent. In the SIDS, sustainability and access to education remain constantly prioritized by intergovernmental organisations in efforts to develop economies and human resources. Nonetheless, in many of these countries, there are challenges as they relate to access to education. Online education is often seen as the great equalizer that can improve access to knowledge, and by extension, quality of life, economies and societies. However, especially in developing countries like SIDS, this particular advantage has not been realized. While several countries have achieved UPE and USE, attention has been turned towards tertiary or higher education. The problem is that despite the well-established advantages of online education, particularly in the contexts of SIDS, it remains significantly underutilized by HEIs. Culture and pedagogy are closely interlinked; it has been found that social and organisational factors are more likely to impact the acceptance than actual technology (Kanwal & Rehman, 2017; Muhammad et al., 2017; Valencia-Arias et al., 2019; Vululleh, 2018). As recently as 2016, Allen and Seaman reported that leader and institutional support for online education were the lowest it had been in the past decade, even though the features and accessibility of technology are more than they have ever been. Academic leaders, a misunderstood and under-researched group, may provide key insights into this phenomenon. As a result, the purpose of this qualitative case study is to explore the perspectives of online education leaders and teachers toward online teaching and learning at a graduate school in the Caribbean. In order to effectively investigate this, the research design, population, sample, materials, procedures, ethics, data collection and analysis must be carefully planned and considered.

This chapter encompasses the details of the methodology used for the investigation. Firstly, the research design and approach describe the decision-making behind the selection of the study's format and structure. In that section, the case is made for why a qualitative case study is the most well-suited method: succinctly, the inability of the various quantitative approaches to capture the type of rich data required to understand perspectives and attitudes towards online teaching and learning. Moreover, upon investigation of the phenomenon, it is clear that of the qualitative approaches available, the case study format is the best suited, given the current state of research. With recognition that qualitative approaches use a smaller number of participants, it is particularly critical that the sample is highly representative of the population, and they have deep insights into the phenomena under investigation.

The population chosen for this study is HE leaders and teachers. This group has been identified as having significant differences from their industry counterparts in how they are selected, their expectations, challenges and operating constraints. The sampling frame is a single-site case study of an HEI that offers online HE at the graduate level in a SID. A review of the population revealed that the sample contained multiple units of analysis. These are defined in this study as persons of interest who have a significant enough role or responsibility related to online education that they may have different insights into the various constructs under investigation. These groups were: academic department chairs or program leaders, technology leaders, course directors and course instructors. Ultimately, each of these types of participants has a different angle of experience and, as a result, should be investigated slightly differently.

Materials and instrumentation for this study were derived from Venkatesh's (2012) survey. Based on the research questions, the core constructs under investigation are performance expectancy, effort expectancy, facilitating conditions and social influences. In the second iteration

of UTAUT, Venkatesh released a survey that can be used to investigate each of these constructs. It is quantitative but has been used by many authors to create qualitative instruments, such as interviews. In this case, the instrument was used to derive a qualitative instrument as well. This instrument was then modified to ensure that it was relevant to each group. Upon further analysis, it was evident that interviews were well-suited for the leaders (department leaders, technology leaders and course directors) to better understand their depth of insight as experts (Mergel et al., 2019). On the other hand, focus groups would be ideal for course instructors; it would allow for more ideas to be captured within a shorter space of time, but also allow for richer ideas to be developed and social influences to be captured (Gill & Baillie, 2018). As a result, a variant for the instrument was specifically modified for it to be delivered in a focus group. These instruments were reviewed by several authorities and piloted for further accuracy. By leveraging the strong foundational basis that is valid and reliable, the study is strengthened. Beyond merely the creation of the instruments, the actual implementation of the data is critical to the success of the data.

Ethical assurances must be upheld to protect the participants, researcher and rigor of the study. Subsequently in this paper, the study procedures outline the exact and replicable steps that can be used to recreate this study. An in-depth description of who, when, how, where and what are covered. By clearly articulating these steps, the clarity and structure of the study remain systematic and further protects reliability and validity. Several types of ethical approvals were required before the data collection could begin. Firstly, there was the Unicaf Research Ethics Committee (UREC) provisional approval, which was acquired early in the process. This ensured that the study's foundation was built on solid practices. Closer to the actual data collection, the UREC issued their final and full approval. To achieve this, the primary researcher completed their form and subsequently presented it to the committee. Once this was achieved, the international review board

(IRB) was requested by the institution that was the site of the study. Their IRB process involved completing a form, then feedback was provided by the board. Once all potential challenges were addressed, final approval was granted, with one other condition. As part of the UREC process, the gatekeeper of the school is required to give their consent. As this site takes special interest in ensuring their students, faculty and staff are protected, the gatekeeper is actually the leader of another committee that does a final review. This committee is only involved if the actual participants belong to and or, study occurs on the campus. As a result, a formal process occurred where another document was completed to request that the gatekeeper and committee consider the study for approval. The process of requesting and achieving the various approvals occurred over the course of a few months. Finally, approval was granted such that data could be collected.

At the core of the study were several ethical principles. Firstly, despite being a very low-risk study, multiple steps were taken to minimize the risks. One key aspect of this was the reminder at the beginning of the study that the participant could withdraw at any time. This is further explained in great detail in the consent form. However, as some participants signed the consent form in advance of their interviews and focus groups, the reminder was a critical component. In the consent process, there was no deception involved as it was not required, and participants were encouraged to ask any questions or request further information. Privacy and confidentiality are also prioritized as these allow individuals to have autonomy and feel empowered over their own data. There are several steps to ensure data is managed appropriately, such as pseudonymization of the participants. In the focus groups in particular, participants are able to see and hear other participants, which limit to some degree these aspects. However, the information overall is still stored securely, and all demographic information is treated with extreme sensitivity. Even further, the site is given a pseudonym to reduce the likelihood of these leaders being identified.

Data collection and analysis are the stages that occur later in the study. Data collection considers many factors, such as the type of data to be collected, the research questions and the best methods of collecting them. Beyond these theoretical pieces, it also involves the primary investigator (PI) engaging in the recruitment of participants, as well as scheduling and facilitating interviews and focus groups. Once the data is captured and securely stored, it is transcribed. Thematic analysis, with the support of the Dedoose software, will then be used to develop answers to the research questions. These steps are aligned with the development of a qualitative case study.

The overall goal of this study is to analyse the perspectives of higher education leaders and their experiences with online teaching and learning to assist in closing the research gap. The exact details from the design to the implementable steps are outlined in this chapter. Ultimately, the most appropriate design decisions and action were taken based on the context and nuanced nature of the phenomena.

### **Research Approach and Design**

The most strategic research design to investigate this problem is a qualitative case study. In fact, research design is one of the most critical and defining components of a research undertaking (Asenahabi, 2019). In the world of research, it is imperative that papers such as this one adhere to a range of standards. These ensure the rigor of research is upheld before its dissemination. As a result, reliability, validity and overall research design are prioritized in this study. For context, reliability, meaning how well the study can yield consistent results, is a common measure of quality (Krosnick, 2018). Secondly, validity, which is the ability to return accurate results, must be considered (FitzPatrick, 2019). The foundation for these essential quality metrics is established in the research design. In this study, the research design itself integrates the various components and outlines the strategy for answering the proposed research questions. While

the implementation of research can occur without a design, a detailed and reflective design is used to ensure that the research is systematic, standardized and methodical (Asenahabi, 2019). It is reflective in the sense that the researcher must consider their own questions, strategies and plans to actually collect data (Creswell, 2014). Moreover, they should also analyse any biases that can impact the research and by extension the collection process. It is directly related to the purpose and planning while acknowledging other practical constraints, such as time, location and the availability of resources. In order to sufficiently determine the best approach for this undertaking, it is imperative that the researcher developed a clear understanding of research and analysed the various approaches available to them. A qualitative case study has been selected as the best approach as the nature and parameters of the research play a key role in determining the method.

Prior to selecting a qualitative case study, all approaches were considered. To begin, an analysis of the quantitative, qualitative and combination approaches is provided to critique their relevance to the purpose. Undoubtedly, no single approach is universally superior (Choy, 2014). Each type, and their various implementations, is suited to different kinds of research problems and phenomena. In this case, there are several defining characteristics of the research. To analyse the acceptance of online learning in higher education in SIDS, it is imperative to gather the perspectives of these leaders (Boyers, 2017; Kanwal & Rehman, 2017). Their insights remain insufficiently explored in this specific context. Ultimately, these factors will be influential in determining an approach and methodology. It was decided that a qualitative case study was the best approach for several reasons.

Firstly, a quantitative methodology, which focuses on numerical analysis of data would not provide the kind of data required. To illustrate, in order to carry out this type of research, variables are isolated, and relationships are investigated such as correlation (Bloomfield & Fisher, 2019).

Instruments may vary significantly but can include surveys and questionnaires. The overall goal of quantitative research is to explain phenomena or create generalizable data. With this goal in mind, there are instances where this approach is particularly well-suited. Firstly, it is ideal for testing hypotheses and establishing cause and effect or correlations. Moreover, it is excellent for measuring the prevalence of a problem. Very commonly, it is used by researchers when they want to gather data from a large sample size or to develop mathematical models for decision-making (Savela, 2018). In fact, given the range of uses, there are many possible designs. However, in the context of the study the quantitative approach does not seem well-suited. There is no hypothesis to test; in fact, quite the opposite, as scholars acknowledge that models for the developed world that relate to technology acceptance may not even be applicable to developing contexts. Before drawing this conclusion, it is imperative to look at the designs available with quantitative approaches.

Moreover, none of the implementable designs of quantitative approaches are suited to the phenomena being investigated. There are a range of designs that are common in quantitative studies (Baker, 2017). Firstly, descriptive research is used to support and explain the current state of a variable. In these cases, answers to questions like what, where, when and how are found, but not why. In other words, there is no variable manipulation. Secondly, there is correlation research, which investigates relationships such as how two or more variables are associated; causation is not measured in correlational designs. The causal comparative or quasi-experimental is the type of approach that tries to investigate and establish cause and effect: that is, if one variable causes change in another. It is similar to experimental research, which involves the rigorous manipulation of variables to see changes caused in others. Given the complexity of problems, there are subtypes that may be used for further structure and guidance. Nonetheless, a review of these designs

revealed that none was highly appropriate to the phenomena under investigation. Based on the ill-fitting nature of quantitative studies to the phenomena under investigation at this time, a mixed method approach is not well suited.

Given the nature of the situation, a qualitative approach is more favourable. For example, quantitative design does not allow for the study of qualitative phenomena where non-measurable human behaviour, attitudes and experiences are at play. Given the problem being investigated and the purpose of the study, the aforementioned conditions of quantitative study are not able to provide the rich data required to answer the research questions. For example, while there are some quantitative tools that are designed to investigate the acceptance of technology, many scholars have established that in developing contexts, newer models are needed (Tarhini et al., 2017; Thongsri et al., 2019; Valencia-Arias et al., 2019). Yet, with the paucity of literature in this context, there has not been enough data to develop such models (Kanwal & Rehman, 2017). In this context, there is further concern that a quantitative approach may eliminate significant contextual variables that may greatly impact findings (Chan et al., 2019). Thus, another approach should be considered to do some preliminary investigation at this time.

Qualitative methods are used, in the context of this study, to collect and analyse data that cannot be expressed numerically (Smith & Smith, 2018). An example of such data includes an in-depth understanding of human behaviour and motivation. Common instruments in these types of studies are observations, interviews, focus groups and artefact analysis (Roberts, 2020). Broadly, qualitative research describes and explains the social world, especially when researchers want to probe into a poorly defined problem. Qualitative approaches have many strengths that align with this study. One of the greatest strengths of this method is its flexibility, which makes it ideal for situations that may have ambiguity or novelty (Braun et al., 2021).

This area of research is new in this context and too insufficiently explored for a quantitative approach. Furthermore, it is excellent for examining a whole experience and not just segmented or selected components. Multiple facets of the online education acceptance are considered to answer the research questions. Secondly, qualitative data provides an in-depth rich understanding of specific groups as opposed to broader surface information of a larger and wider audience. The under-researched and not-well-understood leaders of higher education, especially in developing countries, are being investigated. Similarly, it is chosen as the best method for the exploration of complex nuanced phenomena - for example, the study of cultures and their traditions as well as deep societal issues. Online education acceptance is incredibly nuanced and relies heavily on situational factors, such as organisational culture and social influence as opposed to technology; it is also used to understand decision-making, attitudes, problem-solving and other types of behaviour. In this instance, the behaviour around the acceptance of technology is being investigated.

An analysis of the research problem and purpose reveals the importance of delving into a qualitative approach. Given that very little research exists on the perspectives of leaders in this context, prominent scholars believe that a qualitative approach will provide some foundational and holistic knowledge (Abraham, 2014; Carbajal, 2020; Graham, 2018; Killian, 2020). The topic itself relates to a manner of human and organisational behaviour that is highly nuanced. As a result, many scholars have specifically recommended that the faculty perspectives towards online learning should be explored qualitatively (Bertram, 2017; Fisher, 2020), especially within this context (Boyer, 2017; Greaves, 2021). Thus, the approach is the most appropriate.

There are several approaches to implement qualitative methods (Edwards, 2020); a case study is the best method in this context. To illustrate, the other methods are evaluated. Ethnography

is a method of studying a culture and its traditions. It is not ideal given the nature of the problem. Furthermore, grounded theory is an approach used to develop a theory. However, the current state of research does not yet lend itself to this approach. Also, discourse analysis captures ways language is used to construct meaning, which does not directly relate to the problem under investigation. Additionally, phenomenology, which has two main categories, Husserlian and Hermeneutic, investigates lived experiences. While this may be a valuable approach, it is typically used as a lens to observe a specific experience, such as childbirth; in this case, the experience of online teaching itself is not being investigated. Finally, case studies explore a given phenomenon in a particular context, which is ideal for this study that is content-specific and will be discussed in detail later. It is important to note that the case study approach allows for capturing an in-depth understanding of a phenomena in its real-life context. While there is a lot of variation within methods, the qualitative and quantitative methods can be also combined.

In some cases, problems may be investigated with both approaches. However, this problem is not well-suited for a mixed methodology. Notably, there is flexibility with how these methods and approaches are used. For example, sometimes a problem warrants an approach that uses both qualitative and quantitative methods (Palinkas et al., 2019). This is called mixed-methods and takes various forms. For example, sequential mixed methods involve one method of data collection being followed by another, whereas concurrent means that two types of data are captured simultaneously (Walker & Baxter, 2019). Some research can be explanatory, for example where quantitative data is collected first then qualitative data is gathered to explain the quantitative. Other kinds may be exploratory, in which qualitative is done first and quantitative is done secondly to explore the results. In this context, there is insufficient rationale to use a mixed methods approach as the research questions can be answered through qualitative analysis.

In this study, while one methodology and design are used, data source triangulation is incorporated. Formally defined, this type of triangulation in qualitative research refers to the collection of data from different types of sources (Natow, 2020). For example, multiple qualitative instruments are utilized to build an exhaustive and comprehensive picture of the phenomena under investigation. In this case, the instruments are focus groups and interviews. Multiple units of analysis are investigated. The population and sample, discussed later, are divided into units with variants of the tools to sufficiently exhaust the core constructs. It has the benefits of increasing validity and credibility, as well as reducing bias from one source and making the research richer and more useful (Morse, 2010). This kind of data triangulation is well-suited to the development of a strong case study (Merriam & Tisdell, 2015; Takahashi & Araujo, 2020).

With the recognition that qualitative data would provide optimal answers, the most appropriate design is the case study format. While its roots are in clinical medicine, it was quickly adopted by fields such as psychology, education and business due to its strengths (Harrison et al., 2017). This design facilitates an in-depth concrete examination and analysis about a specific subject such as a person, event or phenomenon. Case studies are particularly advantageous as they support flexibility across data collection tools, can be used to see relationships in context and, importantly, capture the complexity and peculiarities of the situation without oversimplification (Pearson et al., 2015).

The case study is well-suited for this study for several reasons. Unlike the other qualitative approaches, depth and focus are key aspects of the case study, which is essential to develop a holistic and clear perspective of the underlying phenomena (Creswell & Poth, 2018). To illustrate, insights of faculty members are vital to understanding a research problem and as established previously, given the limited exploration and unique challenges of this context, many scholars

believe that models from the developed world are unable to sufficiently capture the acceptance of online learning in SIDS. Moreover, case studies are not done in isolation but are integrated and grounded in the theories and literature, which increases their value. Thus, the case study will form the basis for delving into the rich data of this context, while leveraging the wider body of knowledge (Tarhini et al., 2017; Thongsri et al., 2019; Valencia-Arias et al., 2019). A careful analysis of the problem reveals an instrumental case study is the best option as it is primarily used to gain insight into a broader issue or phenomenon (Creswell & Poth, 2018). It also is excellent for understanding the relation between the context and the phenomenon, which is critical to this study.

In order to minimize the possible limitations of the study design, several considerations have been made. Firstly, depending on the way the qualitative case studies are carried out, there may be challenges with generalizability. While the concept of generalizability can be fairly complex, it can be simply defined as the ability to form broad or ‘general’ statements from a case (Carminati, 2018). While the notion is independent of any particular approach to research, it is often most associated with quantitative studies. In qualitative inquiry, as the contextual effects are crucial, generalization is often achieved through transferability rooted in theoretical analysis and contextual effects. It is not a concern in this context because this study follows the approach recommended by Yin (2014) in which ‘analytical generalization’ is achieved. To do this, the researcher compares or ‘generalizes’ the data from the case study to the existing theoretical body of knowledge. Another concern with qualitative case studies is that of subjectivity. For example, case studies rely heavily on researchers' interpretation of data, so there is the risk of bias. However, in an effort to alleviate this problem, triangulation, as described above, establishing of standard

questions, recording direct audio and journaling are used to increase validity and reduce the impact of the researcher bias.

There are several defining characteristics of this study that are shared with other case studies more broadly. According to Creswell and Poth (2018), most case studies share several defining characteristics. Firstly, this case is bounded and defined with certain parameters and criteria; here, a particular group and site are under investigation. Secondly, the intent has been systematically defined; in this case it is to better understand a problem. Thirdly, it has the goal of gathering an in-depth understanding, which relies on collecting data from multiple units of analysis. Further, the researcher clearly describes the case, its specific situations, themes and challenges, which facilitates an understanding of structure, validity and clarity. Finally, the researcher concludes with overall meanings or assumptions (Yin, 2009), or assertions (Stake, 1995); this will be done in the analysis and conclusion phase. A rigorous and systematic approach to the development of a case study is essential. The creation and adherence to the steps and procedures for carrying out the study facilitates such a systematic and reliable approach. This study achieves this by leveraging the steps outlined by Creswell and Poth (2018), Yin (2009) and Stake (1995).

Firstly, the research questions were defined. In order to achieve this, the literature was systematically reviewed to determine gaps related to the leadership of higher education. A well-defined gap that is of interest to the community of researchers is the acceptance or lack thereof, of online education by higher education leaders within SIDS, given the positive impact it may have on the countries and also the higher education sector. While the context is believed to have a significant impact on underutilization, research into the existing body of motivational theories that investigate this behaviour was leveraged. Thus, UTAUT, one of the most cited and robust

frameworks related to technology acceptance (Dwivedi et al., 2019), has been combined with the longstanding and well-established TOE framework, which broadens the scope to cover organisational-level considerations (Wang et al., 2016). The inclusion of the theoretical framework from the beginning strengthens the theoretical base of the study, its validity and its generalizability (Kivunja, 2018). With the critical analysis of the literature and the development of the research questions, it was evident that a qualitative case study was the best design.

Subsequently, the case was selected and defined. The case is selected based on the problem statement and research questions. In this context, the locale of the study is a university that offers online graduate-level education within a SIDS. In particular, the case is bound by time, location, activity. The time factor involves a post-pandemic look at an institution that ventured into online education over a decade ago. With the seasoned expertise of the participants key insights can be gained into how they successfully started, sustained, and expanded into the online education space. As it currently stands, the institution offers several graduate level online programs which provide a range of rich information. This includes a: Master of Education program, Master of Business Administration, Master of Public Health and Master of Arts in Psychology. The case site is critical as it is one of few institutions in existence in the region that has sustainably implemented online education. Baskarada (2014) notes that critical single case sites have strategic importance to the general problem. Given its foray into the realm, there are multiple rich perspectives on the phenomena as told from academic, technical and course leaders, as well as the teachers who directly interact with online students. Therefore, it may stand to shed light on a poorly understood phenomenon. Thus, the study is suitably limited to one organisation. Moreover, the population is bound to the leaders of these initiatives and instructors/teachers. At this stage, the number of

participants, recruitment and instruments should also be considered. According to Merriam (1998), such clear boundaries are the single most defining characteristic of a case study.

The next step is collecting the data, typically through at least two methods. Importantly, before data can be collected, approval must be sought from the relevant ethical approval boards as well as from the gatekeeper of the site. The goal of doing so is to increase the validity of the study and ethical rigor. In this case, structured interviews and focus groups are used.

Upon the completion of data collection, analysis began. Concurrently, the data from the focus groups and interviews are deductively analysed. Thus, any potential areas of interest can be further probed for insight into the research problem. The first step includes the recording of the interviews and focus groups, which will be transcribed and coded using emerging codes, paying attention to the manifest and latent content of the data. The thematic networks are created by identifying basic themes, summarizing them into organizing themes, then consolidating them into global themes that align with the framework (Attride-Stirling, 2001). A thematic network or web will be used to visually articulate the findings. Then, conclusions will be made to relate this data to the body of literature using the theoretical frameworks. Finally, the case will be written up and documented via the thesis. In this document, all steps will be articulated.

Case studies, such as this one, are typically informed by multiple sources of data. The development of this study relies on multiple types of participants as well as different data collection tools. The range of participants and tools used are well-suited to answer the research questions. It is particularly advantageous as it allows for a detailed and in-depth analysis of the phenomena under investigation.

In this study, there are two major categories of participants being investigated using two main tools. Firstly, academic leaders are one of the groups under investigation. They are divided

into three units of analysis. These participants hold some form of leadership in the university as it relates to teaching and learning in an online environment. To begin, department leaders or chairs are those who spearhead the entire department, their budgets, goals and overall direction. These act as an intermediary and negotiator between upper management and the faculty, often caught between diverging interests of the two parties (Gigliotti, 2021). Typically, these roles are primarily administrative but may involve some level of teaching. Then, there are the course directors who report to these chairs. These directors manage the teaching teams, are responsible for coordinating the development of the courses, ensuring alignment with the overall degree program and overseeing all aspects of the course (Maddock, 2023). Finally, there are unit leaders associated with technology management. While they are not direct users of the technologies or teachers, their decision-making shapes the direction of online education on campus. They often assist course directors in finding the best technologies to improve their courses as well as provide training on how to integrate those technologies. The second group of participants are online course instructors. They are not recognized as part of leadership as their work is primarily instruction, and they are often not high-level decision-makers. However, they are able to provide critical insight into the day-to-day of classroom management, interacting with students and grading, especially as it relates to effort and performance expectations (Parnes et al., 2020). These groups are further described under population and sample sections. Given the different insight provided by the two groups, there are different methods of collecting data from them.

There are two data collection tools being leveraged for this study. Firstly, in-depth structured one-on-one interviews that span for 45-60 minutes are done with the academic leaders (department chairs, course directors and technology leaders). The rationale behind the use of interviews is that they can capture the richness and depth of leaders' experiences (Adhabi, &

Anozie, 2017). By using open-ended questions and follow-up probes, the researcher is able to delve into nuanced and complex perspectives. The personal and contextual understanding of the leaders' motivations, decision-making processes related to technology and other contextual factors are essential to understand the organisational-level impact. Secondly, focus groups of 3 - 6 participants are used to facilitate conversation and meaningful data collection from the teaching faculty. The group dynamics and interaction are a key advantage of this approach. Course instructors will be able to build on each other's ideas, share experiences and engage in discussions that can lead to deeper insights. Multiple perspectives are useful for the diverse and comprehensive understanding of phenomena. Following the best practices, the 90-minute focus groups will have 5-6 principal questions (Marczak & Sewell, n.d.; Nyumba et al., 2018). A core construct of UTAUT is social influence; within the focus group, the social influences that naturally occur and may lead to the development of norms can be captured (Kristiansen & Grønkjær, 2018). These cannot be captured as easily through isolated data collection methods. Moreover, the interaction and spontaneity of group dialogue is able to return a different type of data (Hennink et al., 2019). Ultimately, the two approaches to the collection of data ensure a holistic and well-defined understanding is gained.

In conclusion, the choice of research approach and methodology is critical in determining the alignment and success of a research project. Each type of research approach is suited to different kinds of research problems and phenomena. Therefore, researchers should carefully consider the research problem and the goals of the study before deciding on the research approach. For this study, given the research problem, a qualitative approach was chosen. While there are various implementations, the instrumental case study is the best way to address the research questions. Ultimately, this study follows the approaches for developing a case study as outlined by

Stake (1995), Yin (2009) and Creswell and Poth (2018) to ensure a rigorous systematic approach. Once this has been clearly established, the target audience must be defined.

### **Population and Sample of the Research Study**

The population and sample are critical components of the research strategy. The essential components in addressing the research problem include the population, sample, sampling technique and sampling frame. Briefly defined, the population is the overall group under investigation, that conclusions will be drawn about. Then, there is the sample; these are the specific groups (or subsets of the population) that the research will collect data from (Hennink & Kaiser, 2022). As only some of the population can be investigated, a sampling technique must be used to select the sample from the overall population. Similarly, a frame must be chosen as the source from which participants will be selected (Martínez-Mesa et al., 2016). While these can seem simplistic, the absence of a clearly defined approach can threaten and compromise the validity of the study. For example, this aspect of the research seeks to support the research design and questions, to assist in the generalizability of data, representativeness of the larger population and, ultimately, the feasibility of the study, as time, cost, and financial constraints often limit capturing data from an entire population (Mujere, 2016). Within this qualitative case study, it is imperative that the data collected sheds insight into the population of academic leaders within the developing world, by engaging in an in-depth exploration of leaders and teachers within a single site that has demonstrated expertise and involvement with online education.

Given the goal of investigating the underutilization of online education within the higher education contexts of developing countries, HE leaders are an essential group for analysis as academic leadership significantly impacts the direction and development of the university. Interestingly, this group is often considered significantly under-researched, and often

misunderstood (Eddy & Kirby, 2020). HE leaders form a critical group of participants and are considered a key unit of analysis. While there are calls for more research into these leaders, it is important to note that the context of leadership and even the method of selecting these leaders differs significantly from its industrial counterparts. There are a few notable aspects of being a leader, especially in the modern-day context where scarcity and change are commonplace (Rowley & Sherman, 2003). Firstly, academics often assume leadership roles without having pursued leadership as a career or without formal training (Evans, 2017). In fact, the criterion for selection is often based on teaching skills and research, as opposed to leadership. Secondly, these roles are often in addition to the expected academic duties that they previously carried out. Thirdly, given that faculty typically have more autonomy than their industry counterparts, the role of the leader often becomes faculty, peer, manager and leader (Rowley & Sherman, 2003). Fourthly, unlike in a traditional model where organisational needs are matched with the employees' abilities, there tends to be more political factors to consider in the academic leadership realm. In the context of developing countries, leaders face the aforementioned challenges and many others. For example, they often require a flexible approach to leadership as they navigate political instability and even less resources than their developed world counterparts (Yue et al., 2021). Moreover, they must be prepared to face pressures, such as finding sources of non-governmental funding, sustainability, educational reform, and the shift towards education 4.0 (Cetin & Karsantik, 2022). This phenomenon gives rise to the urgency and importance of this investigation: education 4.0 represents a global shift towards using technology to transform education.

Aside from the challenges of the context for these leaders, there are several other key considerations. These considerations allow them to provide a very nuanced perspective that may differ from the leaders in industry, that make them indispensable participants for the study. Firstly,

both leaders and teachers possess extensive expertise and advanced degrees in their discipline, as well as a strong background in teaching and scholarship (Wolhuter et al., 2016). Secondly, leaders are expected to manage faculty and staff, ensure effective teaching, provide strategic vision and oversee the development of academic programs and policies (Makoe & Olcott, 2021). Further, leaders are often responsible for ensuring the professional development of their faculty. In summary, these experienced professionals make important decisions to shape the future of the institutions.

A well-defined sample frame is selected. In qualitative inquiry, the sampling frame is the source from which participants are selected (Elfil et al., 2017). For the purpose of this study, a rich site is used as the frame from which participants with deep insight and experience can be selected. While the population is an area of interest with significant calls for research into the overall group, it is not feasible to collect data from the entire population. Thus, an appropriate sampling frame must be considered. For the purpose of this study, a well-defined frame is used to ensure completeness, accuracy and up-to-date information and a representative sample. Unlike in quantitative research, the goal here is not to achieve statistical representativeness but to select participants capable of providing rich and detailed information about the phenomena under investigation (van Rijnsoever, 2017). With careful consideration of the characteristics of the population, an organisation was selected for a single site case study. The frame considers a diverse range of participants and is flexible enough to facilitate the inclusion of new participants as the study progresses.

A single case sampling frame is particularly relevant to this problem for several reasons. In fact, it is the most optimal approach considering the many factors that make this site exhaustive and dense with data. Firstly, it is advantageous as it can provide an in-depth comprehensive

analysis that can lead to a detailed understanding of the case. It can also be more flexible than other sampling frames as it gives the researcher the ability to focus on aspects of the case that are more relevant to the research questions. Specifically, as outlined by Ishak and Abu Bakar (2014), this study will use an embedded single-case design with multiple units of analysis, wherein each group of individuals is considered a different unit of analysis. This is necessary given that the context is able to provide very rich and nuanced data.

The case selected is an esteemed university within the OECS. This university has demonstrated successful implementation of online education well before the onset of the global pandemic. Of particular interest is its School of Graduate Studies, which has programs related to public health, business, education and psychology. These students are able to access the same student support services as those in person. Interestingly, all of these programs began as traditional face-to-face programs but transitioned to online to maximize impact and attain a multitude of benefits. While many other schools have resisted the transition, this school's embrace makes it a key site for analysis. The learnings may provide crucial insight into solving the wider phenomenon of underutilization.

The sample is a subset of academic leaders and teachers that have demonstrated extensive experience with online education in the context of the frame. There are several categories being investigated. Overall, the group of academic leaders can be broken down in three units, while the teaching faculty are another unit of investigation and the hierarchy is presented in Appendix J. These units of analysis provide an exhaustive scope and illumination of the phenomena.

Department leaders are critical and significant members of the university leadership. They negotiate needs between their faculty and the higher administrations, advocating for their department, and communicating around programs, budget and human resources (Anthony &

Antony, 2017). Department chairs provide leadership and vision, including proposals for new courses, tracks and degrees; developing and implementing curriculum; supervising and evaluating faculty performance; and addressing concerns. As expectations around universities have evolved and government-funding reduced, the role of the department chair has become increasingly complex (Fernanda et al., 2021). Within a given department, there are also supporting leadership positions.

Course directors are subject matter experts (SMEs) who manage and oversee the programming for a course or set of courses in their capacity as leaders. They develop and implement course curriculum, often selecting and supervising teaching teams, and measuring student performance (Broeckelman-Post & Simonds, 2020). These leaders play a key role as an intermediary between the department chairs and teaching faculty, especially adjunct faculty who are typically employed part-time, on a semester-based contract. Overall, they are responsible for ensuring the course content is relevant, up to date, engaging and delivered in accordance with the standards of the institution.

The other pertinent group of leaders under investigation are the technology unit managers. In academic settings, these leaders are often charged with leading information technology support, education computing teams, instructional design units and other similar teams associated with supporting technology-enhanced learning. Thus, they are responsible for the strategic planning related to the integration of technology and its support (both technical and instructional). Given this task, it is imperative that they have a keen understanding of the organisation's goals, as well as technology-related needs, to develop plans (Miller, 2019). Like other leaders on campus, they oversee teams, and deal with budget and resource allocation; yet communication and collaboration

are more essential to the role. This is because they must ensure alignment of expectations among the technology teams, academic departments, administration and faculty.

Teaching faculty are the ones who are tasked with implementing the day-to-day of teaching. Under the teaching responsibilities, they deliver lectures, facilitate learning activities, grade assignments and provide feedback among other responsibilities. These individuals have in-depth knowledge on the subject matter to provide students with accurate information, manage the classroom dynamics, remain accessible to students to provide feedback and respond to queries (Selvakumar & Maran, 2019). Course instructors may be fulltime and involved in the teaching of multiple courses or part-time adjunct teaching only a specific course(s). The program leaders, course directors and course instructors were selected from the diverse range of programs with representatives from the M.Ed, MBA, MA and MPH degrees. Table 5 outlines each unit of analysis and the methods used to gather data as a percentage of all the data collected.

**Table 5**

*Units of Analysis and Methods*

	Focus Groups	Interviews
Course Directors		23.26%
Program Leaders		11.63%
Technology Leaders		13.95%
Course Instructors	51.16%	
Grand Total	51.16%	48.84%

Based on the units of analysis, the case study is large. Sizing in qualitative case studies is often at the discretion of the researcher upon analysis of the question(s), population being studied

and resources available (Rahman, 2023). Adequacy of the sample size is often a measure of quality. Thus, many researchers consider using the point of saturation as a deciding factor; saturation being the point where no new insight is obtained. A starting point for saturation is around 12-20, when interviews are considered, with a cap of 30 interviews (Boddy, 2016). Building upon this guideline, and the nature of the project, for the analysis of leadership, the goal was to sample approximately 20 leaders for one-on-one interviewing, with an hour allocated to each. In the event that new key players arise through snowballing, interviews will not exceed 25. Similarly, for the analysis of the teaching faculty using focus groups, it is recommended that 4-8 focus groups are able to achieve saturation (Hennink & Kaiser, 2022). Thus, the goal is to host at least five 90-minute focus groups, with at least 3-6 participants (Hennink et al., 2019). This results in approximately 25-30 participants being selected from this group. With consideration of the range of schedules of participants as well as the goal of in-depth exploration, focus groups were kept small, also called mini focus groups (Menary et al., 2021). In summary, given the complexity of the research questions and the separation of groups into multiple units of analysis, as well as the case study approach, there will be approximately 50 participants.

There are several steps taken to ensure an inclusive search for participants that can yield rich and nuanced data. In this study, the gatekeeper letter is sent to the Provost for permission to recruit on campus via the university's survey committee; then, department chairs are contacted for participation and to snowball recruit the members of their team relevant to the study. Once the study is discussed with and approved by the Provost, the recruitment process begins. Department chairs are contacted via email to invite them into the study. They play a crucial role in identifying potential candidates with their departments. Based on information provided by the department chairs, course directors and instructors of online courses, and unit leaders of various technology

support units are contacted via email to request their participation. Prior to anyone's participation in the study, they are presented with an informed consent document that outlines the study's procedures, risks and benefits, with the ability to ask questions and voluntarily participate and withdraw consent at any time. By following these steps, the candidates that are working directly with online education can be contacted.

The constructs measured are those from the theoretical framework, UTAUT, with particular emphasis on the organisational context with the TOE framework. Therefore, the constructs are performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh et al., 2012). Briefly defined, performance expectancy refers to beliefs that using technology will help the individual perform their job more effectively. Similarly, effort expectancy deals with how much an individual believes that using the technology will be easy and require minimal effort. Furthermore, social influence is associated with how much an individual perceives that others who are important to them believe they should use the technology. Finally, facilitating conditions are the degree to which an individual believes that they have access to resources and support to use the technology effectively. The coding scheme used is thematic analysis (Moon et al., 2022). This method involves identifying patterns or themes in the data and assigning codes to those themes.

The instruments were developed using the questionnaire developed by Venkatesh and researchers (2012). Unsurprisingly, several prominent scholars have used this framework to design qualitative instruments like qualitative focus groups and interviews, such as) Alshehri (2012), Bixter and researchers (2019), Evers (2014), Gruzd and researchers (2012), Jung (2014), Limna and researchers (2023), Namatovu and researchers (2021), and Rempel and Mellinger (2015). These were reviewed extensively in the development of the interview and focus group questions.

For example, the question investigating the effort expectations in the focus groups is: *How easy or difficult is it for you to teach in an online environment?* Further, one of the questions in the interview for the leaders that investigates facilitating conditions includes: *Do you find regional standards and regulations supportive as it relates to your online program? Why? Why not?* In hopes of promoting validity and reliability, several steps have been taken. Firstly, a clear interview and focus group protocol was developed, which outlines the specific questions to ensure consistency in data collection and reliability (Aung et al., 2021). Moreover, member checking was done after interviews to ensure participants can verify the accuracy of their responses (Sánchez-Guardiola Paredes et al., 2021). Further, triangulation, from multiple sources, aids in validity and reliability. Finally, thematic analysis, which is a systematic and rigorous approach to ensure consistent and reliable interpretation of data. These practices enhance credibility and increase the overall quality of the study.

Population and sample are critical to the success of the project. The population of this study are higher education leaders in the context of developing countries. The most appropriate sampling frame is a university with online graduate programs, many of which were established prior to the pandemic. The single site case study leverages multiple units of analysis, including leaders (technology leaders, department chairs and course directors) and teaching faculty (course instructors). Emails and snowball recruitment are used to get participants that have deep and rich insights into the process of online learning at the university. The primary tools are focus groups with teaching faculty and interviews with the leaders. A number of strategies are used to ensure validity and reliability in this study, such as triangulation, pre-determined interview and focus group guides as well as a strong theoretical framework.

## **Materials and Instrumentation**

In order for this study to meaningfully contribute to the body of knowledge, it is imperative that the materials and instrumentation are well-designed and constructively aligned. That is, the tools selected to gather data must be in support of the kind of data required by the study to answer the research questions (Taherdoost, 2021). Moreover, they must be oriented towards the audience, in cases where there are human participants. With these factors considered, there are many times in which existing literature is able to present a suitable instrument that has been verified as valid and reliable. Sometimes, however, this is not possible. In cases of qualitative studies, given the nuanced and rich data being captured, instruments are often modified to be more meaningful to that specific context (Mertens, 2018). After a thorough review of the literature, two solid frameworks (UTAUT and TOE) were chosen as the theoretical and conceptual foundations of the study. In the second iteration of the UTAUT framework, the conceptualizing authors, Venkatesh and team (2012) released a quantitative survey associated with its use. It has made numerous appearances in the literature, further establishing its credibility. It was generally well-suited to the phenomena under investigation; however, there was one major challenge with using it to specifically investigate the perceptions of higher education leaders as it relates to online teaching and learning in the contexts of SIDS. This is largely because the tool is quantitative and cannot provide the data required to answer the research questions in this qualitative case study. The combination of the context and problem are so insufficiently investigated, a qualitative approach is required. Fortunately, the tool provided a solid basis from which a qualitative tool can be derived, as has already been the case in the literature (Bixter et al., 2016; Rempel & Mellinger, 2015). Thus, the study relied on leveraging an existing valid and reliable tool as the basis for the development of the qualitative instruments used.

To support the selection of a data collection tool, a thorough review of the literature was completed. Leveraging the existing framework, the preferred choice were tools which support answering the research questions. These are: What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean? What is the role of perceived effort expectations by higher education leaders and teachers on online learning in the Caribbean? How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean? How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean? In UTAUT 2, Venkatesh and researchers (2012) published a survey instrument to investigate how an individual's behavioral intention to use a technology is influenced by performance expectancy, effort expectancy, social influence and facilitating conditions. This survey has been replicated and modified for use in thousands of studies that involve the acceptance of technology (Tamilmani et al., 2021). In these studies, it is seen as having high internal consistency, reliability and validity, with a Cronbach's Alpha value of over 0.6 (Schomakers et al., 2022). However, there was one critical challenge with using this model as is; specifically, it is quantitative in nature and thus, cannot answer these research questions and shed light into the highly complex and under-researched phenomena of this study.

Unsurprisingly, there have been qualitative variations of this instrument. A review of the literature reveals that the UTAUT constructs, and survey have been modified for use in qualitative contexts before. To illustrate, Rempel and Mellinger (2015) investigated how researchers choose and continue to use a bibliographic management tool, by carrying out semi-structured interviews using the UTAUT model. Their open-ended questions corresponded to each construct: performance expectancy, effort expectancy, social influence and facilitating conditions.

Similarly, Bixter and researchers (2019) qualitatively used UTAUT to investigate the use and non-use of social communications technologies. Further, Jung (2014) used a qualitative approach to understand the use and non-use of social communication technologies by older adults. Moreover, Gruzd and researchers (2012) used qualitative interviews, developed from UTAUT to investigate how scholars communicate and share information with their peers using social media. Most recently, Limna and researchers (2023) aimed to explain the influence of the UTAUT model on individuals' intentions to use telemedicine among Thai people during the COVID-19 pandemic by qualitatively using UTAUT. Finally, Namatovu and researchers (2021) identified the barriers to eHealth adoption using semi-structured interviews based on this framework as well. With precedence well-established in the literature, the decision was made to derive the research tools from the valid, reliable and compelling tool.

Qualitative data collection tools help the data collector understand the range of experiences and preferences of participants (Becker, 2019). As established in previous sections, the best methods of data collection for these research questions in context are one-on-one structured interviews and small group discussions, called focus groups. These tools are targeted to different groups, with the interview tool having multiple variations to support the multiple units of analysis. The researcher will interview all the relevant participants and facilitate the focus groups which, according to Tomsic and researchers (2016), improves the reliability of the instruments.

Firstly, interviews are powerful data collection tools, which promote the acquisition of rich data about participants' motivations (McGarth et al., 2019). They have the key advantages of flexibility, privacy, building rapport and getting high quality data (Guest et al., 2017). The general structure of the interviews includes a few demographic questions to establish roles, years of experience, gender and age range. These socio-demographics assist in providing deeper

understanding of the context and the participants. Then, participants are guided through a range of open-ended prompts. These prompts ask participants to describe various perspectives and phenomena related to the constructs under investigation. Moreover, many questions include further probing questions, such as asking why or why not, as well as probing for specific details and examples. It is the goal that this style of questioning will facilitate the capture of rich nuanced data in support of investigating this highly complex phenomena (Marangunić & Granić, 2015). There are three variants of the interview guides as some constructs of UTAUT are more relevant than others to different leaders.

In the process of development, described later, the need for variants in the interview arose. Put simply, the initial identification of the units of analysis resulted in the following groups being investigated: technology leaders, academic department leaders, course directors and course instructors. The latter is discussed in the subsequent section as they are investigated with a different data collection tool. With recognition that the first three of these groups have rich insights that can be captured through interviews, the nature of their experience, expectations and perspectives will vary based on their roles. Interviews are an excellent tool, which can reveal feelings, motivations and meanings behind decisions. One qualitative tool was first derived from the published UTAUT survey then modified based on the audience. As a result, no permission was required for use.

With the specific intent to gain insights into the decision-making process of technology leaders related to online education in higher education, the general interview guide was modified. Questions focused on the construct of performance expectations under the realm of technology were kept, and, where possible, specific probing sub-questions were added. These are factors that technology leaders are likely to take into consideration when purchasing or reviewing software. It is not expected that these people have significant experience teaching online; thus, they are not

asked about managing the online classroom or their teaching philosophy. For example, questions that related to the management of classrooms were removed from this variant of the interview. The guide also focuses on the support provided to faculty. These align with the facilitating conditions being investigated by the study.

On the other hand, course directors and academic department leaders have more experience with pedagogical aspects of performance. Key differences between these two include the nature of the facilitating conditions: department leaders may be expected to factor in budgetary considerations where directors are not likely to have this responsibility. To illustrate, course directors are responsible for planning, designing and evaluating the quality of the courses taught, teaching within the course as well as managing the junior faculty members that contribute to the course teaching and grading. They have considerable autonomy over how courses meet their learning objectives as they coordinate the development of course materials. Therefore, aspects of effort related to their role, such as modifying materials to accommodate the new medium were investigated – whereas there is more emphasis on the effort of the department chairs through their leadership roles, for example, providing incentives, if any. Ultimately, leaders of each of these units are able to provide different insights and perspectives to create a holistic picture for the case study.

Focus groups are the other essential method of data collection in this study (Sim & Waterfield, 2019). These are geared towards the course instructors. These small discussion settings have specific participants who are discussing a highly specific topic, with the guidance of a moderator. In some cases, they can provide highly nuanced and more natural feedback than interviews (Hennink et al., 2019). Prior to completing the focus groups, participants will be asked to complete a few demographic questions independently. Then, they will participate in the focus

group, which has open-ended and probing questions. Similarly, it has been specifically tailored for its audience.

There are several characteristics of this group. The faculty who teaches in online courses, such as course instructors, are involved in the day-to-day interactions with students, creating content and assessments as well as grading. These are the actual implementers of online education and, as such, have valuable insight as to what actually transpires, their challenges, strengths and experiences. Thus, as it relates to the research questions, they have perceptions on the effort and performance of this approach. In focus groups, a group of course instructors are asked about their attitudes towards online education. This has the advantages of providing rich data, observing dynamics, such as social norms and influences (Rosenthal, 2016). Moreover, it allows for generating in-depth data more quickly than one-on-one interviews (Kamberelis & Dimitriadis, 2013). By leveraging these group settings, the goal is to understand and gain a holistic perspective.

The interview guides and focus group questions were directly derived from the UTAUT framework and survey. Leveraging the systems followed by the above authors who used UTAUT qualitatively, several steps were undertaken. Firstly, the research questions, which are based on the gaps in the literature, were reviewed. Once it was confirmed that the qualitative case study design, through interview and focus groups would most readily provide answers to these questions, the framework was analysed. Secondly, each construct was investigated, using the definitions provided then, more specifically designed in the context of this study. Subsequently, the survey provided by Venkatesh was evaluated along with the several qualitative variants. An outline, with questions that investigated all of the constructs were derived from the process. As the audience was divided into multiple units of analysis, the questions were sorted and refined based on relevance to the groups. During this process, it was evident that the course instructors were better

suited to have focus groups than one-on-one interviews, so their questions were further refined for group settings and discussions. While this is ideal, it is also acknowledged that conflicting class schedules, adjunct status, leaves of absence and varying vacations may make focus groups challenging.

The tools underwent several stages of review in support of validity, reliability and ethical rigor. Firstly, detailed feedback from the research supervisor was sought and implemented. Then, the UREC body also provided detailed feedback on the questions which were implemented. Further to the discussion and presentation to the UREC, approval was sought from the IRB. Once IRB approval was granted, an application was made to University Survey Committee (USC). Overall, the questions and structure enabled unbiased data collection.

Reliability and validity are two highly relevant factors in the design of this instrument (Krieglstein et al., 2022). Firstly, reliability is a measure of dependability and consistency, especially if replicated under consistent conditions (Amirrudin et al., 2021). To ensure reliability in this qualitative study, several strategies have been used. Most critically, the foundation of study is carefully and systematically planned and designed to ensure consistency (Rose & Johnson, 2020). For example, the problem, purpose, questions and objectives have been clearly established and defined. This supported the precise approach to data collection and analysis. Further, triangulation, through the incorporation of multiple sources of data, assists in the promotion of developing a comprehensive and reliable picture (Moon, 2019). For example, there are multiple units of analysis from which data is collected. Further, different variants of the tools are used to gather data, and both interviews and focus groups are incorporated. Finally, member-checking, that is, leveraging the participants in the verification of findings, is used to ensure accuracy and credibility (Motulsky, 2021).

As the basis of this tool is the UTAUT 2 survey, there is merit to evaluating the reliability of that instrument. The UTAUT2 survey has been used in several settings (Bixter et al., 2019; Chao, 2019; Thongsri et al., 2019). It has a Cronbach's alpha, a measure of internal consistency, of over 0.6. The value ranges from 0 to 1, with a higher value being indicative of a greater reliability. Thus, the reliability and validity of this tool is well-established (Alshahrani & Walker, 2017). Nonetheless, it is important to know that reliability does not imply validity.

Validity is a measure of how well the research investigates the chosen phenomenon (Hayashi et al., 2019). In order to accomplish this, the research ensured alignment between the questions, methodology, design, participants, data and analysis. Rose and Johnson (2020) make reference to verisimilitude, the degree to which an analysis aligns with reality. This is ensured by using multiple sources of data, rigorous standards and reflectivity. Leveraging the UTAUT framework, and survey promotes construct validity, as its constructs are the foundation of the study. Much like reliability, it is also supported by multiple data sources, member-checking and triangulation. In qualitative studies, there is no single marker or test of validity (Hayashi et al., 2019). Processual validity is one common approach to qualitative studies, which involves considering the reflection and guidance of the research process. Several types of validity have been identified as relevant for qualitative designs: descriptive validity involves accurate reporting of the facts; interpretive validity relies on the mental processes of the researcher to construct meaning; and theoretical validity refers to leveraging theory for a strong foundation (Hayashi et al., 2019). To implement the aforementioned strategies, the process of bracketing was also used. This means that the researcher recognized and took intentional steps to set aside judgment and kept a journal during the process to capture thoughts in efforts to limit any bias that may be held by the researcher from impacting the study. This is particularly critical in qualitative studies where the researcher's

skill as a facilitator and interviewer also strengthens reliability and validity (Rose & Johnson, 2020).

Finally, reliability and validity are also established through a pilot. A small pilot was done to provide critical insight into the value of the instruments (Ismail et al., 2018). Despite multiple reviews from experts, pilots facilitate the understanding of how the target audience may experience and react to the data collection tools. It is a small-scale preliminary study to assess the feasibility of the research approach. While the UTAUT instrument is well-established, a pilot was still valuable for at least one reason. Firstly, qualitative forms of research, context and nuance play a crucial role (Phillippi & Lauderdale, 2018). Thus, it was important to understand how these open-ended questions would flow and be understood by participants.

In this qualitative study, a pilot was challenging as the research requires a specific, already small population. Nonetheless, these tools were piloted with a technology leader and a course director to understand the value of the instruments. This was undertaken only after full approval was granted from the relevant authorities, and they were recruited through the established protocol. Firstly, the course director was emailed and asked to participate in the pilot. The consent procedures were thoroughly explained, and the interview process began. This participant was incredibly well-chosen as they had sufficient experience in course directing and previously as an instructor in an online course. Several key things were noted by the researcher to support improving the experience. For example, in the demographic question section, one of the questions was “*How many years of experience do you have in higher education?*”. In the context of higher education, the participants were unclear if their experience as a student was being requested. Thus, the question was later modified to be “*How many years of experience do you have working in higher education?*” These very subtle changes made a significant difference in refining the quality

of the participant experience. Subsequently, the technology leader interview had less changes, but had an abrupt and unnatural end; thus, another concluding question was added. Finally, the interview was adjusted from 30 - 45 minutes to 45 - 60 minutes. Similar enhancements were made throughout, and some questions were re-ordered to improve the natural flow of communication and ideas. As there was only one instrument that had a few variants, piloting the course director and technology leader interviews allowed for the majority of questions to be tested.

In summary, a review of the literature revealed a strong tool that can be adapted for this context. As this tool is well-established, valid and reliable, it provided an excellent foundation for the development of a qualitative tool variant. In fact, several scholars have used this tool in the past to create a qualitative interview. The qualitative adaptation tool was carefully derived to ensure its alignment with the purpose and research questions as well as audience. It was rigorously reviewed by the research supervisor and various ethics boards. Moreover, numerous strategies were incorporated to support this new tool's validity and reliability. Finally, a pilot was done to further refine the tool. Thus, reviews by the various approving bodies, supervisor and pilot study all contribute to the validity and reliability.

### **Study Procedures and Ethical Assurances**

Various approvals, including one from the UREC, were sought prior to the collection of data in this study. This was one part of a series of steps implemented that contribute to the overall study procedures and ethics. These steps ensure that the data, analysis and participants are in alignment with the research questions and follow the best ethical practices (Miles, 2019). These procedures begin once the problem and goals are sufficiently clarified but before any data can be collected; they start with acquiring the relevant permissions and approval for data collection. In each context, the type of study impacts the nature of approval and the review. In this low-risk

study, several levels of approval were still sought in the best interest of the participants and to promote rigor. Moreover, the details regarding the context and collection, such as who, when, where and how were chosen carefully in support of the research questions and phenomena under investigation. The procedures followed for this qualitative case study are relevant, robust, replicable and support the validity of the study.

In the interest of ensuring that the participants in this study and their data are protected, several ethical approvals were sought. Firstly, in stage one of the thesis, a preliminary approval was garnered from the UREC. This was critical in ensuring that the primary researcher understood the ethics, rigors and expectations (Guillemin et al., 2016). Moreover, it facilitated a demonstration that the study's foundation, from the beginning, was rooted in prioritizing the safety of the potential participants and their data. Moving beyond this, the first chapter directly defines a problem, situating the reader and establishing relevance. Then, the second chapter was written, after an extensive review of the literature, grounding the study in the well-established body of scholarly work and leveraging supportive theories and frameworks for investigation. At this point, once all of the details of the proposal had been clarified, another approval was sought from the committee. The research design and tools were modified based on suggestions and the literature to ensure alignment with the research questions. Both approvals required a presentation and demonstration of the relevant ethical principles within the study. The final approval marked a significant milestone in the study.

Upon receiving UREC approval, a subsequent IRB approval was required from the location of the study. Similarly, useful feedback was gathered, and enhancements were made. For example, this IRB requested that participants be clearly informed in writing that they were being recorded and an explanation of why. The feedback was critical to the success of the study and really

reinforced the idea that the more clarity for the participants, the better their informed consent process can be. After a few weeks and some minor edits, this board issued their final approval. It is imperative that the study meets the requirements of the locale where data collection occurs.

The IRB required one final approval before data collection could be done. This would come from the USC, the chair of whom, is the school gatekeeper. While the name implies that the committee is associated with a particular type of tool, in fact, this committee reviews all potential research involving campus participants. Their application process required the inclusion of the IRB application, an application document requesting the rationale and audience, IRB approval and tools of data collection. Their approval was the final stage of ethical approvals required. The gatekeeper served as the chair of this committee; thus, all approvals were granted at this stage. Figure 8 illustrates the phases of approvals.

**Figure 8**

*Ethical Approvals Sought*



As the study involves human participants, confidentiality and anonymity are prioritized (Sim & Waterfield, 2019). To begin, confidentiality refers to the protection of data collected from participants from being accessed without authorization (Novak, 2014). It can directly influence the quality and credibility of the data (Chowdhury et al., 2015). Further, anonymity means the identity of the individual participants remains unknown to the researcher (for example, names, and photographs). They are important because they serve to further protect participants. Anonymity is particularly relevant in quantitative studies, as it may make participants more willing to share

honest information knowing that their identities are not linked to the study. Anonymity is not common in qualitative studies as they often involve face-to-face interactions, like interviews. While the researcher may be aware of identities, third parties are not made aware. Because focus groups are also used, participants in the groups will be aware of others. There is an understanding that in this method, anonymity cannot be achieved (Sim & Waterfield, 2019). This makes confidentiality even more critical in qualitative studies (Johnson et al., 2020).

Generally, confidentiality can be provided by protecting the way that data is stored (Sim & Waterfield, 2019). In this study in particular, keeping secure records, using encryption when sending information over the internet and separating identifying data from responses are used to ensure confidentiality (Nelson, 2015). Beyond merely storing the data safely, the presentation of the data in the form of the thesis protects participants' identities as well. Firstly, aggregate findings will be presented instead of individual level data. Secondly, a pseudonym will be used to refer to the institution where the data has been collected. This serves to de-identify the participants further, by providing an additional layer of protection.

Many strategies are used to protect the confidentiality and anonymity of the study, where possible, due to the significance. In some cases, breaching these factors can result in harm to the participant. For example, there may be impacts on reputation and livelihood, as a result of social embarrassment and discrimination. Moreover, it breaches the trust of the researcher and may impede future research or include legal consequences. Thus, it is imperative to be mindful of these factors.

In this study, there is minimal risk to participants. This means that the likelihood and significance of harm are not greater than what may be ordinarily encountered during daily life (Lynch, 2020). Thus, no further considerations are required. Importantly, even studies with

minimal risks must comply with ethical requirements, enforce confidentiality and obtain informed consent (Bazzano et al., 2021). These protections are built into the overall procedures of the study.

The study procedures outline the process of data collection. They are presented in a level of detail that facilitates replicability. The intentionality and structure of these steps and study design further support the reliability and validity. Thus, in the subsequent section, the questions of how, when, where and who are covered in sufficient detail.

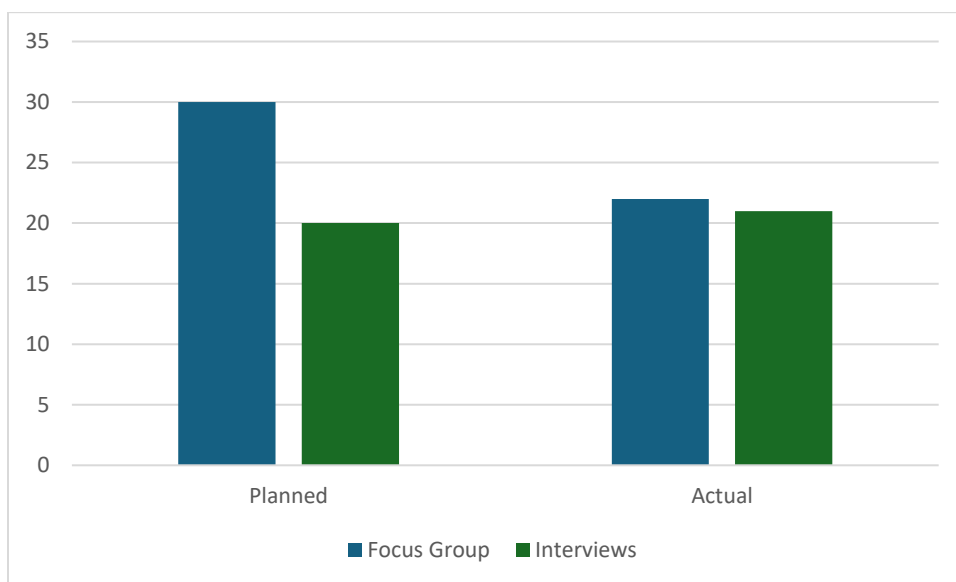
The data will be collected qualitatively through interviews and focus groups. The process of how the leader interviews were requested requires several steps. Firstly, upon receiving all permissions and approvals, participants are contacted via email. This email briefly summarized the nature of the study, what value their insight can bring, consent procedures, estimated time commitment and provided a link so that the participants could schedule a time to meet for an interview. Potential participants were given the option of using the link or requesting a time not offered. The recruitment procedure was entirely opt-in; therefore, if someone was not interested, there were no further actions for them to undertake (Marshall et al., 2017). The scheduling link provided flexible options to book a 45-60-minute interview with time slots available on the weekends as well as during the week, this process is outlined in Figure 9. In this booking system, participants were able to further select where they would like the interview to take place, with three location options available, one being online via Zoom. As a result, the interviews were very straight forward to schedule.

**Figure 9***Process of Participating in Interview*

On the other hand, focus groups required a more structured approach (Stewart & Shamdasani, 2017). Firstly, several possible slots were selected and set up in the scheduling system. Then, potential participants (course instructors) were sent an email similar to the one above. The hyperlink in this email did not directly book a one-on-one interview but allowed them to select one of the time slots when focus groups would be offered. The focus group scheduling system had three options for how one could select a time: yes (meaning they were available at this time); if need be (meaning that it was not preferred but could be accommodated; and, no (meaning they would not be available at this time). These were undoubtedly the most challenging to schedule. Inadequate overlaps of available times and last-minute changes in faculty schedules often meant that the focus group could not be the size originally planned. The planned and actual data collection sources are visually represented in the figure below.

**Figure 10**

*Planned vs. Actual Data Collection Sources*



The data collection took place towards the end of the academic term. Mid-semester would be an ideal window of time for data collection as all participants would be available, and there would be adequate time for scheduling. However, due to delays in the required approvals, the data collection began much later than anticipated. This added an element of rush and intensity as potential participants would be leaving for the December break and would not be available again until mid or late January – which is also a fairly busy time for faculty. Thus, there were several challenges in the timing of data collection. The school of doctoral studies was contacted with a request for an extension. In future studies, it is essential to be mindful of semester timing, as many programs have different start and stop dates. A longer window of data collection may be beneficial in reaching a wider group.

The phenomena under investigation took place in a SIDS, meeting the criteria of the purpose statement. As a result, the bulk of the data was collected from participants who were

physically located in that area. However, as part of the snowball recruited, some additional participants who were not located on the island at the time but had significant roles in establishing or leading online initiatives for the campus, were selected. The actual location of data collection is also important. Qualitative data collection relies on participants feeling comfortable and able to recall and share information (Health et al., 2018). Thus, the actual focus groups and interview locations were largely decided by participants. Leaders who were scheduling the one-on-one interviews had the option of requesting an online video conference, the researcher visiting their office or an alternative office. On the other hand, focus groups were scheduled on Zoom for convenience of participants and ease of access.

Finally, a range of people were involved in this study. Firstly, the research supervisor provided valuable insights, and the UREC board provided review and approval. Then, the IRB of the institution also provided approval. Then, the gatekeeper and his committee provided further approval. Beyond the approval stages, there were three types of participants. Firstly, there were leaders. These were grouped into three categories. Technology leaders who lead the support around online education, course directors who lead the design of new courses and teaching teams, then department and program leaders who oversee the budgets, accreditations and big picture items. Everyone under the category of leaders was given one-on-one interviews. Finally, there were the course instructors whose primary role is to teach, full-time or part-time with the university. Course instructors were invited to participate in focus groups. Thus, in replication, a data site would require all these types of participants to get a full picture.

This study involved human participants and minimal risks. Nonetheless, a wealth of steps was taken to protect these participants, who ranged from technology, course and department leaders to course instructors. They were contacted via email and given the option to opt into the

study and were able to select their preferred location. One challenge was the timing of approval. Importantly, ethics remained a core aspect of the study's foundation.

### **Ethical Assurances**

Ethical assurances facilitate transparent and ethical research and publication practices (Artal & Rubenfeld, 2017). There are a range of ethics boards and committees that review studies to ensure the safety of human participants and their data. However, ethics is not confined to the board review phase and should in fact be considered from the inception of the study. Moreover, beyond approval of the study, researchers must ensure that their plans for the safety of participants are executed during data collection, in the storage of data, and in the dissemination of results (Dooly et al., 2017). Some studies are riskier than others, but even studies where participants may not encounter obvious physical harm, they must be made to feel psychologically safe (O'Donovan & McAuliffe, 2020). Researchers must always balance seeking new knowledge and research objectives with the prevention of harm to participants. As a result of this, no studies are exempt from compliance with laws, regulations, and ethical guidelines. There are several considerations that have been incorporated in this low-risk study to support alignment with the rigorous ethical standards.

At a minimum, every study, regardless of its nature, must address some key elements, as is the case with this study. Firstly, there is the obligation of researchers to minimize risks to the participants and community through protection from harm or beneficence (Avant & Swetz, 2020). Harm may be defined in a wide range of ways and can be physical and psychological, or financial. The design of this study was such that the humans involved and affected are not only protected during the study but are also protected from harm that can occur after, through data breaches or long-term consequences (Buttrick et al., 2016). In this study, there are no direct risks to the

participants. Nonetheless, it is still essential that participants remain aware of their ability to withdraw should they feel unwilling to continue. This is reinforced at the start of each encounter.

Moreover, participant privacy must be upheld (Kang & Hwang, 2021). That is honouring the participants' right to control access to their data. For example, personal information submitted through the demographic questions must be protected. In the same light, confidentiality, extends this idea to address participants' understanding of how their personal information is stored and shared (Goodwin et al., 2020). In this study, it is maintained by using pseudonyms for participants and the university. Personal information regarding the participants will be removed before storage. Pseudonymization through the use of fictional identifiers will be incorporated (McCarthy et al., 2023). Additionally, pseudonymized data will be kept separate from the coding keys to ensure that the data cannot be attributed to a specific person without the use of additional information (Class et al., 2021). Only the primary investigator will have access to coding keys which are encrypted to protect unauthorized access. In focus groups, there is the recognition that confidentiality is limited (Grigoropoulos, 2019). Thus, participants are made aware of this, and the acknowledgement that demographics will be completed separately and kept privately from the group.

Furthermore, the honesty principle means that researchers should be truthful and transparent while proposing, performing and reporting research (Kang & Hwang, 2021). This aspect reinforces the validity of the study. The goals and purpose of this study are made explicit to participants. In this case, there is no need for deception of participants as it is not essential to this study. The reporting of data, methods and procedures are done without falsifying or misrepresenting. Ultimately, honesty relates to other ethical principles, such as respect for human autonomy, openness and integrity.

Finally, there is the concept of informed consent. Informed consent is a prospective process of communication in which the participant may opt into or opt out of the study (Arifin, 2018). There are three critical components: explaining the details so that participants can understand what their involvement actually entails; checking that there is an understanding; and ensuring participation is completely voluntary. In this study, consent is crucial, and participants' awareness of their ability to withdraw such consent is also very important. Thus, significant effort is placed on informed consent procedures.

Firstly, participants are given a written explanation of the study. In this letter of consent, the purpose, aim and significance are described in simple terms so as to allow participants to see the big picture of the study. Then, their specific roles in the study, that is, the rationale for their involvement. Further to that, using the Unicaf template, participants are ensured that their participation is voluntary and there are no risks. Moreover, a reason is not required for withdrawal from the study. Prior to the actual data collection of data, recap of the consent procedures is provided to participants so they can confirm their understanding (Davies, 2022).

For transparency, participants are informed of multiple aspects of the study. Before participating in a live session, participants are debriefed by the researcher. Further, the procedures of the study are clearly described for participants as well as the overall goal and purpose. Finally, in addition to answering questions, participants are encouraged to ask questions for clarity at any point.

There are several compliance standards to which must be adhered to in these types of studies. Mostly critical is to ensure alignment with the stated approach that has been approved as best possible. In the event that something significant arises to impede this approach, the supervisor and all ethical bodies must be made aware of these changes (Rose, 2017). As it is related to the

protection of data and the validity of the study, it is critical that data is stored for up to five years prior to being destroyed in line with the British Educational Research Association (BERA) guidelines (Bridges & Bridges, 2017). While the IRB requires two years, the BERA and UREC standards are adhered to for further improving the rigor of the study. Moreover, each of these bodies require an update on the progress of the study after a stipulated time. For example, the IRB and an additional committee requires an update 12 months after the approval. As confidentiality is critical, data must be stored in a manner that protects the identity of participants, which means identifying information will be removed (Prasser et al., 2016). Finally, there will only be authorized access to the stored data (Zichichi et al., 2020). This is promoted through the encryption of the data being stored. These standards protect the participants, researcher and quality of data.

A formal approach lies at the heart of this study. As outlined before, approval was sought from several bodies. These included the UREC, IRB and Survey committee. As the gatekeeper was also the chair of the survey committee, the request to him involved asking for the committee to review and approve it. Even beyond this, each of the department leaders was first contacted, not only to be invited in the study, but to be updated that as long as they are comfortable with the idea, some members of their department would also be recruited. They were also specifically asked to provide a list of members in their department that have worked with online education in some capacity. All these steps are done to ensure that there is no coercion and that participants selected are the ones who can assist with the answering of the research questions. Both participants and the researcher play a key role in this study.

The researcher's role in qualitative research is prominent and must be evaluated (Fusch et al., 2015). Embodying honesty, openness and critical thinking are important aspects of improving

the credibility of the study. This is because the researcher is often seen as an instrument in the qualitative case studies that promotes its reliability (Fusch et al., 2018).

With recognition of the significance of the researcher, they must seek to maintain objectivity. In the context of this study, the researcher avoids influencing the data in several ways. Firstly, by developing, verifying and using a standard interview format and questions for each unit of analysis, they create and maintain consistency. While probing may occur as needed, the interview guide ensures that the relevant constructs are specifically explored. Moreover, the researcher is intentional about creating a non-judgmental environment, being mindful not to interject or sway participants in one way or another (Karagiozis, 2018). For further objectivity, each session will be voice-recorded. Doing so allows the primary investigator to engage in more objective data collection and analysis, without heavy reliance on memory and personal notes. Finally, the journal is used to discern and monitor personal opinions related to personality and experience.

Beyond leveraging strategies, researcher skills are critical to keeping ethical rigor. The researcher must have the skills to manage a large group of participants, facilitate interviews and focus groups as well as safely store and manage a large volume of data. In preparation for this, extensive readings were undertaken following best practices from prominent scholars, Creswell and Poth (2018), Yin (2009) and Stake (1995). Moreover, by engaging in prior qualitative research, hands-on experience has been garnered in support of the essential qualitative skills - for example, reflectivity and qualitative inquiry. Thus, the researcher serves many roles but must be adequately prepared for avoiding ethical lapses.

In conclusion, protecting human participants within research is essential as part of adhering to the ethical principles and guidelines. This entails many considerations, such as privacy, honesty and informed consent. Participants in this study are protected through an opt-in approach

with extensive informed consent procedures. Similarly, once they have opted in, strategies are used to protect their data and privacy. The approvals and consent forms are in Appendices A-E. As in any qualitative study, the researcher plays a critical role in creating and maintaining ethical rigor.

### **Data Collection and Analysis**

The data collection and analysis are very active and essential phases of this research project. The collection phase is not limited only to the process of gathering data, but also includes identifying the types of data required, sources, methods and instruments (Flick, 2018). There are two main ways in which data collection can occur: the first is through primary data collection and the second is secondary data collection. Primary data collection necessitates directly gathering information from the source, whereas secondary involves using information that is already available (Ajayi, 2017). Both are valuable in answering research questions, with no approach necessarily being superior to another. In the context of this case, there is very limited information on the topic that would be available, as the Caribbean is known for its low available data. Analysis usually follows collection. This process is where the researcher systematically examines and interprets data to draw conclusions (Sgier, 2012). There are different types of analysis, such as statistical analysis often used for quantitative data, and thematic analysis, which is used for qualitative data. In this study, the data collection and analysis decisions are meticulously chosen to align with the intended goal.

One of the first considerations in this research project is the type of data required to answer the research questions (Doolan et al., 2017). To gain insight into the perspectives of higher education leaders in the Caribbean towards online education requires a qualitative approach for a number of reasons. To illustrate, higher education leaders are largely under-researched, and the phenomenon of technology acceptance in higher education is highly nuanced and not sufficiently

explored in SIDS (Kanwal & Rehman, 2017; Muhammed et al., 2017). Moreover, there was very little secondary data available that may be analysed for the purpose of this study (Vululleh, 2018). Thus, a qualitative inquiry approach is essential to do some preliminary work in this area (Prosek & Gibson, 2021). Persons leading units, departments and courses have significant leadership roles, often engaging in teaching and administration, supporting other faculty in teaching, negotiating and sharing the vision for their course, unit or department. With recognition of their level of experience and expertise, interviews were the best method of engaging with this group. Ultimately, due to differences in the type of leadership role these participants had, the interview guide was modified to sufficiently explore the constructs that were relevant to the category of leader: technology leader, department/program leader and course/track director. In the interest of building a holistic picture of the experience of online education, the study was expanded to include course instructors. This population are those who teach lectures in different courses, create workshops for online graduate students and are actively involved in the classroom delivering or creating content to engage with students. The goal with this group is to collect data using focus groups, as aspects of the environment, social and peer influence can be captured. While the overall purpose of the study provided general guidance towards the methodology and target audience, the research questions are the specific aspects that influence the type of data to be collected.

The data collection is geared towards answering the specific research questions. The first research question asks: What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean? Therefore, the type of data required to answer this question is the perspectives on the performance or how well teaching can be accomplished in the online environment. Secondly, another research question is: what is the role of perceived effort expectations by higher education leaders and teachers on online learning

in the Caribbean? To answer these questions, it is imperative to capture what people perceive to be the convenience and usability related to teaching online. Thirdly, a key research question is: how does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean? An investigation into this question warrants an understanding of what kinds of environmental influences may be at play when it comes to impacting the acceptance of online education. Finally, the last question being investigated is: How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean? The data related to facilitating conditions would involve getting a sense as to what types of supports are available, the quality, accessibility and the perception of the support. With these questions, which directly relate to the core constructs of the framework, the actual data collection tools were developed. An interview protocol was developed to maintain consistency and was adapted to ensure relevance to each population (Yeong et al., 2018).

As part of the tool development process, both the framework and questions were carefully considered (Levitt et al., 2017). To illustrate, time was taken to ensure that each question asked constructively aligned in a way that contributed to developing an answer to a given research question. Therefore, all the questions asked in the focus groups and interviews served the purpose of answering the research questions. Moreover, it ensured that every research question construct was sufficiently exhausted. Once the tool was reviewed sufficiently and the study received approvals, the actual data collection process could begin.

The researcher had a major role in the recruitment and data collection process (Råheim et al., 2016). Firstly, the researcher contacted all participants via email to invite them into the study. Participants were given direct links to book into the slots for interviews and focus groups. In these emails, the researcher included a description of the study, consent form and the specific version of

the questions they would be asked. For example, course directors were sent the course director interview guide. Participants who wished to opt-in to the study could schedule a time and select a location from the options provided.

All interviews and focus groups were facilitated by the researcher, which is common in qualitative study (Råheim et al., 2016). The researcher would begin by greeting the participant, re-explaining the consent form and then requesting permission to record. In-person interviews were recorded with audio only, as well as notes taken by the researcher. Zoom interviews and focus groups were recorded with both audio and video, although participants were free to turn off their camera, based on their own wishes. The researcher would ask the questions in sequence and use probing questions as needed. One considerable benefit in these types of studies is the ability to ask probing questions, which allows for more data to be collected; it is not possible to do so in quantitative approaches (Yeong et al., 2018). In the event that a participant expressed a challenge with answering the questions, the question would be rephrased. At the end of the interview, participants have a chance to include anything they forgot, or would like to add. Then, they are reminded that the interview will be transcribed, and there will be further opportunity to check and verify the information that they said to be accurate and intentional. The participant is thanked for their participation and the recorded information is backed up to the cloud within a 24-hour window. This raw audio file, video file (where available), Zoom generated transcriptions (where available), and demographic information (if sent separately) are stored into one secured folder together. The thematic deductive analysis is an active process with six phases as defined by Braun and Clarke (2017): familiarization with the data, generating initial codes, searching and developing themes, reviewing themes, defining and naming themes, and finally producing the report.

According to Braun and Clarke (2006) the first phase of reflective analysis is gain familiarity with the data through transcribing, reading, re-reading and noting initial ideas. The transcription process involves listening to the audio file and typing out what was said (McMullin, 2023). In the Zoom-based interviews and focus groups, the process entailed reviewing the audio files and transcription files to verify and fix errors. Then, a copy of the transcript was shared with the participant so they could engage in member checking and verifying that the information was accurate. After member checking, the removal of sensitive information occurs. This includes any identifying information for the participant or university, which is replaced with a pseudonym (Heaton, 2022). Private and confidential information that does not lend itself to be pseudonymized will be redacted. A password protected encrypted file will be created with a list of the pseudonyms and identities. It will be stored in a separate folder, which is an essential practice in protecting the data (Class et al., 2021). The updated transcriptions are also stored separately. Then, the raw identifying video and audio files are permanently deleted. By separating the de-identified transcription files and coding documents, the likelihood of a data breach is reduced. For example, in the unlikely event that someone accesses the password protected transcriptions, they cannot have access to the identifying data. The de-identified information was used for analysis.

Subsequently, initial codes are actively generated, while collating data on each code (Braun & Clarke, 2021). It is critical to avoid bias in interpretation. To promote the integrity of the data, a journal was kept by the PI to document their thoughts (Myer & Willis, 2019). Data analysis in qualitative studies involves coding, or labelling, to derive meaning from the data. Both descriptive and emerging codes are used for analysis (Elliot, 2018). The core constructs of the framework, performance and effort expectations, facilitating conditions and social influences (Venkatesh, 2022) are used as the theory-generated codes, which can be very valuable in research. Similarly,

the emerging codes are developed based on interview and focus groups transcriptions. This is particularly helpful as these constructs are also directly investigated through the research questions. There are several levels of coding.

Codes are collated to search for, review and define themes (Braun & Clarke, 2021). After the initial codes are developed, they are grouped into similar categories (Elliot, 2018). Then, higher level coding or thematic analysis is applied. Using thematic networks, basic themes are grouped and associated with organizing themes (Castleberry & Nolen, 2018). Then, the organizing themes are summarized into one or more global themes. themes based on the framework. A thematic web or network is developed to visually represent the codes, themes and their relationships. As is crucial of thematic analysis both latent or interpretative and manifest or semantic content of the data is analysed and presented to provide richer insights into the experiences, perspectives, and understandings of the groups, this critically differentiates this approach from content analysis (Vaismoradi et al., 2013). The particular school of thought followed to undertake the analysis is the reflective and deductive thematic analysis process outlined by Braun and Clarke (2017). According to Braun and Clarke (2021) while ‘codebook’ thematic analysis often relies on inter-rater reliability, it is not desirable for quality in reflective thematic analysis. This aspect of the aspect of the analysis involves interpretation and inference due to the multiple units of analysis and different methods of data collection. Data triangulation can be used to assist in gaining an accurate and holistic picture of the phenomena under investigation (Santos et al., 2020). These steps help to reduce any bias that may be present and provide structure to the development of the case. Ultimately, the collection and analysis directly align with the design of the case study. It is common to leverage case studies to capture complex phenomena using in-depth description and

analysis (Yazan, 2015). In the final stage of analysis, a report is produced selecting extracts and examples, connecting the findings to the research questions and literature (Braun & Clarke, 2021).

In conclusion, the research questions actively guide the process of data collection. In this case, multiple units of analysis were identified for gathering data. As a result, variants of the tool were used, and two methods of data collection were employed: focus groups and interviews. The researcher recruited participants via email and facilitated the interviews and focus groups. Informed consent was a critical part of the study; thus, participants were reminded about their voluntary involvement and the ability to withdraw this consent. The sessions were recorded and transcribed. Then, the information was carefully de-identified with a coding table created so that the primary researcher can connect identities as needed for analysis. Then, the raw information was deleted, and the coding table and de-identified transcriptions were kept separately. The PI analysed the data to ensure that it answered the research questions and was guided by the framework. Thematic analysis was applied, with the aid of Dedoose software. Overall, the data collection and analysis were aligned with the qualitative case study design.

## **Summary**

This chapter carefully designed the methodology that underpins the study. Succinctly, despite the revolutionary impact on technology on every life, the field of education has remained relatively unchanged. While the technology to facilitate online and blended education is more accessible than before, the underuse and acceptance warrant investigation. This is because cultural, social and behavioral factors influence acceptance (Kanwal & Rehman, 2017). As a result, this study seeks to address the underutilization of online education in SIDS. In particular, the SIDS stand to gain a lot from the acceptance yet are insufficiently researched. So too are the participants,

higher education leaders, who in this context and more generally are under-researched (Eddy & Kirkby, 2020). Yet, they are likely to have key perspectives as it relates to the problem.

The combination of the research design and approach, population and sample, materials and instrumentation, study procedures and ethical assurances, and data collection and analysis sections of the chapter provide a comprehensive presentation of the structure and systematic nature of the study. By spending time and effort to decide and articulate these design decisions here, it is more apparent how they serve to address the research questions. Overall, the study was decidedly qualitative for many reasons, including flexibility, which is advantageous for analysing complex and nuanced phenomena. Ultimately, the researcher provides a rigorous and systematic approach to the development of a case study, leveraging the steps outlined by Creswell and Poth (2018), Yin (2009), and Stake (1995) to address the research questions.

The first section covers the research approach and design. In summary, the research approach and design section emphasizes the importance of selecting an appropriate methodology to answer the research questions. The researcher carefully evaluated the types of designs that may potentially be suitable. The qualitative case study design is well-suited to the research problem and purpose, allowing for an in-depth and comprehensive understanding of the perspectives of faculty leaders and course instructors (Greaves, 2021; Smith & Smith, 2018). The author has carefully considered the limitations of case studies, such as generalizability and subjectivity, and have taken steps to mitigate these limitations, such as data triangulation (Natow, 2020), establishing standard questions and a strong theoretical framework (Dwivedi et al., 2019). A detailed outline of the research design process, including defining research questions, selecting the case, collecting and analysing data, and documenting the case was provided. Overall, the emphasis on a rigorous and

systematic approach to the development of a case study is essential for ensuring the quality and reliability of the research.

The population and sample section outlines the comprehensive framework for selecting participants. The population plays a key role in the acceptance of technology. In fact, the leadership of higher education and teachers make a combination of high level and day-to-day decisions that are likely to reflect an acceptance or rejection of online education. They use and manage a range of resources to achieve teaching and will be able to shed light into the important decisions that shape higher education. Even with a clearly established population of leaders and teachers, a sample is required since only a subset can be investigated (Hennink & Kaiser, 2022). Thus, a sampling frame must be used. The frame specifies the criteria and scope for selection. As the site meets the criteria and is home to such data on perspectives that will effectively answer the research questions.

The selection of the case is based on the problem statement and research questions. It frames and provides scope to the case, as the population includes higher education leaders and teachers; yet, the sampling frame provides some specificity. For example, these participants are affiliated with a higher education institution, which offers online graduate studies in an SIDS. Based on this sampling frame, the sample was further divided into four units of analysis, course instructors and leaders consisting of: academic leaders; technology leaders; and, course directors. As each of these clusters are engaged in different activities in support of online education, they are investigated in different ways.

The selected data collection tools are also defined, with their rationale explained. Structured interviews and focus groups allow for in-depth data capture and flexibility (Ruslin et al., 2022). The data collection process involves seeking approval from relevant ethics boards and

the gatekeep committee, as well as recording, transcribing and coding the data to ensure validity and reliability. The materials and instruments are carefully defined. Firstly, a thorough review of the literature was undertaken with consideration to the research questions. The tools were derived from Venkatesh's UTAUT2 framework survey, as has been done by several authors in the past.

UTAUT leverages a strong theoretical base of eight underlying theories and is one of the most cited frameworks for the acceptance of technology (Marikyan & Papagiannidis, 2021). It has been proven as both valid and reliable. However, the instrument is quantitative in nature, and this is not well suited to the problem. One key way that this framework has been used is to derive a qualitative instrument (Bixter et al., 2019; Rempel & Mellinger, 2015). That was the case in this study. Leaders are given modified interviews, depending on their roles, and course instructors are investigated through focus groups. Overall, the materials and instrumentation section outlines how the research is conducted systematically, methodically and with a clear understanding of the alternative research and approaches available. This understanding is crucial for selecting the most appropriate methodology and design for the study, ultimately leading to a more accurate and comprehensive investigation of the research problem.

Study procedures outline the specific, standardized, methodological and replicable steps of the study. As human participants are used in the study, ethical approval is the first and most critical step. First, the UREC board reviewed the study and invited the primary researcher to present the details. Then, once approval was sought, the site-specific ethical board began their review. After incorporating their feedback, they provided full approval and requested one further step. Whenever participants of the campus are involved, another committee makes a final review before data collection can begin. Once this final approval was achieved, the data collection could begin. The who, when, what, how and where of the study were also clearly articulated. Who, refers to the

group(s) under investigation, and this included teachers and leaders at the site. When, refers to the time in which the data were collected; this is post COVID-19, towards the end of the fall semester. What refers to the type of data captured, which are the qualitative perspectives and ideas collected. How, refers to the methods of collection, which are interviews and focus groups. Where, answers the question of location; in this case, data were collected on campus and through the Zoom video conferencing software.

Beyond the formal ethical assurances, there are foundational steps used to incorporate ethics into the study (Artal & Rubenfield, 2017). Firstly, the study takes several steps to minimize risks to participants and the community. The study itself is designed to be low-risk; however, participants are reminded of their ability to skip any questions that may be uncomfortable and withdraw consent at any point. Moreover, participant's data is secured safely on an encrypted cloud to promote privacy. It is de-identified prior to storing, with the coding keys stored separately. As a result, any unlikely breach in privacy will not directly lead to privacy violations. Moreover, honesty is demonstrated by sharing information with participants as it relates the goals of the study. Deception is not valuable in this context; thus, it is not incorporated. Finally, informed consent is prioritized by explaining to participants what their involvement entails, allowing them to ask questions and recapping this information before the actual data collection. The right to withdraw is an important piece of informed consent as participants are made aware that at any point, they may discontinue their involvement in the study (Arifin, 2018). The role of the researcher includes reflecting on their own questions, strategies and plans to collect data, as well as analysing any biases that may impact the research and data collection process. The systematic and rigorous approach outlined in these sections, combined with the clear understanding of research design and

the selection of a qualitative case study approach, demonstrates the author's commitment to conducting a high-quality and ethically-sound study.

Before data collection can begin, the kind of data required was further considered (Doolan et al., 2017). Data collection and analysis decisions are also well-selected in support of the research questions. While secondary data can provide valuable insights into the phenomena, in this context, there is little to no secondary data available. As a result, the study relies primarily on new data, collected directly for the study. Given the purpose of the study, qualitative open-ended questions through interviews and focus groups were gathered. The individual questions in the data collection tools directly align with answering one or more of the research questions. Once these were completed, and the approval was gathered, the data collection could begin.

Then, the researcher began the recruitment process. Participants were invited to take part via email. The purpose, duration, questions and consent forms were shared with potential participants. Furthermore, participants had the option of selecting a time that was more convenient, and in some cases, a location for their interview and focus groups. Researchers often play an active role in qualitative data collection (Råheim et al., 2016). As a result, the focus groups and interviews were facilitated by the primary researcher. Moreover, to further protect the data and reduce biases, these sessions were recorded verbatim, and the PI kept a journal to bracket and document thoughts (Myer & Willis, 2019). Recording the sessions also aids the analysis process. There are several steps involved in data analysis. Firstly, the interviews and focus groups are transcribed. This allows the researcher to engage in thematic analysis, with the aid of the Dedoose software. The goal of the data analysis is to develop themes from the research, which answers the research questions.

The paper provides a comprehensive overview of the research design, population and sample, materials and instrumentation, study procedures and ethical assurances, and data

collection and analysis. The researcher has meticulously considered each aspect of the research process, ensuring a systematic and reliable approach to address the research questions. By selecting a qualitative case study as the best approach, the author has demonstrated a deep understanding of research methodologies and their applicability to the specific context of the study. The research design is the foundation for establishing the study's credibility and quality, and it is essential to consider reliability, validity and the various components that contribute to these standards. The population and sample selection process is crucial for ensuring that the study is representative and relevant to the research problem. The materials and instrumentation section outlines the data collection tools and methods used to gather rich and valid data. The study procedures and ethical assurances section emphasizes the importance of adhering to relevant guidelines and standards to ensure the integrity and rigor of the research. The data collection and analysis section details the processes for collecting and analysing data, ensuring that the findings are accurate and well-supported.

## CHAPTER 4: FINDINGS

### Introduction

This chapter offers the findings of the research study, as established and described in prior chapters of this thesis. With many fields being heavily influenced by technology, allowing for both economies of scale and quality improvements, education remains a laggard. With particular emphasis on HEIs in developing states, the advantages of leveraging online education can be significant. In this context, in particular, many challenges such as geographical limitations prevent access to education and may readily be remediated by utilizing the internet as a means of delivering education. With that said, the acceptance of technology is a complicated and nuanced phenomenon, seemingly that is heavily behavioural and not linked exclusively to the technology itself. It appears that the HE sector remains resistant to the incorporation of technology by way of online education, and as a result has largely maintained a traditional method of delivery. Leaders of these institutions are considered under-researched, and it is widely recognized that their realm of leadership, its nature, selection processes, resources and decision-making processes do not mimic their counterparts in industry. As a result, this study seeks to investigate these leaders to understand their perspectives on online education within a graduate school in the Caribbean.

The site of investigation is one of rich and thick data, as it has been offering varying programs through online education, long before the recent pandemic. It exists in an SIDS and provides a range of degrees. Most interestingly, the institution opted to incorporate online education in its School of Graduate Studies to increase student reach and provide flexibility to its audience who may desire to live away from the island. These decisions set an interesting environment that encapsulates the kind of rich data that is required to address the research questions.

Thus, the goal was to qualitatively investigate the phenomena. Firstly, the various stakeholders and leaders in this context were identified. For example, people who have experience with teaching online classes, sessions or workshops and those involved in the design, creation and leadership of courses were selected. Moreover, at the higher levels of leadership, those chairing or directing departments with programs that are online were also recruited for this study. Finally, while they may have no active role in teaching, technology leaders who lead the teams and initiatives that support the technology behind online teaching and learning are also invited to participate in the study. The methods of investigation include interviews and focus groups using structured guides developed from the theories. With the overall goal of gaining perspectives of the leaders and instructors as it relates, offering online education within the context. Ultimately, these are carried out with the purpose of shedding light into a poorly understood and insufficiently researched phenomenon.

As mentioned, the data collection instruments rely heavily on strong theoretical frameworks. There are several established theories and models that more broadly investigate the acceptance of technology. These include the TAM as well as the UTAUT. Interestingly, despite these models, many scholars acknowledge that while they are well-suited for developed contexts, in developing countries, such as SIDS, the models are insufficiently explored, and other models may need to be created to capture the complexities of the context. Borrowing the strong theoretical foundation from Venkatesh's UTAUT, a qualitative instrument was created and used to gather data to answer the following research questions:

1. What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean?

2. What is the role of perceived effort expectations by higher education leaders and teachers on online learning in the Caribbean?
3. How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean?
4. How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean?

The framework is particularly relevant as it guides the research questions, the development of the instruments and by extension the analysis. It is the UTAUT framework that supports the investigation of the constructs: performance expectations, effort expectations, social influence and facilitating conditions. Briefly defined, performance relates to the belief around how well the technology can be used to support task completion. In this case, it specifically investigates how well participants believe they are able to engage in teaching within the online environment. Furthermore, effort investigates the ease associated with online education. For the different categories of participants, there are slight variants. To illustrate, at the course director level, efforts may include changes to course material and assessments. Yet, at higher levels of leadership, such as program directors, effort includes creating cultural buy-in for faculty on the team, in order for online education to be well-received. Moreover, social influence investigates a range of factors ranging from inter-collegiate influences as well as regional standards and the influence of other universities. Finally, facilitating conditions are the organisational and technological supports or constraints that are thought to impact the way that online teaching and learning exists on a campus. In this case, this is investigated from the perspective of leaders who may be in a position to provide incentives as well as the persons receiving organisational support. Similarly, the technological supports and conditions are investigated from the faculty that are on the receiving end as well as

those who are creating and providing these supports. As a result, this rich data site is likely to provide newer, complex and multifaceted perspectives. Ultimately, the chapter is organized in support of presenting clear answers to the above questions.

Firstly, the trustworthiness of data is established, demonstrating how the study prioritized acquiring high quality information, in a manner that is replicable. As part of trustworthiness, credibility is discussed in the context of the study using a combination of multiple instruments and types as well as multiple units of analysis, to create a holistic picture. Transferability as a function of conceptual generalizability and clear descriptions of the case are also presented. Finally, the dependability is established and protected in several ways, including, but not limited to robust triangulation of tools and participants and well-structured documentation and rationales, which increase the repeatability of the study.

Then, the validity and reliability are discussed in the context of threats and strategies taken to mitigate those threats. As it relates to validity, there are external and internal considerations and threats. Similarly, reliability, in terms of consistency, is also critically analysed. In this chapter, steps taken to mitigate those threats, such as leveraging a framework with a highly established validity and reliability are revisited.

Study results are presented and categorized by research questions to allow the reader to view the information gathered without interpretation. The presentation of this rich and insightful data relies on careful and deliberate analysis and synthesis. With deep consideration and reflection, the data is presented and organized by these core constructs but with further themes, including those related to challenges, strengths and comparisons, as well as nuanced sub-themes. In this section, results are presented without any additional inferences and theoretical connections.

Finally, there is an evaluation of the findings and summary. For these sections, the interpretations and meanings ascribed to the data and results are discussed. This section draws upon the existing literature to explain and justify some findings as well as presents a summary of the essential takeaways in order for readers to grasp the key aspects without referring back to the details. Ultimately, this section also critically discusses how effectively research questions are addressed and the validity of interpretations.

### **Trustworthiness of Data**

As the name implies, trustworthiness of data must be established to protect the integrity of the research (Stahl & King, 2020). In fact, the notion itself is complex and comprises several other factors to be considered. While the data must be considered as trustworthy, the process of setting the stage for high quality data actually begins during the conceptualization and design of the research initiative. During these phases, the underlying theories, gaps, phenomena to be investigated, methods to be used as well as the data being collected and persons from whom it is collected must be carefully established. The primary researcher has the main responsibility for ensuring that this is well structured and constructively aligned such that the data is meaningful and high quality (Miles, 2017). In this context, the researcher leveraged a strong theoretical framework to address the evidence-based gap (Albejaidi et al., 2017; Brockman, 2018; Course Director 5s et al., 2021; Graham, 2018; Kanwal & Rehman, 2017; Kayali & Alaaraj, 2020) using the framework as an instrument to investigate the phenomena that was meticulously designed. This framework is one of the most well-cited in the literature as it relates to the acceptance of online education (Dwivedi et al., 2019). Further, in this study, the PI received additional support. To illustrate, a research supervisor served to provide feedback on the theories, study's design and instruments. In fact, prior to the collection of data, all tools were reviewed by multiple boards for alignment and

to protect the participants. As a result, there were multiple checkpoints for its development, which functioned to ensure the study's quality remained high. Beyond being critical to the success of the project, trustworthiness is owed to the community of researchers, as untrustworthy data can compromise the entire field of research, reduce the public's opinion of research and unfavourably impact practitioners looking to make evidence-based decisions (Stahl & King, 2020). Ultimately, given how essential this is, many scholars agree that the key tenets are as follows: credibility, transferability and dependability, and confirmability (Kynge et al., 2020).

As a function of trustworthiness of data, credibility is paramount to the success of this initiative. To begin, credibility can be defined as the degree to which the researcher is confident in the truth of the findings (Cope, 2014). According to the literature, credibility is supported when multiple perspectives are gathered for analysis (Wood et al., 2020). This can be done by data collection through multiple types of data or techniques, different investigators, theoretical triangulation and member checks. In the content of this study, several steps are taken to ensure that the data is credible. Firstly, at the core of the study, multiple perspectives are sought to ensure a holistic picture is built. For example, there are different units of analysis, including course instructors, course directors, program leaders and technology leaders. As a result, there is enough variance to draw conclusions that are not biased to one particular group or person. Moreover, while the overall study is qualitative, multiple instruments and instrument types are used. The two main instrument types are interviews for the leaders and focus groups for the course instructors. As the leaders are varied, different interview guides are used to thoroughly exhaust constructs within their domain of knowledge. In that same vein, theoretical triangulation, which includes leveraging more than one theory to strengthen the framework or analysis (Bans-Akutey & Tiimub, 2021) is used.

In this case, UTAUT and TOE were combined to create a framework for this study. By doing so, it became possible to investigate both individual- and organisational-level perspectives.

Prior to the data collection, within the design of the tools, credibility was prioritized. This was done by using robust methods, transparency and user involvement. Given the novelty of the study, a review of the literature provided no readily available instruments. This is specifically because of the contexts in which the study is being carried out and the recommendations by scholars that existing tools may not be directly applicable to developing countries; furthermore, with the insufficient exploration of this phenomena, a quantitative assessment may be premature. Therefore, the decision was made to derive a qualitative tool from the framework, which provided a quantitative survey. Several steps highlighted in the previous chapters outline the rigor in detail to promote transparency in the process and serve as an audit trail. In summary, the instruments used were rigorously derived from a data collection tool created by Venkatesh in 2012. Questions related to each construct were developed. Moreover, it was meticulously refined by leveraging the work of scholars, who have similarly leveraged the framework in support of creating qualitative tools, such as interview guides – for example, Alshehri (2012), Bixter and researchers (2019), Evers (2014), Gruzd and researchers (2012), Jung (2014), Limna and researchers (2023), Namatovu and researchers (2021), and Rempel and Mellinger (2015). Once these tools were developed, they were reviewed by multiple experts, and a small pilot was done. These steps led to the rephrases of a few key questions and an extension in the recommended duration of the interviews.

During data collection, credibility was also prioritized in several ways. Firstly, all participants were invited to participate in member checking, a process used to verify the information that was first captured (Madill & Sullivan, 2018). Member checking gives participants

the option to review the summarized or entire data collected from their focus groups and interviews. This was done by providing transcripts of the interview or focus group for their review and enhancement via email. Participants would then respond confirming the accuracy and completeness of the data, or in some cases, make slight modifications to ensure their message was accurately captured. This practice protects credibility as well as validity by ensuring the data remains representative of the participants.

Transferability is critical in qualitative research as it enhances the relevance beyond the limitations of where the study was conducted. Broadly speaking, this is the ability of the findings to go beyond the case investigated, for example, to similar contexts or populations. It differs from quantitative studies where statistical generalization is often the goal. In this study, unlike in quantitative, the transferability involves ensuring that the depth, complexity and nuance of the experiences are captured. In qualitative research, it is imperative that the findings may be applicable to other contexts with similar characteristics (Carminati, 2018); the study achieves this in several ways: firstly, by using UTAUT and TOE as a foundation of the study to support analytical generalization. By doing so, the case study is able to be understood in relation to these theories, in terms of how the findings align with existing literature. It is particularly relevant in this case as many have expressed that HEIs in developing worlds have not been sufficiently investigated.

While being grounded in literature is critical from a theoretical standpoint, transferability itself also makes reference to applicability to other populations of settings. In order to facilitate this, the case and its participants are well-defined and documented in the report. Purposive sampling, with a range of participants who have rich and detailed insights into the phenomena allow for a highly descriptive portrayal. Some scholars argue that in addition to a highly

representative sample, the true key to transferability of findings relies on how well these are documented. Thus, a transferable case study is one where the reader is given enough insight to determine the applicability to their context (Carminati, 2018). A combination of these, as well as strategies like member checking, triangulation and reflexivity ensure that researcher biases are not represented in the data or the analysis. Ultimately, this ensures that the findings can inform evidence-based decision-making, even outside of its initial scope.

Dependability is critical in upholding high standards in research. Generally, dependability in qualitative research relies on repeatable and consistent research findings, in the event that it is repeated as well as few as possible errors or inconsistencies (Korstjens & Moser, 2018). This concept is closely related to the concept of reliability. There are a few ways this robustness is protected and demonstrated within the findings. To begin, the study uses several approaches to address the research questions. The combination of three different interview guides and a focus group guide mitigates the limitations of only one or a few perspectives being captured. This kind of triangulation answers the research questions from the perspectives of the technology leaders, the department leaders, course directors and course instructors to develop clearly defined constructs. In conjunction, researcher positionality and reflexivity are used to ensure that the collection and analysis remain centred on the highly valuable perspectives of the participants. In addition to these overlapping methods, an in-depth description of the methodology is used. Further, the research design, each step of the process, rationales behind decisions, data analysis and interpretation approaches are explained in immense detail in chapter three. This comprehensive documentation allows for the study to be repeated and promotes overall dependability.

When ensuring trustworthiness, confirmability must also be established. At its most basic level, this concept involves a degree of confidence that the research findings are a representation

of the participants' narratives and perspectives (Korstjens & Moser, 2018). In qualitative research, significant attention must be paid to this construct as researcher bias can occur during both data collection as well as analysis and interpretation. An audit trail is one method being applied in this study to support confirmability; this is done through the clear documentation of all steps for transparency and accountability. Additionally, highly rigorous and detailed in-depth interview and focus group guidelines were used to ensure that the variables of interest were sufficiently and systematically investigated. Objectivity and neutrality were maintained through these steps described above.

Throughout the analysis of the data, there was rigor. Accuracy and reliability were prioritized, and the findings were double-checked to minimize errors. As qualitative data requires the strong presence of the investigator, breaks were taken to ensure that the quality was not sacrificed. As a result, there were no significant weaknesses in the practice that could compromise the validity.

To recap, the qualitative case study uses a combination of interviews and focus groups that have been derived from the literature to investigate the perspectives of multiple types of leaders at an online graduate school within an SIDS. The trustworthiness of the data was prioritized in the design, data collection and analysis by ensuring factors like dependability, transferability, and credibility confirmability.

### **Reliability and Validity of Data**

In qualitative studies, validity supports the accuracy and trustworthiness of the findings (Hayashi et al., 2019). In this study, it is prioritized to ensure authenticity of the data collected and analysed. This occurs both when the instruments are being developed and in the analysis. There are two types of validity under consideration while this phenomenon is being investigated. The

first is internal validity that deals with the creation of a robust study design. Some scholars have acknowledged that within qualitative studies it can be challenging to achieve internal validity due to the threats surrounding situational factors (Quintão et al., 2020). Beyond that, there is external validity, which is often discussed in the concept of transferability in qualitative studies. There are common challenges here including population validity limitations and ecological validity limitations. These deal with generalizing to a larger population and the applicability to other real-world scenarios, respectively. Ultimately, with the importance of the data quality and integrity of the study, internal and external validity have been central tenants of the study.

Internal validity can be threatened by a range of factors that the design of this study protects against (FitzPatrick, 2019). Perhaps the most popular of these threats include researcher bias. For example, a researcher who holds beliefs on the topic of investigation, in this context, online education, may unintentionally steer conversations towards the beliefs they have, during interviews or focus groups. Then, during the data analysis phase, they may unconsciously emphasize comments that support their own perspectives, as opposed to those who do not. Further, in the interpretation, they may more prominently discuss perspectives that align with their own and underplay others. In order to limit researcher bias, several steps are taken.

Firstly, this study has a clear research design, with clearly articulated constructs and units of analysis. Once the design was completed, the data collection was completed in a systematic way using detailed guides, which protected the data collection from external factors, researcher influence and ensured sufficient exploration of the constructions. Further, multiple groups of participation and multiple instruments protect the study to enhance the credibility of the data gathered. Moreover, once the data set was transcribed, the participants were invited to participate in the process of member checking. This is described in a previous section in more detail, but the

goal is to ensure that participant ideas are truly represented in the study and not those of the researcher. Finally, reflexivity is practiced throughout the study for the purpose of ensuring that personal biases are not included in the analysis. Myer and Willis (2019) outline the importance of bracketing and journaling, which is used in this study to promote validity.

External validity also faces many threats, but their likelihood is reduced in this study through design. In qualitative studies, external validity most closely aligns with the notion of transferability, which is discussed in a previous section (Findley et al., 2021). To illustrate how this can be compromised, consider this study investigating online education within a particular region, examining factors influencing its acceptance. While the data is likely to be valuable to this specific context, applicability to broader contexts relies on leveraging frameworks that resonate beyond the immediate conditions, as well as providing rich descriptions of the sample and environment. The construct of external validity is protected in a number of ways. Firstly, a thorough description of the case is provided. This includes the setting, the participants, the challenges of the context and overall information that facilitates an understanding of the case, so that a reader can understand and evaluate its similarity to their context. The goal of this is to support theoretical generalizability as well as applicability to similar populations. Moreover, rich data descriptions are used of the participants' accounts so as to project their views and not those of the researcher. Finally, as also described previously, the triangulation of participant perspectives, instruments and methods support gathering a comprehensive analysis and understanding of the phenomena under investigation. By gathering these deep and rich perspectives, it is more likely that the data can be leveraged to inform other contexts.

In conclusion, validity is seen as a core factor in this study. A range of strategies from design to collection and analysis are used to protect the data and maintain its authenticity and

robustness. In the face of many challenges, internal and external validity, meticulous design and structure are leveraged to proactively overcome these threats. With all things considered for validity, there is another important construct to be discussed, as measurement must also be reliable in order to be fully valid. As a result, the concept of reliability and how it is established in this study is outlined below.

Reliability in qualitative research is essential as it is a measure of consistency and stability (Quintão et al., 2020). That is, when a study is repeated under similar conditions, such as setting and population, it should produce similar results or findings. This was a key consideration in the design of this study. However, it is important to note that there are several possible threats to reliability in qualitative studies. For example, one major threat to achieving reliability is researcher bias, which involves the researcher's knowledge or assumptions providing undue influence in the data. There are several places where this can occur, from the data collection phases to the data analysis, and interpretation. In fact, some scholars have criticized qualitative studies as being more difficult to achieve reliability (Belotto, 2018). This is largely as a result of the reliance on human factors for interpretation and judgment. These concerns can be helpful when designing a study by ensuring that adequate effort is put in to reduce the potential for bias and variability introduced by the researchers. As a result, to protect against this threat, the primary researcher took several precautions in the study.

A combination of the strategies discussed in previous sections were employed to uphold the overall reliability of the study. To illustrate, triangulation through the multiple data sources and methods ensure that the true views of the group are captured and investigated. Similarly, member checking and inviting participants to confirm the accuracy of the data also serves to ensure the data is authentically representative of the studied group. While these steps are critical to the

analysis and collection aspects of the study, the design of the study can also be structured to enforce reliability.

The structure of the data collection instruments also supports the study's reliability. To begin, the study leveraged a number of solid frameworks and existing literature in the development of data collection instruments. Importantly, all three of the interview guides and the focus group guides were developed as fully structured and robust instruments. These were reviewed and refined, which ensured that the data collection itself was systematic and less likely to be influenced by external forces. Moreover, it ensures sufficient exploration of each of the core constructions. When the data is authentically captured, the themes are more likely to reappear in different studies that utilize similar conditions.

## **Results**

The goal of this study was to investigate online education within the SIDS. To recap the context, these are islands that have a small land mass, with economies that are not as wealthy or developed as others. They face a range of challenges, due to their limited landmass which often limits the number of physical enterprises that can be built and requires strategic use of existing landscape (Cantu-Bazaldua, 2021). Moreover, as islands, they face a significant geographical separation from other land masses, which often leads to high import and export costs as well as other limitations on what can be transported via the sea (United Nations, n.d.). In recent times, the development of the internet, and prevalence of mobile and other devices capable of connecting to the internet, may serve to alleviate some of these longstanding challenges. As global economies shift to economy 4.0, there is significant growth through the provision of services via the internet (Hamdan et al., 2021; Xu et al., 2018). Education has been one such service being delivered by the internet to increase access, reduce barriers and, in some cases, improve the delivery of education

through virtual and artificial intelligence. These enhancements to the field have been coined education 4.0 but have not been embraced by all universities. With recognition of the range of benefits, it is worth investigating the hesitation and resistance surrounding online education (Eddy & Kirby, 2020; Johnson, 2019a; Park & Choi, 2014).

Within the context of SIDS, access to education can be challenging and remains a priority (Aarts et al., 2020). For example, many students would be required to leave the island, giving up their existing careers and connections, in order to pursue higher education if their country does not have a university or their degree topic of interest. In developing countries, this is particularly financially strenuous and is often out of the reach of many students. An alternative, such as the delivery of online education is seen as a possible solution to this problem. Specifically, islands within this context offer culturally relevant curriculums that meet the needs of these complex markets. This gap is well-known to business owners, who report finding it difficult to hire and innovate their business practices with the existing skillset of the market (Tewarie, 2011). It becomes more concerning when the context is considered: many of these islands have high rates of unemployment. From a macroeconomic perspective, the SIDS of the Caribbean region report experiencing an alarming secular decline in growth of their GDP since the 1980s (CARICOM, 2020). Several attempts have been made by these states to unify in order to overcome economic limitations; yet, even with successful treaties and economic unions, the impact of physical separation cannot be overstated. As the leaders look towards solutions, the delivery of online services, such as education, can be critical to the success of the region.

A well-educated population is universally recognized as a solution to improving economic outcomes (Sarwar et al., 2019). Based on the challenges outlined in previous sections, this solution is highly relevant. Interestingly, through the development of many primary and secondary

educational institutions in many countries, universal primary and secondary education is reported to be achieved by most of these countries. Unfortunately, the current state of tertiary or higher education is not as scalable and is in high demand by the population. It is clear that this solution benefits the countries; however, of interest to this study is specifically the HEIs and their acceptance or lack thereof when it comes to this solution.

HEIs, including those in the Caribbean, are facing a number of challenges as it relates to funding and student numbers (Beckles & Richards-Kennedy, 2021). The entire sector is experiencing what scholars have termed, a VUCA (Volatile, Uncertain, Complex and Ambiguous) climate. These challenges include less government funding, mass retirement and a reduction in student numbers. Some speculate that despite the increasing reliance on student tuition, the sector remains divorced from the needs of their audience. While it may seem like a matter of simple decision-making, the acceptance of technology is quite a nuanced and complex phenomenon. This complexity is increased when the leaders of these institutions are considered. The leadership of HEIs are unique and face challenges that do not mirror their industry counterparts (Eddy & Kirkby, 2020). These include cultural changes related to selection criteria and rotating positions that impact politics. As a result, leaders in these institutions may specifically have insights into why there is a significant underutilization of online education. This study seeks to understand and capture the current climate of HEI leadership towards online teaching in the context of an SIDS.

As a qualitative case study, this project investigates a site that has successfully implemented online education at the graduate level. Within this online offering, students from anywhere in the world can choose from a range of programs, including but not limited to: education, business, public health and psychology. In order to carry out this study, the faculty and staff at the institution that have been involved in this initiative were interviewed. Specifically, the

faculty who taught online, chaired online programs as well as approved instructional design support for this transition in addition to the staff who lead the technical infrastructure. A review of the literature has revealed that there are several highly accepted models related to the acceptance of technology. For example, the TAM is one of the most popular and long-standing models, although it has received significant criticism for its overly simplistic nature (Shachak et al., 2019). With the range of theories in existence, different scholars have presented a range of behavioral and other facts that impact this phenomenon. The gap exists in the research as scholars believe that more research has to be done outside of the U.S. within developing contexts, as the models have not been sufficiently investigated in these contexts and that newer context-specific models may have to be created (Tarhini et al., 2017; Thongsri et al., 2019; Valencia et al., 2019). The UTAUT model, one of the most cited as it relates the acceptance of online education, is used as a framework for this study, in conjunction with the TOE framework. These form the conceptual framework and play a significant role in the development of research tools used to investigate the following questions:

1. RQ1. What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean?
2. RQ2. What is the role of perceived effort expectations by higher education leaders and teachers on online learning in the Caribbean?
3. RQ3. How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean?
4. RQ4. How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean?

With these questions established, the literature was further reviewed for suitable instruments that may be used for data collection. However, in the absence of directly relevant tools, the decision was made to derive a tool from the framework. In the year 2012, when UTAUT2 was released, it was published with a quantitative instrument that can be used in future studies that use the framework. This tool was extensively reviewed. Some scholars have already used this tool and framework in the development of qualitative instruments, such as interview guides. As a result, the decision was made to review these tools, in conjunction with the research questions, to derive interview guides and focus groups that will most accurately capture the phenomenon under investigation. Four tools were subsequently developed for each of the units of analysis of data collection; each one was tailored to thoroughly investigate the constructs most relevant to the group. Given the gap within the research, a qualitative approach was selected as the best choice.

Qualitative research has the benefit of gathering nuanced behavioural perspectives (Donaghy et al., 2019). As a result, the data collection and analysis process involved multiple aspects. Firstly, the participants were selected purposely from a range of highly knowledgeable persons, as it relates online education within this context. Participants were divided into multiple units of analysis: course instructors, course directors, technology leaders and department or program leaders. Course instructors are those who are involved in the delivery of online education in the context of day-to-day teaching. They may be part-time or full-time but typically have less responsibility than a course director. Course directors, for example, are often involved in oversight of courses to ensure their alignment with the overall curriculum; they set objectives and course activities. Department leaders are those who are responsible for the overall direction of the program and faculty, including budgets, accreditations, and strategic alignment and vision. Finally, technology leaders are those involved in the strategic direction of the technology that supports

online teaching and learning. These groups offer complex and comprehensive data on the matter and, as such, are investigated differently.

Given the range of activities that are conducted in each of these roles, the instruments used for each group were modified to ensure sufficient investigation into aspects of the phenomenon with which they have the most familiarity. For example, technology leaders are more likely to have experience with the facilitating conditions, specifically related to technology as opposed to the day-to-day teaching or classroom management. On the other hand, department leaders are likely to have more insight into matters, such as creating the culture necessary to support the teachers in their transition, as well as budgets and accreditations. Course directors have comprehensive oversight of a course, which includes continuous improvement, coordinator instructors and syllabus development. In contrast, course instructors teach specific courses or modules within courses.

The qualitative approach leveraged multiple instruments and methods. Course directors, technology and department leaders were issued one-to-one structured interviews, which were used to develop an understanding of the decision-making and leadership context. These interviews ran for approximately 45-60 minutes, via Zoom or in-person, based on the preference and location of the participants. Ultimately, these investigated all the constructs at the leadership level. On the other hand, focus groups were selected for the course directors in order to generate their collective views and stimulate diverse insights that may not emerge in individual interviews. These small, structured focus groups ran for appropriately 1-1.5 hours and investigated the day-to-day of teaching. Importantly, prior to all this, all participants received the questions ahead of time, and the consent forms, which provided details about the involvement and withdrawal. Participants were encouraged to ask questions, then, if they opted into the study, the consent procedures and

study goals were recapped, with further opportunity to confirm their interest in participating as well as information on how they may withdraw from a study or decline answering a question. A summary of the number of participants in each group and the method of data collection is presented in the table below.

**Table 6**

*Participant Types*

Participant type	Criteria	Method	Number
Course Instructors	Teach a full or part of a course, workshops, etc.	Focus groups	22
Course Directors	Create and provide leadership on courses	Interviews	11
Program/Dept Leaders	Lead a program or department that is online	Interviews	4
Technology Leaders	Create the technology infrastructure and instructional design support	Interviews	6

Upon completion of the data collection, the other steps towards data analysis began. In qualitative data analysis, it is imperative that steps are taken to prevent the data from undue influence from the primary researcher. Firstly, each of the interviews and focus groups were transcribed into written documents. Secondly, member checking, outlined above, was completed; each participant was invited to confirm the accuracy of their content. Once the data were confirmed, it was then anonymized with the use of pseudonyms. Demographic information was subsequently pulled from the written documentation and transcripts, created within a spreadsheet

with pseudonyms and imported into the Dedoose as data descriptions. Once it was complete, the individual transcripts were uploaded into the system and associated with the relevant descriptors. Within the system, multiple copies of the focus groups had to be created in order for each person's data to be analysed individually. The demographics are encapsulated in the tables below.

As part of the study, the age range was gathered from participants. They could opt not to respond, or to select from the ranges/generations provided. All participants responded to this question, and the number of participants and percent of the overall respondents are tabularly presented below in Table 7 and visualized in Figure 11.

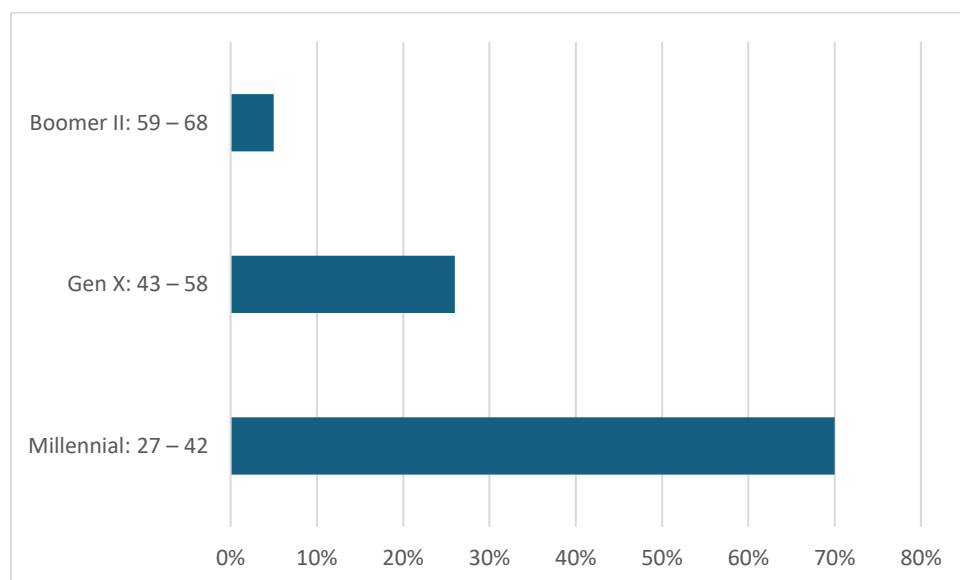
**Table 7**

*Participants' Age Range*

Age	Number	Percent
Millennial: 27 – 42	30	70%
Gen X: 43 – 58	11	26%
Boomer II: 59 – 68	2	5%

**Figure 11**

*Bar Chart Showing Percentage of Participant in Each Age Range*



Participants were also asked for their rank within the university. Beyond the designations above (course instructors, directors, department leaders and technology leaders), ranks were also investigated. This is more specifically the level at which they are asked to function (for example, demonstrator, instructor and professor). A summary is provided in the table below.

**Table 8**

*Participants' Rank*

Rank	Number	Percent
Demonstrator	5	12%
Instructor	19	44%
Assistant/Associate/Full Professor	15	35%
Staff	4	9%

There are a range of degree programs offered by the school. Participants were also asked about the degree programs that they have taught in or affiliated with. Only the leaders, course instructors and course directors were asked this question, as the technology leaders provide support for all schools and programs. Table 9 represents this information.

**Table 9**

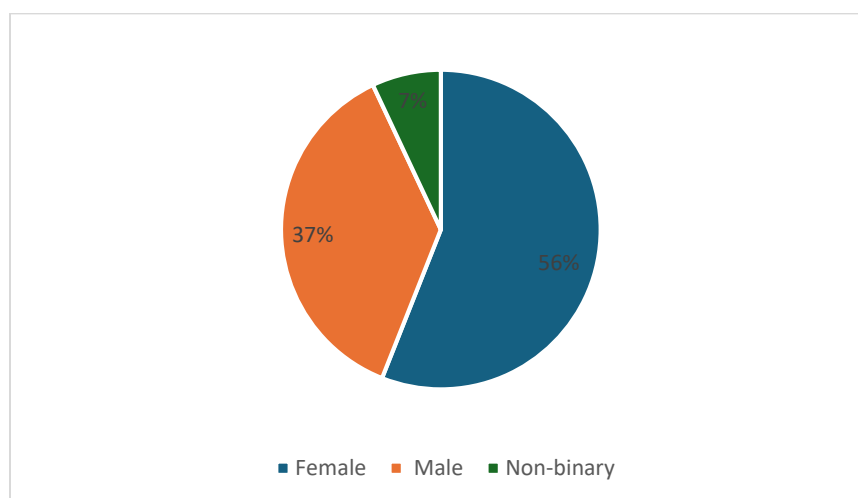
*Associated Department*

Degree/Department	Number	Percent
Business	2	5%
Language	4	11%
Psychology	7	19%
Education	13	35%
Public Health	11	30%

Finally, participants are presented by gender in this table. According to the self-reported gender identities participants opted into: Male, Female, or Nonbinary. Gender is not heavily investigated as a factor influencing the acceptance of technology but is presented here in order to describe the sample selected. Table 10 and Figure 12 illustrate the gender distribution of the participants.

**Table 10***Gender of participants*

Gender	Number	Percent
Female	24	56%
Male	16	37%
Non-binary	3	7%

**Figure 12***Pie Chart Showing Percentage of Participants in Gender Categories*

As described in Chapter three, the initial analysis was deductive in nature. The steps followed for this were: familiarization with the data, creating a priori codes within the software, then, coding the data by reading each line and selecting based on relevance. The prior codes were created using the interview and focus group questions. Upon completion of this lengthy process, the codes gathered from the focus groups and three different interviews and focus groups were revisited. Then, the data set was inductively analysed to develop new themes and trends, which

integrate and synthesize the ideas across the groups. The inductive analysis themes form the structure for the presentation of the reporting as it relates the research questions.

As part of the data collection, participants were asked about their careers in terms of their involvement with online education. Technology leaders were asked about how long they have been involved in supporting online education, which is summarized by the table below:

**Table 11**

*Technology Leaders' Years of Involvement*

Years of Involvement	Number of participants	Percentage of technology leaders
10 - 20	3	60%
20 - 30	2	40%

The course directors reported they began their involvement in online education as described below in Table 12. This information is summarized from the qualitative responses.

**Table 12**

*Course Directors' Years of Involvement*

Years of involvement	Number of participants	Percentage of course directors
<10	7	44%
10 - 20	3	38%
20 - 30	0	0
30+	1	19%

The course instructors also reported information on when they began teaching, and it is summarized in Table 13.

**Table 13**

*Course Instructor's Years of Involvement*

Years of involvement	Number of participants	Percentage of course instructors
<5	14	67%
5 - 10	6	29%
10+	1	5%

Program chairs/directors also reported how many years they worked with online education. This is summarized here in Table 14:

**Table 14**

*Program Chairs' Directors Years of Involvement*

Years of involvement	Number of participants	Percentage of program leaders
<10	1	25%
10 - 20	3	75%

The first section of this reports the findings related to the first research objective, performance. Across the groups that provided information as it relates the performance expectations of online learning, different but related themes were discovered. Performance in this context was investigated as a function of the effectiveness of teaching in the online environment.

In the reporting of this analysis, the themes and subthemes are presented as well as participants' input directly on how this construct, in particular, impacts their willingness to accept online teaching.

Then a report is provided on the second research question, as it relates the effort expectations. The effort in this context refers to the level of changes, and overall energy required in the transition and offering of online programs. This varied depending on the group. For example, for course directors, this may relate to the changing of assessments and materials, while course instructors may have been required to learn new technologies and change their in-class teaching approaches. A synthesized report of the types of effort and their reported impact on the acceptance and use of online education is also presented.

Factors related to the third research question are also presented from each group. This investigates the role of social influence, which may come from a range of sources, such as colleagues, student demand, other departments and other universities. While these factors are perhaps the most external, according to the existing literature, they can often impact the willingness to accept technology.

Finally, the results are presented for the reported facilitating conditions. Facilitating conditions involve the technological and organisational factors that help or hinder online education. An interesting approach with this study is that the course directors, program leaders and course instructors' perspectives as users are investigated; and on the other hand, the technological leaders who provide and oversee these supports are also interviewed. Therefore, a holistic perspective is presented.

In conclusion, the study addresses a highly relevant problem as it relates to higher education. SIDS are in a highly vulnerable position, and increasing access to education may

significantly improve their economic growth. Online education is seen as a possible solution to this problem but remains underutilized and insufficiently investigated in these contexts. As a result, a case study is done with the higher education leaders in a university that has successfully implemented online education prior to the pandemic in a SIDS. Leadership is particularly crucial in providing strategic vision as it relates to online education. While many models remain unexplored in this context, the assumption is that primarily behavioural factors impact the acceptance of technology. Thus, one of the most cited frameworks is used as a guide to develop qualitative tools to assess the phenomena. With the insights gathered, the goal is to present recommendations and insights that other similar schools may use to guide them into the online education realm.

### **Objective 1 - Performance Expectations**

The first research objective seeks to investigate the function of performance expectations on the acceptance of online learning. Performance expectations, within the framework, investigates how well online education accomplishes the task of teaching and learning. In many studies, performance of a given technology is often seen as one of the most significant factors when it comes to the acceptance of a given technology. Within the study, several aspects of performance were investigated, such as how it compared and contrasted to the traditional face-to-face teaching, engaging with students, delivering and assessing objectives, ways that their practice is limited as well as enhanced with the online platforms and their acceptance of technology and how, if at all, performance impacted that willingness. While each of the aforementioned units (course directors, instructors, program leaders and technology leaders) are initially analysed separately, the information presented there is a presentation of themes found across the data, using pseudonyms. Figure 13 is an illustration of these themes.

**Figure 13***Performance Expectations Themes****Theme 1. Interaction and Engagement***

The first theme to be discussed under the topic of performance was that of interaction and engagement. This is seen as a crucial part of teaching and involves communicating with students through a range of different methods and having students contribute to discussions, conversations and ask questions. It can be built through building community and using tools to engage with students as reported by course directors and instructors alike.

The major challenges related to the engagement and interaction with students are reported as students being absent in online synchronous class. In some cases, teachers are expected to host live lectures online; however, students are not required to be present. It is important to note that in this context, students are permitted to watch the recordings as an alternative to attending class. This translated into less real-time feedback, which teachers did not like. A few salient quotes below are excerpted from focus groups held with course instructors:

*There isn't an attendance requirement because of the type of student population that we have. So, for any given class that you show up to. You don't know if you're gonna have bodies, or if it's just gonna be you and the camera, right? And that's been known to happen a lot. [Course Instructor 2]*

*one of the challenges is that sometimes we don't have students showing up, or you don't even know who you're teaching to, because they may not have the cameras on [Course Director 8] well, I think the big thing is when they turn their cameras off, and they're not present [Course Director 11]*

*if let's say, our program required attendance, or cameras on and students abide by that, then maybe it wouldn't be such a stark comparison. [Course Director 10]*

In cases where students were required to be present or opted to attend, there were still notable challenges with interaction. Participants reported that despite their attempts at creating an interactive classroom, when students kept their mics and cameras off, it was challenging. This was due to factors like a slow response time and being generally unable to see students' body language and facial responses.

*I think there was a challenge in terms of sometimes you feed off your live audience, you interact with students, you read body language, and that informs you, as it relates to whether or not there is coherence, whether or not there is understanding [Course Director 2]*

*So, in as much as you're having the interactive lessons. You say, "Okay, Jane, what's your take on this?" And then you're waiting a good minute and then Jane comes on. "Miss. Sorry. I didn't hear the question. Can you repeat, please?" [Course Instructor 3]*

*in terms of teaching online like, that's the thing that I hate the most. I understand that there are people in different situations, and for whatever reason may not want to, or may not be able*

*to turn on cameras, turn on mics and all of those things. But for me, personally, I kind of value being able to see who I'm talking to"* [Course Instructor 5]

*and so, a lot of students either a) Don't come to class, or b) Don't have their videos on. So, even though you might mandate it, it was in the syllabus. These are grown adults, they're not children. And so, I can't force you to put on the video, I can't force you to go to class, if the program is not acquiring it. [Course Director 10]*

*there's sometimes less opportunity for those kind of spontaneous interactions between students and between instructors and students that can lead to like incidental learning [Course Director 7]*

The course instructors acknowledged further challenges with engagement that went beyond the presence. This developed the idea that even when students were online and visible, it was still much harder to gauge whether or not they were attentive and following along with the lecture or if they had challenges and questions that they were hesitant to ask. Teachers express this as a challenge as they cannot make adjustments in real-time based on the reactions. Several quotes highlight this nuanced concern:

*if students online turn on their cameras, it's still hard to 'read' them. You know you get a lot from body language. You get a lot from the vibe in a physical room. Are they following? Are they distracted? ( ... ) Bottom line, verifying student engagement in real time in an online environment is just harder. [Course Instructor 9]*

*you don't even know if they're actually at the computer. So, it kind of may be difficult to judge whether or not you are reaching some of the students.[Course Instructor 14]*

*Maybe just the perception of students being engaged, and maybe like a slight difference is when you're online, if nobody turns on their camera. You really have no way to gauge whether*

*people are listening unless they're interacting with you by unmuting or in the chat versus when you're teaching in person, it's easy to just look them in the eye until they talk to you, or you can also just kind of see their body language, you can. It's easier to kind of suss out the energy in the room in person versus online. [Course Instructor 6]*

*once I have interaction with students, I'm very happy, I'm very excited. If I don't, then it feels like I'm not being effective. [Course Director 8]*

Aside from the well-documented challenges listed above and expressed by most participants, a few people expressed that teacher skillset matters in terms of being able to foster active interaction in the online environment. These participants demographically were all from Gen X and reported years of experience teaching and learning online and/or undergoing substantial education focused on teaching online. Participants described the instructor abilities as something that can be a strength:

*you can get a very high level of engagement online and that can be often compared to in person. But I think a lot of it can also go back to the facilitator or even the educator. [Course Instructor 7]*

*the deeper you go in terms of using the tools available the richer, you can make interaction experience. I think for me, it is the availability of tools at your fingertips. So you know, it's like I use it pooling, break out rooms. The fact that you can have someone sharing immediately. You can have someone presenting immediately. We have the chat going. You can, you know, pull a video from YouTube and send a link. And everyone can look at that video. So I like that ability to share in real time.[Course Director 5]*

With one noting that being online encouraged more types of interaction than the traditional lecture:

*on site, it was usually a one that was unidirectional, yes, it was faculty to student, but what's happening in an online environment is almost like three directions or multidirectional. [Course Director 2]*

A few millennials who had been involved in teaching and learning online previously shared similar sentiments. Experience and comfort with teaching online were the key factors to these insights; there were no important distinctions with gender. They expressed that it benefited their students, allowed for more interactivity depending on the course and content being taught and required skill and intentionality. Someone involved in teaching language reported that some students were likely to engage more in online environments, especially those who may be hesitant to interact in person:

*and we were really surprised that some of the students that never participated in person were suddenly making comments on zoom. And they were typing stuff because they felt a lot more comfortable interacting in that way, because maybe they were shy.... So, I think engagement changed. But I would say, in some cases the engagement actually increased. [Course Instructor 17]*

Given the range of activities, some course instructors express a preference for the online environment:

*I think I prefer to deliver certain courses online, mostly because you can do more activities. [Course Instructor 6]*

It was reported that instructors must be willing to put in some effort to facilitate interaction:

*[teachers have to be]more intentional in the online space about how you're building community and how you're creating that sense of connection and belonging in the classroom.*

*That might happen sort of more incidentally or more serendipitously in person. [Course Director 7]*

*in a traditional classroom, you can get away with having a lecture, whereas an online learning, there has to be built in questions built in discussion, check-ins, and then also not being afraid to have silence. [Course Director 10]*

One course director, who was new to teaching online reported that their skillset limited their ability to teach effectively:

*another [challenge] would be my own limitations within knowledge of the available software [Course Director 9]*

## ***Theme 2. Reach and Equity***

Reach and equity was another theme that arose in the results. Going online is seen as a means of reaching students who could otherwise not be present and as a result, is more equitable than in traditional teaching and democratizes access to education. Program leaders reported on the performance of online education at a higher level. For example, while department chairs are not typically teaching a full course load, they have insight into matters like reach and student retention within these online programs. As a result, they reported on these factors in the context of how well teaching can be done online. To illustrate, some leaders report that within a given degree program, the online offerings and tracks have a higher number of students enrolled:

*the plan for the program was that it would be more appealing to local educators and then, as the program sort of got its bearings, it will become more attractive, more appealing to regional educators and then eventually international. The one thing I will say is that this year, we had, we had folks who were not an island (....) which was a first and would not have been possible for you if it wasn't online. [Program Chair 3]*

*Oh, yeah. It opened up the audience and students who otherwise would not have been able to do an MPH can now do it because there's a lot more flexibility. [Program Chair 1]*

*I think it's easier to be more accessible for students [ Course Instructor 8]*

Course directors agreed with the improved reach and increased participation in the higher education space.

*That you can reach students who aren't here, who don't have the ability to financial ability mostly. [ Course Director 11]*

*You don't see as big of gaps in terms of who participates because everybody's really participating or engaging [ Course Director 7]*

*So, being able to engage students who otherwise would have difficulty. So, what we might refer to as non-traditional students, so I think that that's the biggest benefit of the online education as far as the teaching practice. [Course Director 9]*

Beyond merely increasing the participants, online education was specifically reported to be more accessible through recordings, reducing the visibility of power structures, such as teacher to student and student to student dynamics involving power; teachers further felt that it reduced their innate biases. These quotes relate to diversity, equity and inclusion as a function of online classrooms:

*if you're doing technical subjects or technical topics I think the ability of a student to be to go back and review. [Course Director 5]*

*I feel like there are certain power structures that are less obvious. [Course Director 3]*

*And just so just thinking about the students who do maybe have chronic illnesses or are chronically in pain, or they are struggling to move around a lot. Then the online class is helpful*

*for them. And I think that's something that we don't really think about in person. [Course Instructor 17].*

*You may develop a bias towards a particular student for some reason, whether it's the way they look, whether it's the way they speak, whatever it is and you may favor that student over others. It happens to me, it's natural, but with the online environment you minimize that. Because, you don't know what people look like, you don't know where they're from (...) So, there, there's more fairness. [Course Director 6]*

While the increase in reach is important to faculty, it was reported that technology can be problematic. Although, rare technological challenges are seen as detrimental when they do occur by course directors.

*I think the only challenge it's technology fails. And it happens, fortunately that is, periodic, it's not a frequent occurrence. But you almost don't have a plan B, you know, so you may have one student who cannot log in but you have to go on so you have to leave that person out [Course Director 5]*

The program chair of a hybrid program cited that if they were able to put the program fully online, it may reach more students.

*Again, it's not fully online so then it would be hard to say, whether in terms of recruitment that would make a difference. I'm sure we will be able to reach a lot more persons in the region if we were fully online. They don't have to take up roots and come (...) but we're not quite there yet. [Program Chair 2]*

### **Theme 3. Delivering and Measuring Outcomes**

Delivering and measuring outcomes was another theme associated with performance. This gets to the core of teaching and learning in the online environment as every program, course and

lesson has outcomes that must be covered with students. Beyond simply delivering these objectives or outcomes, strategies are taken to measure that students have successfully grasped the concepts. Most participants found that they were able to deliver and measure their learning outcomes within the online space. Several benefits are noted by the faculty as it relates to being able to deliver their materials online. These include feeling that they are able to deliver objectives, prepare themselves and the students for the future and meet their components. The following quotes reflect these highlights:

*and we got pretty good with that with the practicum courses, we had a lot of pre-work connected to them (the learning objectives) [Course Director 1]*

*it forces not only us as professors, but also our students, to accept. This is how things are going to be moving forward, whether you want all remote or you want all face to face. That is just not the reality of the professional world, which is ultimately what we're trying to prepare these students for. So, I would say, that's a really big highlight. [Course Director 9]*

*there are some strengths to online teaching that really you can't get in that in person setting.*

*... So, we use a variety of strategies to measure what our students and I think we've been successful in doing that because we do have competencies to meet. [Course Director 6]*

On the positive side, it was seen as easier to track progress, higher quality responses, and increased accountability:

*I think about like video lectures, I would say, chunking - so rather than doing a lecture for an hour, you break that up, maybe into 3 components. It became easier to do it as a faculty, but then it also became easier for the students to engage with the content. [Course instructor 13]*

*it's easier to track student learning and understanding in the online environment. At least, I think so because you typically have something that they produced. Whereas especially if you're*

*trying to gauge any learning outcomes through like discussion in person can be really hard to be able to track that. [Course Director 7]*

*they have to do some research before they place their discussion in there, whereas in a classroom, a student can be in the classroom for the entire term, and not say anything unless you know, you point to them [Course Director 6]*

*online is more accountable. It's more measurable and I think it leads to a better success rate for the students at the end. [Course Director 2]*

In many ways, the delivery of online education was seen as similar to the traditional classroom. Specifically, teachers reported being as effective in both platforms.

*Can I resolve some of the problems that online delivery creates like, for example, taking the class on field trips? Well, yes, we created virtual field trips. Interesting, the field trips were the course elements that many students who took this course previously on-site found were the best part of the course. So, what do I do when I have to offer this course online? Do I get rid of the field trips? Well, we kind of solve this problem by creating videos of our field trips. These videos serve as an approximation of going on a field trip. Is it a real thing? Hmm, is what you're watching to same learning experience as if you actually went to the site? We tried to capture the experience and the learning from it that the student can get by recording it [Course Instructor 9]*

*I think if I do a good job, then I should be able to do just as well as in person. But again, I have to intentionally design them.[Course Director 11]*

*I don't see any difference in terms of effectiveness from a face of face to on my environment in terms of measuring my objective [Course Director 5]*

*I think that, you have to ensure that the assignments are adequately matching, what your lecture is... So, if those are adequately aligned, then it really doesn't matter if it's in person or online. [Course Director 10]*

*I think, is not about the medium, but it's more about the delivery, regardless of the medium, and also the ability to match interest in terms of topics and content area, and also allow for that interest to meet with demonstrated problem solving. [Course Director 2]*

A few key differences were also noted between in person and online. Some of these differences were negative. These include taking more time in the online classroom and loss of some subtleties:

*what I find is, it takes longer. So, I can do less online than I can in person.[Course Director 11]*

*some subtleties that you're gonna get from even things like how people position themselves in the room, you lose a lot of that in the online landscape. So you end up having to attend to other things (... ) So was it exactly the same? No. Is it still valuable? Absolutely. [Course Director 4]*

There were not many challenges expressed with delivering and measuring outcomes in this environment. Most people reported not experiencing any challenges. One person highlighted timely communication with students as a challenge:

*and I think, the only way that it maybe makes it a little bit more difficult is, it's not as easy to like, nudge students for kind of really get them to submit something on time. [Course Director 3]*

### *Summary of Performance*

The summary of the themes and subthemes for this research question is tabularly represented in Table 15 below. According to the framework used, performance directly impacts the acceptance of technology. In this study, participants were asked about their willingness to teach online, and if it was impacted in any way by the performance of online education. The combination of factors associated with performance come together to influence faculty in their acceptance of online education as they are highly impactful. These excerpts reflect that:

*if I didn't feel as confident (...) I probably wouldn't do it. [Course Director 7]*

*fortunately it has worked at least from my perspective (...) so I don't have a problem with it but I can see if I was not able to do that, I probably would not be as enthusiastic. [Course Director 5]*

**Table 15**

*Performance Expectation Themes and Sub-themes Tabularly Represented*

	<b>Themes</b>	<b>Sub-themes</b>
RQ1: What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean?	Interaction & Engagement	Lack of non-verbal cues Educator' skills matter in engaging students Structuring intentional interactions More participation from quiet students
	Delivering and measuring LOs	Constructive alignment No difference from Face to Face More evidence of learning Prepares students for tele-practice

	Reach & Equity	Reduction in power structures Minimize faculty discrimination and bias Diverse students Diverse expertise
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## Objective 2 - Effort Expectations

The second research objective investigated the perception of effort expectations on the acceptance of online education. Effort is defined as being related to ease of use and returns many themes in the study. The course instructors, course directors and program leaders described varying levels of ease and effort associated with the technology. These include administration and logistics, changes related to materials, assessments and teaching methods, the experience with the learning curve, maintaining courses once they are set up, highlights, challenges as well as higher level involvement, such as stakeholder buy-in. The following figure represents the themes discovered in the analysis.

**Figure 14**

*Effort Expectations Themes*



#### **Theme 4. Ease**

The first theme presented here comes directly from the focus groups. In these groups, participants reported on which aspects of online teaching and learning felt easy to them as it relates to overall effort. Seemingly, the effort was not seen as very high: one person reports that teaching online is ‘easier than in person’. Most participants reported some level of ease, regardless of their background, age, or gender.

*I find it very easy. I personally find it easier to teach in the online environment in person.[Course Instructor 17]*

*You're patient and you're willing to put in the work the second time you do it. It's almost automatic. You have an understanding of the structure and how things operate and you know where the deficiencies are, how you correct that and so on [Course Director 5]*

Authenticity and passion were mentioned as something that came naturally that was highly beneficial as it relates navigating unfamiliar terrain.

*And if I make a mistake, I'm just gonna act like, if it's a normal thing and keep going. Because what I've heard and what I've learned since then is that the students do prefer you know, material that's more authentic [Course Instructor 11]*

*You're thinking about getting it perfect. But then you recognize what could come easiest is your authenticity, you know, bringing us smile [Course Instructor 13]*

*Your authenticity, because, you are human, you'll make those mistakes, and so to allow them to see that.[Course Instructor 15]*

*once you have the passion for the subject matter, and you really want to connect with the students? Then it makes the experience feel a lot easier [Course Instructor 6]*

Flexibility and accessibility were also raised as something that made the process of teaching easier.

*I can do my lecture at home. Don't have to come into the office, although we should but the odd day I'm not feeling well I can still deliver the class from the relative comfort of my home.[Course Instructor 9]*

*because you have everything in this centralized location.[Course Instructor 19]*

*Don't have to go to a classroom. Stay in the comfort of my office cosy and teach. So, that's nice.[ Course Instructor 10]*

The course directors cited ease, and appreciated the support that facilitated the ease. While support relates directly to the research question that investigates facilitating conditions, it is worth of mention here as the support available was described as having reduced overall effort. Here are quotes that support these ideas:

*Oh, with the support I had having a teaching assistant. That was awesome. The person who was my support. They'd been teaching online. They were accustomed to teaching online. [Course Director 9]*

*The fortunate thing is that the infrastructure was there to support all of that [Course Director 5]*

*each term you have to be ready before you have to get your course up and going weeks before the term starts. So, we do have that support from our instructional team.[Course Director 6]*

*I was just gonna say, one strategy that was helpful is using technology that was already tested and proven. Especially across the department, if other teams have used it before. [Course Instructor 13]*

Time management as an online teacher arose as a crucial and somewhat challenging factor for course directors, especially for those who have a primary role outside of teaching that particular online course:

*And so it's easy to get behind. And there's you gotta really keep up with the feedback fast, and that's that can be difficult.[Course Director 7]*

*the tough part is more, scheduling yourself to go on and check because you're in real time doing your job at your desk but all of that's happening in an online environment. It's a forum, you got to go read the threads, and you got to get feedback. Whereas, in a live classroom, they're handing something in it's a stack of whatever, or files on your computer.[Course Director 11]*

### **Theme 5. Learning Curve**

The learning curve presented varying degrees of difficulty based on interest and expertise level. Within the focus group, which consisted of the course instructors who are actively teaching, the curve was described as being more challenging. While a person recalled it being less of a curve to a basic understanding of the video conferencing software, many people reported challenge with video recordings at the beginning of teaching online:

*So for me, it's the recording videos piece and trying to make them engaging is a certain point. You just feel like pulling your hair out because you've mispronounced the same word so many times. [Course Instructor 6]*

*It's kind of like - that was part of the frustrating thing for me, cause I was like, why am I? Why do I sound like this? And if I was standing in front of a class like I would know what to say.[Course Instructor 5]*

*I was recording the lectures that would then be watched by other people, and I had given live lectures at that point, and I thought I could just go and lecture and I could feel my voice getting very flat in terms of the presentation.[Course Instructor 15]*

*I literally feed off my students, i.e., my teaching is predicated on having an audience. I incorporate them into the class delivery and that's so much harder to do when you have especially trying to do that asynchronously.[Course Instructor 9]*

Overall, these instructors reported some frustrations with its initial implementation including higher levels of anxiety. One instructor says:

*I think it was emotionally trying, to begin with, because I didn't have any experience with zoom or anything [Course Instructor 1]*

Similarly, some course directors described the curve as emotionally impactful as well:

*So the learning curve was steep and rough at times in that first term, and it got a lot better in the second term.[Course Director 1]*

*It's a steep learning curve. It's a very steep learning curve (...) you put yourself back down to a level of vulnerability to some extent. until you become comfortable with using the technology. [Course Director 5]*

On the other hand, faculty who had prior online experience felt that the transition was easier, and more senior faculty felt that the curve was easier than the initial transition to teaching, as they had a better repertoire of strategies to pull from.

*I had, like, a pretty good repertoire of activities that I would use with students in person. And then I really had to rethink those. And then some of them could be adapted. [Course Director 3]*

*Again, it was pretty simple for me, so there wasn't much of a jump.[Course Director 8]*

*I don't think it was nearly as hard as stepping into teaching the first time in a traditional classroom. Because again, just going back to what I said before, you have all the tools and strategies.[Course Director 7]*

Community was also valuable in reducing the impact of the learning curve:

*And I think one of the things that made it easier is that we had everybody on deck willing to go through the process of learning so that by the time we were able to enrol it to the students, we were much more comfortable with the process [Course Instructor 13]*

### **Theme 6. Teaching Changes**

The kinds of changes required varied based on participants. Some people reported ‘quite a lot of changes and ‘constant’ changes. Instructors and directors agreed that changes were required. Overall, the learning objectives stayed the same but factors like the tools, assignments and delivery of content had some degree of changes:

*It requires quite a bit of changes. [Course Director 6]*

*probably redesigning some aspects of your course depending on how it was taught, you know. So, for example, if you're used to walking into a classroom with 2 case studies in your hand and handing them out - how do you do something similar in an online environment? [Course Director 5]*

*You gotta figure out ways to make the activities interactive and engaging in an online environment. And you can do that I think it's trial and error. [Course Instructor 20]*

One person expressed that there is an increase in the materials that are required:

*I think you probably do have to produce more materials, and you have to really look at them with an eye for that clarity and transparency that I was talking about before. So I*

*think that there often can be like more upfront work with teaching an online course, but it pays off [Course Director 7]*

A few quotes demonstrate the changes with classroom management. Many participants report being familiar with traditional classroom teaching and not knowing how to replicate that in the online classroom.

*So, I would say, as far as materials and assessments that is very much so different. Teaching methods are much more different. Just because face to face, I'm constantly moving. I'm a very hands-speaking person. I have a loud voice so as far as my method, that would assist me in keeping people engaged in class going up drawing on the whiteboard. I can't draw on my computer. [Course Director 9]*

*And just to add to that, I think when you're teaching online. I don't know if this is just maybe a personal feeling. But I find myself trying to work a lot harder to engage students like just trying to make more activities, trying to make the material more interesting, trying to build in more times, to pause and check in, to see if this is, if they're understanding what I'm saying. [Course instructor 6]*

*I'm writing, I'm talking, which was the fun part of teaching in person. So, you get to talk about your stuff, you draw your diagrams, you're explaining, and so on. Alright. Now, when you take that, let's say you have to take that information online. So, you can't do that (...) you can actually do that, but I don't know how to do that. [Course Director 6]*

*Suppose, for example, that a real-world task that a student needs to accomplish with English is to order a coffee. In the task-based classroom, the teacher would review the language needed to order a coffee and then try to simulate the actual coffee-ordering experience in their classroom. I think a degree of authenticity is lost if students are asked*

*to simulate ordering a coffee in person in a classroom---which more closely resembles an actual coffee-ordering experience---than online in some way. I do think online-only education makes it harder to follow specific methodologies [Course Director 3]*

In particular, instructors with two years or less of experience with teaching online, still experienced some issues with the changes. In many cases, these participants also expressed that their primary roles did not involve teaching online, but they were occasionally required to do so. These issues included classroom management in the hybrid classroom with participants joining in person and virtually, lecturing when the session is entirely online and keeping up with using the learning management and video management systems when they are not used frequently. These quotes encapsulate these experiences:

*Having to pause during lecture, to read the messages in the chat and then relate to the class what is being read in the chat, and then to the persons online what is being said in the class so that that sort of interaction [Course Instructor 3]*

*It was just me talking to the computer that was the issue for me still is like, I'm still working on that.[Course Instructor 12]*

### ***Theme 7. Administration and Logistics***

Participants expressed that a fair share of administration and logistical pieces was required. Reportedly, it is more than what is typically required within the traditional education system. However, once they get into a well-established routine, the administration and logistics are reduced. Participants reported the following:

*where to put documents, and making sure they're in the right place, in the right format. And if you want to embed this document in your lessons page, it embeds better as a PDF versus a Doc. So, then you got to go back and find your file and re-convert it to PDF, you*

*know what I mean? Like all of that stuff, I feel like could be really tricky [Course Director 3]*

*so I think it was, I would say that that's like at least like 20% of the workload of teaching the course [Course Director 7]*

*quite a bit, because each term you have to be ready before you have to get your course up and going weeks before the term starts. [Course Director 6]*

*You can prep things ahead of time, and they're all on your device already, instead of having to go into a classroom and like Oh, no, I forgot this piece of paper that's all the way up in the office versus on the online environment. Everything's already there. [Course Instructor 17]*

Program directors took some additional aspects of effort. They were asked about their tasks related to directing and leading, their perspective on what is required as a leader and their work towards creating a culture that supports online education. There was little work for the program chairs to do as it relates to normalizing online education during their time. Importantly, some of these leaders inherited existed structures and expectations:

*I think everybody recognizes that this is what we have to do. [Program Chair 2]*

*I think the faculty were excited about it, to be honest. [Program Chair 3]*

She went on to explain how this acceptance was created:

*So I did a lot of groundwork when I came, and I realized that this was the direction-- This was the way that I needed to be responsive. (...) So it wasn't just that I consulted with the students, I also consulted with faculty as well, I consulted with leadership, I have surveys done all that and then I hosted something here in the department and invited former current*

*anyone who was engaged with the M.Ed at any point to be a part of the journey [Program Chair 3].*

Similarly, across the board, the effort associated with budgetary requests was not considered as a significant consideration in the acceptance by the program leaders.

*I don't think the cost was a function of whether it's online or in person [Program Chair 1]*

*No different from traditional. [Program Chair 2]*

Others reported that before this culture could be fully developed, there were changes in leaders and leadership styles. In some cases, stakeholders had little involvement:

*so really it was up to us to decide how we wanted [Program Chair 2]*

They cited the important leadership characteristics/skills associated with online education. Being willing to put in effort towards being flexible, embracing uncertainty and finding balance between collaborating and decision-making. These quotes highlight the effort required:

*So for the leader, to drive change, the leader has to become someone who is flexible, who's willing to learn and who's willing to embrace change [Program Chair 3]*

*Well, I guess you have to be technologically savvy. You have to be willing to challenge your preconceptions. You have to be willing to investigate what others are doing. You have to be willing to empathize with students, current needs and preferences and you have to be willing to be adaptable. [Program Chair 1]*

*Well, definitely collaborating. I guess you have to have a final say, you know, as a leader, I don't want to say authoritative or like a dictatorship, but you still, as a leader, need to make the final decision because persons will definitely have different ideas of how things are going to go. [Program Chair 4]*

### ***Summary of Effort Expectations***

The summary of the themes and subthemes for this research question is tabularly represented in Table 16 below. Seemingly, participant willingness to accept online education was not influenced heavily by the efforts required. When asked about these, participants highlighted how important being online was to being able to access their students and faculty.

*Oh, never for a second did I doubt the path that I was on? Never. [Program Chair 3]*

*No, this is where our audience is. So, you know, our desire is really to keep our audience.*

*So, whatever is required to meet that goal, I think most faculty would be willing to undertake. [Program Chair 1]*

*being able to engage non-traditional students...that has been had a really big impact on me on the importance of online learning. [Course Director 9]*

*being able to access the persons who want to help us with this program or faculty wherever they are. But also, just kind of a reminder how we can pivot, we can adapt. So, I mean, there's no going back from this now. It is gonna be hybrid. [Program Chair 2]*

In conclusion, despite the effort required to take on online education, most participants did not see this as a hindrance. They appeared to be fairly committed to the idea based on it being required for their audience. The audience is discussed in more detail in the next section.

*Effort Expectation Themes and Sub-themes Tabularly Represented*

	Themes	Sub-themes
RQ2: What is the role of perceived effort expectations by higher education leaders and teachers on online learning in the Caribbean?	Ease	Easy to record live sessions Very Easy / Easier than in person Supportive tech teams
		Time management challenges
	Learning Curve	Steep, emotionally difficulty Challenges with new technologies Very challenging to record video lectures
	Teaching changes	Changing in class activities Creating more materials More planning is required
	Administration & logistics	Large volume of administration Developing courses in LMS Requesting hardware/software

**Objective 3 - Social Influence**

This research objective sought to investigate how social influences related to online education and their role. All of the groups were asked about social factors. These ranged from other course instructors, students, universities and on the technology and instructional perspective, even trends with technology. The insights provided in this section illustrates that of all the considerations related to online education, students are a highly influential component. The themes are visually represented in Figure 15.

**Figure 15***Social Influence Themes****Theme 8. Influences on Technology***

The technology leaders were asked more broadly about how technologies were selected. As it relates to the selection of a new technology, one of the influences acknowledged is industry standards and trends. Many technology leaders felt that this was social influence, in terms of what was currently popular in the industry was often a good starting point to use:

*there are certain standards that you would encourage persons to either be aware of or include to design in an online course [Technology Leader 4]*

*I mean the industry standards and trends, they really are the building blocks of what I think everybody sort of uses. And, they don't come out of nowhere these those kind of trends come from other industries and basic frameworks for things. [Technology Leader 3]*

*leading ones are usually prioritized because I mean, a lot of persons would have already done that work and research to figure out. So, you kind of look at that as your main target. [Technology Leader 6]*

In this context, technology leaders also provided some more nuanced perspectives into the factors being highly important to them. Best practices for selected technologies are sometimes determined based on trends within the academic community. Thus, one acknowledged method is to leverage best practices that other universities or companies using the software solution have developed:

*That comes down to what is my first clear goal of using this tool and then trying to gather information on how other people do that. So expert opinions sometimes at conferences, you get a really good idea [Technology Leader 2]*

Moreover, while trends may influence, technology selection happens in conjunction with faculty most times. This means that faculty members who interact with these pilots play a significant role in the selection, best practices and acceptance process associated with the technologies that support online education. While they may not directly influence their coworkers, their collaboration supports the development of the campus supports:

*I mean, collaborating with your stakeholders [Technology Leader 1]*

*we have the pilot going out and seeing how faculty respond [Technology Leader 6]*

*The few technologies we've used, I don't think any one of them we've implemented campus or school or department wide until we've had at least a pilot. [Technology Leader 3]*

Faculty members themselves provide some social influence to the technology team as their input is used to tailor the types of training available. Across the board, there were no formal tests or systems used to rate a faculty's technology literacy. However, when asked about assessing faculty needs, several informal methods were mentioned. Sometimes, after a training is complete, participants are asked for their opinions:

*So we do our in-house faculty development, and at the end of each faculty development session. What we try to do is have exit tickets in some form or fashion [Technology Leader 2]*

As there are less live sessions from the IT department, they often use the ticketing system to look at trends that may require interventions or simplifications of processes:

*You look at a ticket to see maybe the nature of the ticket or the frequency of the ticket [Technology Leader 6]*

Support teams that do one-to-one instructional design development assign an instructional designer to a faculty member who is then able to build a personal relationship with this faculty member and provide a level of support that is required:

*sense through informal observation, trial-and-error, and kind of building a one-on-one relationship as we go. [Technology Leader 1]*

### **Theme 9. Colleague Influence**

Beyond the way that the faculty members influence the technology supports, the different groups of faculties were asked about what socially influenced them. As it relates to colleagues influencing the experience, course directors reported some interesting themes. In several cases, an entire program would be online and not just a few courses, which sets an expectation:

*I think everyone in the department is expected to teach online. [Course Director 8]*

*In the graduate programs. I think it has just become the status quo. [Course Director 5]*

*it's an expectation, because many of the programs being offered in Graduate Studies are for persons who are employed. [Program Chair 2]*

Similarly, course instructors did not report any strong influence from their co-workers. Reportedly, participants ran their courses based on their skillset without much colleague influence.

One person stated that in the beginning of their teaching career, they looked at colleagues' teaching styles. Outside of that, participants felt that regardless of their colleagues' perspectives or ideas, they did not feel swayed one way or another:

*I have looked more for inspiration and I felt like 'this isn't cutting it' from other people*  
*[Course Instructor 8]*

*I think I might be one of those young people who are very into the technology, not many of*  
*my colleagues are as on board [Course Instructor 1]*

In some programs, courses are team taught. Therefore, it is common to have colleagues teaching on the same course. At this point, the influence is greater. One person cited that the preferences for the team will then be considered, for example:

*I think, if you are working with a team and most of your team members generally prefer*  
*to have things be really fleshed out on lessons [Course Director 3]*

In many times, program level decisions are made, so there is some input from the team that may impact course policies overall. That is, within a degree program, they may have set guidelines around due dates or other course policies that are discussed and agreed upon as a team. In this way, instructors are not providing direct instructor-to-instructor influence but are influencing the overall program structure:

*you try to make collective decisions around the approach because it's necessary for*  
*students to have some level of standardization and uniformity that makes it easier [Course*  
*Instructor 2]*

As it relates to the use of newer technologies, one other course instructor noted that colleagues are helpful for support. That is, there is a preference for using technologies that have been tried and tested in this context before:

*I feel better using new technology when I know that somebody on my team has used it before, or somebody could tell me about. [Course Instructor 18]*

### **Theme 9. Leadership Influence**

Course instructors were specifically asked about management and leadership influence. In this context, they are sometimes expected to report to course directors for their associated courses and the program chairs. Therefore, they were asked what role, if any, their management played. While not the most important factor, leadership was seen as crucial:

*But leadership is critical, because if we didn't have the chair that we did, a lot of things would be different in terms of technology. [Course Instructor 19]*

*If you want folks to try new things, and that's what that's being asked of them, you have to remain flexible and so deadlines for me, it may drive some people crazy, it may make some people uncomfortable that my deadlines are really guidelines and so I have a goal in mind, and I know we're going to get there but I want-- I don't want anyone to suffer at the expense of the goal. So that those guidelines, let me know we're headed in the right direction, and we're going to get there. [Program Chair 3]*

*I felt the institutional mandates served as very strong encouragement. [Course Instructor 9]*

*I think the leadership was more in favour of returning to in person teaching [Course Director 7]*

Financially, management was seen as a key role in providing additional support. For example, if technology is required, the management team may be able to approve or deny requests for additional funding:

*And then for management that also comes into play with budgets like, how much budget do they have? [Course Instructor 17]*

*I mean, especially if they're the one you know who carries the purse. And you know there's costs associated with access and technology, providing the training, the support, the flexibility, and all of those different things. [Course Instructor 13]*

Beyond the financial and mandating components, connection with leadership also mattered. That is, if the leadership was easy to work with and valued input and collaboration:

*if you're opting into something and you like the leadership, then it's an easier opt in [Course Instructor 15]*

*I think again coming back to it being a collaborative approach, regardless of whether or not it's a leader or not, would always play a role. [Course Instructor 14]*

### **Theme 10. Student Influence**

Course directors, instructors, and program directors all cited student influence as a major factor. To begin, program directors across multiple programs spoke to the demand for online education by students:

*In fact, those [Students] I spoke to said "yes, that's going to make a whole lot of difference and positive difference in my life" [Program Chair 3]*

*Yes, there's a big demand, because people are not in a position to go on campus to study right now [Program Chair 1]*

*I think the demand is great. [Program Chair 4]*

*I think that expectation [of online education] now is there [Program Chair 2]*

This sentiment of high demand was shared by some of the course directors who were interviewed:

*I would say probably for 90-95% of our students (...) if it was in person, they would not be doing it. [Course Director 10]*

*I think the trends are pretty clear that that's going to continue to grow in demand. [Course Director 6]*

One program reported that for some students, the ability to navigate the online world as an important skill. As a result, they felt that it was critical to continue the inclusion of technology in the delivery of education so that students could develop the skills required to navigate the online world as they entered the workforce:

*I think that's part of the reason that we kept courses online, because we knew that the students just needed to be able to operate in this environment. [Course Director 4]*

Similar to the idea of student demand, course instructors spoke to the accessibility for students. It was reportedly not practical for some students to engage with in-person education due to other obligations:

*if we don't have it online. practicum will be very difficult for the majority, if not all students [Course Instructor 22]*

*I don't think most are in a position to leave their place of work and attend a full-time program for 18 months or 2 years. [Course Director 5]*

Overall, the topic of students as a social factor of influence yielded passionate and active discussions. Students were cited as the most important factor for some instructors. This makes sense as instructors are often the persons directly interacting with the students in class or through the LMS:

*I think I would add that I think students definitely impact whether or not we want to accept or use online teaching. They're reinforcing or punishing our use of technology in terms of engagement. [Course Instructor 19]*

*I mean, if you're in a work environment with people they obviously do, you know, influence your thoughts on the way that you do things, but my drive in force is always my students, and that engagement that I have with them, so that would always be above all else for me. [Course Instructor 4]*

*so I think mine will be driven a little bit more by these students [Course Instructor 21]*

*I'm leaning more to the students. 'cause they are like the customers. [ Course Instructor 16]*

*So the students are definitely a great influence. I feel that if you are interested in their success, you would find a way to be engaging [Course Instructor 15]*

Some course directors agreed that students were at the core of the work:

*So, there, I would say, the colleagues did not have a huge influence on overall teaching online. It was definitely more so the students. [Course Director 9]*

Two course instructors specified that the students' technology literacy and devices impact what is feasible. That is in addition to students simply wanting the online experience, their skillset plays a role in their overall willingness to teach online:

*if the students are not very tech savvy, then that influences the ability to get through some material quickly, because then you would have to spend the first couple of classes orienting them to how to use the online media and modes and stuff so that could impact it. [Course Instructor 17]*

*some of our students have way more tech literacy than others. And so if we are in an online environment and we're teaching, that's a huge consideration. Before implementing different technologies in the class [Course Instructor 20]*

*unless you're going to tell students come onto campus and make use of maybe devices and network that are high quality. Right? Then they are using their own networks and their own devices. How good those devices and network size would be highly variable [Course Director 4]*

In the context of HE, students are the ones receiving the service of education. As a result, they are effectively the customers. Their satisfaction with the service can be seen as a reflection of its overall performance. According to the course directors and program chairs, students value accessibility and connection:

*clear, timely, and where things are really accessible [Course Director 1]*

*essentially being able to do courses at different times [Program Chair 1]*

*communication is key, because communication allows the students I believe, to maintain the relationship with the course [Course Director 2]*

*showing them that you're paying attention. You're listening to them. You see them [Course Director 7]*

*what we've seen so far is that they really value that interaction, or that time with faculty, and faculty being accessible to answer questions [Program Chair 3]*

*they feel that they've gained not just professional development, but personal goals. And that was intentional, that was we built that in to the program. [Program Chair 2]*

*And yeah, there are hiccups but there are also advantages like being a single mom or teacher in a school up north, and then being able to get this degree. [Course Director 1]*

*I would take more of a pragmatic view. If I know that, they're scattered around the country, and they're going to drive two hours down, I wouldn't want them to just be in person*  
*[Course Director 3]*

*I think I would probably consider more the student population in terms of what their needs are when making a decision about whether, like online class was going to be good for them.**[Course Director 7]*

*I know that's what the students want. So to me, it is meeting a need and satisfying a demand.* *[Course Director 5]*

*I'm more inclined, in fact, because I'm seeing more value for my students in their ability to access education, the ability to even combined education with a jobs and other aspects, I see value for them to be able to continue, their life continue, they will continue their education.**[Course Director 2]*

### **Theme 11. Other Environmental Factors**

Shifting away from influences by students and colleagues, participants were also asked about other schools. As it relates to other universities, course directors and program chairs report an increase in online learning:

*In the Caribbean to an extent, and I would say that a majority of programs that I've been engaged with that were at one point only in-person, they have huge online presence now.*  
*[Course Director 1]*

*and increasingly, those programs are offered online.* *[Course Director 4]*

*I mean, even you look in local newspapers. You see, international universities advertising online programs, you see, regional universities advertising these online programs.* *[Course Director 5]*

To further understand the environmental factors in the online education realm, the regulators or accreditors of these programs were investigated. Most program directors reported not having much insight into this matter. However, one person said:

Well, the stipulations in the accreditation document, specifically, in relation to online delivery. So, it allows for that flexibility. [Program Chair 1]

Course instructors were not asked about the accreditation process as they are typically not closely involved. Nonetheless, one person offered up this information. They described the structure of their course, that is, its layout in the LMS, as being a requirement by the accreditors:

*I met it [the course structure] as it is, and it's heavily guided by our accreditation, the structure. It's heavily guided as per what we need to deliver to ensure our reaccreditation process. [Course Instructor 22]*

### ***Summary of Social Influences***

The summary of the themes and subthemes for this research question is tabularly represented in Table 17 below. In conclusion, the social influences were reportedly highly influential. The technology teams reportedly leveraged the support of faculty where possible to shape the selection of technology, best practices and training. Faculty felt that a range of influences was important. For example, course instructors valued the influence of their leadership. One program leader spoke to the way they were supported by accreditation, but many other program leaders reported that they were not actively involved in the process so they could not offer any perspectives. Similarly, colleagues were not identified as major influences. Across the board, the students were seen as the most significant factor that led to the acceptance of online education.

**Table 17***Social Influence Themes and Sub-themes Tabularly Represented*

	<b>Themes</b>	<b>Sub-themes</b>
RQ3: How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean?	Influences on Technology	Industry trends and standards Faculty teams and pilots Steering Committees
	Colleague Influence	Departmental expectations Standardization of dates/deadlines Team teaching
	Leadership Influence	Leaders' advocacy matters Power Structures impact experience
	Students Influence	Increased demand Non-traditional students Impact of student's technology literacy Student success is critical Students value connection
	Other Environmental Factors	Accreditors are supportive Other universities

**Objective 4 - Facilitating Conditions**

In this section of the thesis the facilitating conditions are discussed. According to the literature these investigate a combination of technological and organisational factors that may support or hinder the acceptance of online learning. For this research question, all participants were

asked about these conditions. As a result, this section relays a complex multifactorial representation of support from the perspective of those providing technology, instructional- and organisational-level support and incentives as well as those on the receiving end of these supports. Firstly, the types of support will be described, as told by those who provide it. Then, the various themes related to training and its impact on willingness will be reported based on perspectives from course instructors, directors and program chairs. Overall, this section investigated the types of support and their reported impact. Figure 16 illustrates the themes associated with facilitating conditions.

**Figure 16**

*Facilitating Conditions Themes*



### ***Theme 12. Technology Support***

Several groups were interviewed. Reported in this section are the views of technology leaders who provide technological support for the campus population related to online education. The first type of support was purely technological in nature and related to organisational technology, video support and system administration and training. It is captured through the following quotes:

*planning and implementing training programs for faculty, staff and students, training specifically for the software that IT supports. So, once we either develop software, or we purchase software for the university, academic as well as non-academic software, and we*

*have to teach our users how to use it within the community, then my division is in charge of developing the associated training materials [Technology Leader 4]*

*systems administration and training would probably be the two primary things [Technology Leader 5]*

*So that'll be ensuring the smooth functioning of Panopto and Zoom as well as reassessing their feature sets as they do updates from time to time. So reassessing their feature sets and ensuring we test them for releasing onto the wider community. Outside of that, I also provide technical assistance to end users and also support staff. So I support people that support people. [Technology Leader 6]*

While support from IT started off only in-person, where possible, much of it has moved to asynchronous formats for easier access. One leader reported that this allows faculty to access the material at their convenience:

*we have evolved over time. So, there was a time when we did a lot of face to face training (...) we have had challenges because of scheduling conflicts, persons might be teaching and you know, all those kinds of things. So, to get around that, what we have migrated a little bit more to is asynchronous material; we tend to create webpages. [Technology Leader 4]*

Most of the support was available asynchronously through recorded content, emails or synchronously online through meetings. Faculty may opt for more casual methods, such as phone or messaging. These are captured by these quotes:

*primarily we do want to stick with asynchronous we think it's a bit more of an easier mode in terms of persons getting quick assistance, however, (...) we do provide online face to*

*face now that we're back, phone supports and then of course, that extends itself to utilizing our text messaging service such as teams. [Technology Leader 5]*

*primarily, it's a miniature ticketing system. And other than that is email. Very rarely, we do in person support. If there's an emergency, then you'll find faculty members reaching out to via the phone [Technology Leader 6]*

With the range of methods available, the most commonly accessed methods are those that involve one-to-one communication:

*I think the preferred method for faculty is phone calls. If they had a choice, they would just call [Technology Leader 4]*

*because we're very accessible, we tend to find people just pick up the phone and make a quick phone call [Technology Leader 5]*

*I would have to go with the ticketing system for this one. Okay, but it'll be close. We've been receiving certain emails because we would have had a habit of accepting emails and responding to emails over the years. [Technology Leader 6]*

There are different types and levels of technology support offered:

*training would entail anything in terms of utilizing our online academic tools, such as LMS, video management solutions, video conferencing solutions which persons typically used to teach online. [Technology Leader 5]*

*in terms of the support with end-users is usually tier 3 support. So if there's something that any users have an issue with, and the tier one or tier 2 support. Can't figure it out? Then they'll escalate it all the way up to tier 3 [Technology Leader 6]*

The IT supports are mostly available during the work week, although some exceptions for programs specifically requiring weekend or afternoon support is available:

*There are times when we will go beyond whether it's weekend or its evenings, if it's an emergency. Generally we are an eight to five, Monday to Friday. [Technology Leader 4]*

*Officially? We'll support from 9 to 5, but in all reality I try to offer support as soon as I see something, even after hours [Technology Leader 6].*

There is typically a larger volume of requests towards the beginning of the term.

*You would typically see support come in, at the very beginning of the term. That's because persons have forgotten everything they did weeks ago [Technology Leader 5]*

*we do see a lot of requests in the beginning of the term, and then it sort of tapers off. [Technology Leader 6]*

The support team acknowledges that despite trying their best to be available and meet the needs of faculty, there are some limitations. The big challenge in terms of providing support was the recognition that there is a set budget available for technology and personnel. These quotes discuss these factors:

*budget is one of the first things that when we talk about constraints, we would love to be longer than the phase support office, especially when we're online, because we're all over the world [Technology Leader 4]*

Unfortunately, another limitation with understanding the satisfaction or lack thereof stems from a lack of communication:

*We typically get very little feedback. The most time when you do get feedback is when somebody is very upset. That's the only time they will continue engaging with the ticket.[Technology Leader 5]*

### ***Theme 13. Pedagogical/Instructional Support***

There were also people involved in the instructional support for faculty. They described their roles as being related to consultation, project management, and supporting faculty in developing their content.

*developing and working with faculty and subject matter experts develop course work in an online environment training. faculty or subject matter experts on how to use software for those applications, assisting them in using that software and working with vendors and finding software that meets those educators or subject matter experts needs. [Technology Leader 3]*

*supporting faculty in developing their lessons for that flipped classroom. I also do all of the building of the courses on the LMS, coming up with the templates, procuring any technologies that we need for the building of the courses, and then once I select them in conjunction with the faculty and the leadership team, then we take those to IT. So, thinking about support services for them, I also conduct faculty development for technology [Technology Leader 2]*

*project management for a team of learning designers and developers. I would say learning design for, especially open online courses and technical project management [Technology Leader 1]*

Further insight into the instructional support presented support with teaching and learning as well as course creation:

*We also have the instructional design/pedagogical support, but I also do a lot of admin support as well. So, for example, keeping them organized on teams coming up with the templates that they need, stuff like that. [Technology Leader 2]*

*We provide online program consulting. We provide course creation consulting, and we provide what I would call online content development. [Technology Leader 1]*

The instructional design support reports being more flexible with when they provide support as ‘each program has specific needs’ [Technology Leader 3]; that kind of support is often required ‘continuously’ [Technology Leader 2] and ‘it’s hard to put a season on it because different terms start at different times, open courses can start any time.’ [Technology Leader 1]. Most of the support was available online through meetings, with some being asynchronous through documentation:

*It’s primarily done online [Technology Leader 3]*

*so, it depends on the faculty’s time, or if I have back to back meetings or the complexity of the issue. [Technology Leader 2]*

*mail, online meetings and I would say, kind of documentation is another way that we provide services, provide support. You document things, people can get at them on their own. [Technology Leader 1]*

Faculty use a combination of online video calls and emails to request this type of support, as opposed to technology support, which was often accessed through phone calls. These quotes summarize how it is commonly accessed.

*video calling and emailing would be, you know, it’d be appropriate to put pull those in as the majority. [Technology Leader 3]*

*they will probably send an email saying, ‘I don’t know how to do this’, and I’ll just have to send back the same communication that has been sent out. So it’s asynchronously in that form. Sometimes they will ask for zoom sessions, because some stuff is complicated. [Technology Leader 2]*

A limitation expressed by this group is the bandwidth that faculty have to engage in this type of work. Simply put, the time faculty have to invest in the training can also be limited:

*faculty course load determines how much time they have available [Technology Leader 3]*

#### **Theme 14. Informal support**

Colleagues were another way that faculty would sometimes receive support. These quotes describe way faculty informally support each other:

*It's the knocking on a colleague's door to be like, 'Hey? Can you help me troubleshoot this classroom activity?' or 'Hey, can you help me do that?' And I think for that, I think we have really good community [Course Instructor 20]*

*I have this expertise, and I could actually share to the people in my team. [Course Instructor 19]*

*if we wanted anything, there was a person to go to and there's certain things that people would have come to me for when they want help on stuff. But I think it's important that we have that type of relationship among our colleagues. [Course Instructor 18]*

*colleagues were helpful at the beginning [Course Director 10]*

There were also challenges when faculty provided support to each other. For example, despite the creation of best practices, not everyone follows the recommendations. One support leader expressed that sometimes people will turn to colleagues for help, which can have this impact:

*somebody validates not the best practice, but the easiest practice, and it resonates with a faculty member or a staff member, and that's what they decide to use [Technology Leader 5]*

### **Theme 15. Satisfaction**

The technology leaders expressed that faculty appreciate ‘*kindness in the way of understanding*’ [Technology Leader 4], ‘*clear, timely communications*’ [Technology Leader 3] as well as ‘*listening to them trying to address their concerns*’ [Technology Leader 6]. Moreover, control was discussed: ‘*I don't think faculty like giving up autonomy*’ [Technology Leader 1]. In some cases, it is reportedly not just the support but the actual technology:

*I think that any technology that complicates their life reduces satisfaction, so easier, faster, all of those things influence satisfaction. [Technology Leader 1]*

Unfortunately, another limitation with understanding the satisfaction or lack thereof stems from a lack of communication:

*We typically get very little feedback. The most time when you do get feedback is when somebody is very upset. That's the only time they will continue engaging with the ticket. [Technology Leader 5]*

More generally, they find that faculty’s perception of the support varied based on factors like “*prior experience*” [Technology Leader 3], and relationships with the persons supporting the technology [Technology Leader 1]. In this upcoming section, faculty’s views on the support are discussed. According to the course directors, instructors and leaders, the general view of the support provided by the institution was positive and exhaustive:

*They had training sessions to help instructors understand how to do both so for the students in the class as well as those on Zoom, how to record and what to click and how to get the speakers working, and the mics and all of those different things. [Course Instructor 18]*

*I would give kudos to the institution as it relates to supports for the different platforms and even the training that's provided. When it comes to support and the training that's available*

*and provided, I am going to give commendation to them, you know they are on point with that and I think that is one of the things that has been really beneficial to me: to be able to access those sort of resources and support from the different teams, I'm actually grateful for that.[Course Instructor 3]*

Course instructors reported that they appreciated that they had support available:

*could just pick up the phone and make a quick phone calls in in case something go wrong  
[Course Instructor 11]*

*There's always a second person expert there to help and that was comforting. [Course Instructor 10]*

*they were just so supportive and that we could adjust like immediately schedule a meeting  
[Course Instructor 19]*

*so, we had support when needed (...) you never felt that you were on your own having to figure it out. [Course Instructor 9]*

*it was available if it was required, it was just a matter of reaching out for it.[Course Instructor 7]*

*the IT department has been very good in having training sessions [Course Instructor 15]*

Interestingly, while the technology leaders reported developing a range of asynchronous material, the human interaction piece was reportedly highly valuable by the team:

*While I know that Google is free and most programs have a support forum. I think that it doesn't always beat having a physical or online team of people that you could reach out to if you have certain technical questions. I'm sure you've all experienced this. Sometimes, you have a question, but you don't really know how to ask it, like to type it out or to put it*

*into words. And so sometimes, talking through with someone helps you realize, 'oh, this is the problem I was experiencing.'* [Course Instructor 6]

and one person mentioned that while requesting the support was easy

*I can call any team member anytime day and night.*[Course Instructor 2]

They found the expectation of faculty themselves having to build out courses was challenging:

*we've sort of grown to the point where we're setting up our own. I don't appreciate that at all. You know, it's not on my job description, and I don't wanna have to do it. I think that should be for the team that provides support and do all that* [Course Instructor 2].

And another felt that when the support came after it was needed, it was less valuable. She cited the example with online education and felt that the same thing was happening again with generative AI, in that the training would come after expertise was already developed:

*But I do feel like with a lot of this training around tech and these kinds of things. I don't feel like we've ever been ahead of the game.* [Course Instructor 20]

Program directors reported that the support was helpful. In this case they refer to the technology support as being helpful and accessible:

*At the time, I was like 'How did you do this?' Because they were very accessible. All the webinars and stuff that he did, it was timely. It was relevant. And yeah, there were hiccups because again, we were all trying to make that shift, but no, they were phenomenal.* [Program Chair 2]

*You know they tend to do a lot of like courses, workshops on engaging with students and having a good lesson plan (...) but maybe we don't use them enough* [Program Chair 4]

*Well, the IT Department provided training, it was helpful, and it helped faculty, who did not know how to use technology* [Program Chair 1]

Although, they also reported not needing it themselves:

*I didn't need it [Program Chair 1]*

Overall, unlike course instructors that depended heavily on support, a few of the course directors reported opting not to use the support and figuring things out independently.

*Sometimes for me, the best type of support is just leaving me alone. [Course Director 3]*

*I know that there was likely training I could have gotten. [Course Director 4]*

*I think we just sort of figure things out on our own. [Course Director 7]*

But many did engage in the school provided support and found it valuable:

*I've had training and technical support from the very beginning of going online. In fact, before I started teaching online, I remember having training [Course Director 8]*

*it's kind of dive in and run into issues and then find the person who can help you figure it out [Course Director 11]*

*that support was the only reason that that course not only went smoothly, but went really well, according to student feedback and they enjoyed it [Course Director 9]*

*So I did get that type of training. And, in addition to that before actually running she was able to do a mock session and then get feedback. [Course Director 5]*

*I think that we had an excellent transitioning into the online environment, we started off with piloting. I think it was a few courses. So, instructors were given training. So, even before we got into this full online thing, we did have training. All the faculty were trained, and we had 24 h support. I think we were very happy with our transitioning. We had a very efficient tech team [Course Director 6]*

### ***Theme 16. Support Gaps***

When the course instructors were probed for further insight into what opportunities for improvement in training exist, there were a few themes. Some people felt that there was no additional support needed:

*No opportunities for improvement. [Course Director 8]*

*I think we're in a really good place (...) we have what we need, and trainings available.*

*[Course Director 11]*

Others felt that advancement was still possible. As the institution and their skills were already in a good place, there was room for further development into the next steps, guided by the support teams:

*What's new? What's happening? the whole thing of AI. So are there ways that we can incorporate AI technology or tools into this online platform to make it more into your teaching to make it richer? So I think the support is in terms of not necessarily that rudimentary aspect, but what are sort of the new things. [Course Director 5]*

*a wonderful opportunity for us to take the next step in education, but I'm very hesitant to do that by myself. [Course Director 2]*

Others felt there was opportunity to improve the format:

*I think that you have to make it bite sized for people. Having long courses on faculty development, especially when faculty are already overloaded with work is not realistic. [Course Director 10]*

*some micro-courses on, like, you know, instructional design [Course Director 4]*

One person noted that while they were sufficiently supported, there was an opportunity for an increase in student-facing software, such as writing tools and data analysis tools.

### **Theme 17. Incentives**

Incentives are also considered a form of institutional support. In this section, responses related to incentives are discussed. Course directors and instructors were asked about the incentives provided and if they felt that they were fair or required. Program directors would be asked about their provision of incentives and their thoughts on it. One program director reported supporting intrinsic motivation to incentivize people:

*Intrinsically motivated people to be the best they can and so yes, I think so. (...) I'm passionate about it and I hope that passion creates some kind of inspiration for people.*

Another expressed similar sentiments, in that their faculty felt incentivized when they ‘*see the impact of our grads*’ [Program Chair 2]. She went on to say:

*Let me give you an example. Last term, one of the courses that was taught, was taught by the grads of the first cohort. And that is our goal. This needs to be sustainable. And that's what we want to see. [Program Chair 2].*

On the other hand, other program leaders felt that their faculty were required to do this as their program was set up to online given the student audience:

*You don't have a choice. [ Program Chair 1]*

*No, they have to do it.[Program Chair 4]*

They also felt like incentives were not something that was required in this context:

*I don't think it's a need. [ Program Chair 1]*

*I don't know how we would incentivize. I don't know if you can say, ‘you get extra bonus’ but I don't feel like this is on me. I don't know if I have that ability to do it. [Program Chair 4]*

Some course directors and course instructors agreed with the belief that intrinsic motivation was an incentive:

*I think that is an incentive because you feel satisfied as a professor that you're delivering your content and your message to the students. [Course Director 8]*

*I think it's definitely intrinsic for me [Course Instructor 14]*

*I think the incentives that are derived would be things like opportunities for personal growth and development. connectors, bridges between where you are and where you're hoping to go [Course Instructor 13]*

One person cited the continuous improvement in programming as something that supported intrinsic motivation:

*Right now, in my department, we are working to revitalize the curriculum and ensuring that we're trying to come at it from a practical learning experience. So, how can we move away from traditional lectures to choose skill-based learning. [Course Director 10]*

Another said that the increase in student numbers was a high incentive for them:

*We saw a dramatic increase in our students going online, we are up to 450 students now or plus, and that is because majority 95 or 99, almost 100% of our students are engaging us online. [Course Director 2]*

Others agreed that no incentive was required:

*No, apart from that, it's a part of what we're supposed to be doing. [Course Director 1]*

*The paycheck at the end of the month, I would say, is the ultimate incentive. [Course Director 9]*

Another person expressed that teaching online versus in-person was no different from selecting a type of technology, and educators should be prepared to do what is required regardless of preference:

*Again, I don't think so as an educator. So, I look at a Mac versus PC, they are tools and I feel like I should know both. Do I have a preference? For sure. But I need to be able to operate on both. [Course Director 11]*

While instructors and directors completely disagreed:

*So put your money where your mouth is, and actually incentivize it absolutely. [Course Director 7]*

*maybe incentivize for doing exceptional job online, [ Course Instructor 8]*

One course instructor mentioned that remote work would serve as an incentive, but it is not currently allowed:

*only if you are able to do it from home, but if you have to come to the office to do it, then it kind of makes you feel like 'well, what was the point'. [Course Instructor 2]*

### ***Summary of Facilitating Conditions***

The summary of the themes and subthemes for this research question is tabularly represented in Table 18 below. Finally, participants were asked about how the presence or absence of facilitating conditions impacted their willingness to accept online education. Two program directors expressed that it did not:

*I don't know that it did. I'm the type of person that when I made up my mind want to do something, I'm going to do it [Program Chair 3]*

*there wasn't any hesitance in teaching online that I remember. It was just what we needed to do. [ Program Chair 1]*

And many course instructors agreed that support was ‘not really’ a major consideration for them. They cited a combination of personal interest and student benefits:

*I don't think it has a huge, significant impact. [Course Instructor 20]*

*I didn't really find a significant difference in that sense. I think it was just more intuitive, and I think probably my previous background of being online gave me that experience [Course Instructor 7]*

*That's where the world is going. So the world is moving towards technology. And I need to survive. That's where I'm going. So that's what's keeping me here. [Course Instructor 11]*

*You have a job to do. You figure it out. [Course Instructor 1]*

*I think for me a huge part of it, and maybe the greater percentage of it gets to be intrinsic. [Course Instructor 13]*

*just thinking about them and the benefits that they can get. Probably the accessibility [Course Instructor 16]*

A fair share of course directors and instructors felt that it definitely played a role. In this case, a positive role, as the support was adequate.

*Yeah, we must have a lot of them to help. Like, if I didn't have them, I would have been sunk. [Course Director 1]*

*I would never teach online again. If I did not have that support, I would have been drowning [Course Director 9]*

*Yes, definitely it is. And this had to do even with technical support, hardware and infrastructure and so on at least from my experience. So definitely, because the thing is when things go wrong, you look bad, fumbling, (...) and it reflects on an instructor not necessarily in a positive light. I can see someone's frustration if they are unable to*

*effectively deliver on what they want to do. For me the support was good. I didn't necessarily have issues with it. And yes, it encourages definitely. [Course Director 5]*

*that support is so important because it could be so frustrating to try to figure things out on your own. [Course Instructor 5]*

*I always felt that the integrity of the education was retained as a matter of how you're complimenting and adding on to that using technology and that allowed for me to be able to trust and have that respect with the technology team because it was not about the taking over or influence they were changing education. It was about maintaining that with the environment that online provides. [Course Director 2]*

*I think it impacted me positively, because if I did not have that support, I don't know how comfortable I would have been, you know, teaching online using those tools. [ Course Director 6]*

Overall, technology and pedagogical support were viewed favourably by most participants, including those who did not frequently use the services. As a result, facilitating conditions were seen as positively impacting on their acceptance of technology.

**Table 18**

*Facilitating Conditions Themes and Sub-themes Tabularly Represented*

	<b>Themes</b>	<b>Sub-themes</b>
RQ4. How do perceived facilitating conditions influence the use of online learning by higher	Technology support	Flexible delivery of trainings Software and hardware support Ticketing system Peak times: Exam support

education leaders and teachers in the Caribbean?	Pedagogy support	Instructional design Course creation consulting Program specific support Peak times: Early semester support
	Informal Support	Colleague's knowledge Conflicts with IT support
	Faculty Satisfaction	Availability of on demand support Speed of responses
	Support gaps	Mini-courses Advanced support
	Incentives	Learning and developing teaching skills Supporting non-traditional students Intrinsic motivation No formal incentives offered (by leaders) or needed (by teachers)

### Evaluation of Findings

This section offers an evaluation of the findings discussed previously. The research questions that guide this study, as well as the rationale, were established within the first and second chapters. Here, answers to these questions are evaluated, with the overall goal of understanding leaders' perspectives towards online higher education within a SIDS. Venkatesh's UTAUT framework was used as the base for this study in conjunction with Tornatzky and Fleischer's TOE theory, which ultimately led to the following constructs being investigated: performance

expectancy, effort expectancy, social influence and facilitating conditions. These constructs have been deeply investigated in other contexts, with many researchers calling for further studies in non-US and Caribbean contexts. While UTAUT2 was published with a quantitative survey that can be used to investigate these constructs, in some cases, quantitative investigations are not well-suited. As a result, qualitative methodologies are required. Thus, in some instances in the literature, the UTAUT framework has been adapted for qualitative research, such as interviews and focus groups. Similarly, in this study, a review of the problem statement indicated that a qualitative lens would be most appropriate. Thus, qualitative tools were derived from the UTAUT survey and the existing body of knowledge. This evaluation offers a critical discussion linking the findings of this study to the relevant literature to analyse its alignment or departure from existing knowledge.

***RQ1. What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean?***

These findings directly align with the sparse literature. As a refresher, the definition of performance expectations is how well the technology can be used to accomplish the task. According to the findings of the current study, performance played a major role in the acceptance of online learning. This construct was revealed to be nuanced and complex comprising three themes: interaction and engagement, delivering and measuring learning outcomes and reach, and equity. Overall, the theme of low interaction as a result of low attendance arose as a challenge in online synchronous classrooms, which limited the experience for most faculty members as they appreciate being able to connect with their audience. Nuanced probing revealed even in online synchronous classes where students do attend, they specifically cited the ability to perceive whether or not the participants were engaged as a challenge. This was due to factors like not being able to see body language as students often turned off cameras. Faculty dissatisfaction with low

engagement aligns with the existing literature that consistently recognizes the importance of faculty to student interaction in the online environment (Bernard et al., 2009). Kuo and researchers (2014) found that student satisfaction is impacted by this interaction, and the current study has reinforced faculty dissatisfaction related to low interaction. A limited few participants noted that their skillset allowed them to still interact with students in these online synchronous sessions, and that in particular, introverted students who did not speak up in class would often engage in chat in online sessions, which led to the perception that they were more engaged.

Despite the challenge with interaction, an overwhelming majority of participants felt that they were able to successfully deliver and assess their learning objectives. This is a critical finding and it illustrates that the challenge of limited technology in SIDS is not a major limiter of performance. In terms of effectiveness of teaching, most participants reported that the medium was not an important factor. Some noted that online asynchronous education may be more effective as it is easier to track student learning when each student is required to complete an activity, such as a discussion forum. According to Saiyad and researchers (2020), good online teaching practices are essential for effective online learning. In an in-person traditional classroom, even in small group discussions or Q&A sessions, some students may not contribute, due to time constraints and students' interest. Likewise, existing studies have shown that introverted students have been found to participate more online (Astuti, 2021). And, it was ultimately established by participants in this current study that the online education system results in a better success rate for students.

Ultimately, the most significant performance enhancer for participants in this study was more equitable engagement with students. The literature supports this finding that online education can support equity in education (Peimani & Kamalipour, 2021). The current findings extended this idea with the detailed examples - for example, having more diverse and non-traditional students in

the classroom, as financial and travel considerations are less. Moreover, some perceive a reduction in power structures and a moving away from the 'sage on the stage'. Similarly, students who are chronically ill, and are limited in their ability to do physical movement, are able to engage in more equitable terms. A virtual gallery walk may accomplish the same goal as a physical one, with a more equitable experience. In online asynchronous activities, there is more participation, and some faculty feel like they are less likely to develop biases towards certain students.

Participants reported that performance was a consideration in their acceptance of technology. Generally, the majority of participants reported being able to effectively teach in this environment and feeling positively influenced as a result of performance. One person noted the key negative influence was the lack of attendance in online live sessions, such that if this policy was created to ensure attendance, they would feel differently.

Overall, performance expectancy is often cited as one of the most significant factors associated with the acceptance of technology. There are not many studies that qualitatively investigate faculty's perspectives towards performance expectations in the context of higher education, especially in the context of developing countries. As a result, the connections drawn to the literature are from quantitative studies that have used the framework in these contexts. These findings began with Venkatesh and researchers, (2003) and continued on in studies over the years. For example, prior to the pandemic, several scholars quantitatively looked into this phenomenon. Abu-Al-Aish and Love (2013) investigated the acceptance of e-learning at a Palestinian university wherein performance was found to be a major factor for faculty. Similarly, Ain and researchers (2016) and Moghavvemi and researchers (2017) investigated faculty perspectives in the context of Malaysian universities; they found that performance was also a significant factor. After the pandemic, similar studies were undertaken. To illustrate, Abdekhoda and researchers (2022)

investigated faculty at an Iranian university, and Yunus and researchers (2022) examined students at a Malaysian university; they found that in each case, performance still remained a crucial aspect for both groups. As a result, these findings adequately answer the research question and align with the existing literature. In summary, in the context of SIDS, performance plays a pivotal role in the acceptance of technology.

***RQ2. What is the role of perceived effort expectations by higher education leaders and teachers on online learning in the Caribbean?***

The construct of effort expectations relates to ease of use. Most of the findings from the current study propel our current understanding of the phenomenon. Participants reported several themes as it relates to the effort of teaching online: ease, learning curve, teaching changes, and administration and logistics. The consensus was that course instructors, directors and program leaders found it easy to teach online, although, it was acknowledged that it could be challenging to manage their time. Richard and Kuhne (2008) also note that feedback requirements are greater in the online classroom. Yet, flexibility and accessibility made teaching easier.

While it is currently easy for the participants, their initial learning curve was quite steep. As effort appears in the literature as a factor that is influential during the early stages of adoption (Venkatesh, 2003), participants were asked about the learning curve they experienced at the beginning. Most participants in the current study find that the initial learning curve was considered rough and steep. This included the participants who transitioned prior to the pandemic, during the emergency online learning in 2020 and afterwards. One key finding was that those who transitioned after the pandemic noted an easier transition as there were systems in place that supported their adjustment - for example, their established practices, software and support systems.

Support was considered another factor that significantly increased the ease associated with teaching. There were a range of supports identified from video conferencing technical support, overall information technology support and instructional design support. The instructional design support ranged from helping the faculty convert their courses to online to helping with building out the course structure within the LMS and creating the course. This support was flexible, limited to a few departments, and depended heavily on the experience level of the faculty. Program leaders, course directors and course instructors all reported that this support made the transition easier as there was always someone to consult, provide help and in some cases reduce the workload of the faculty. This is discussed in more detail under the facilitating conditions.

Unsurprisingly, most participants reported significant changes were required. These include having to create more material and finding ways to engage with students. Most notably, participants required changes to their teaching approaches. This converges with the existing knowledge on online classroom management. Teachers perceive that they should modify their classroom management strategies when transitioning to the online environment. (Farkhani et al., 2022). Ghateolbahra and Samimi (2021) put forward the idea that managing the online classroom is challenging, yet critically important, such that adequate training should be provided. As classroom management is effortful in this study of the developing contexts, it serves as an action item for future initiatives.

In terms of administration and logistics, some more efforts associated with teaching online were identified. For example, there was the decision-making and fatigue associated with where to put electronic files as well as planning much sooner in advance as the course material was required before the start of the term. Mupinga and Maughan (2008) argue that online learning requires a

disproportionate investment in time and effort. However, leaders report that their faculty were quite eager to teach, and very little leadership effort was required on their part.

Participants reported that effort was not a significant factor as it relates to their acceptance. In particular, program leaders express that they remained primarily driven by other factors. Similar sentiments were shared by course instructors and directors who felt that there were other factors that drove them, such as student need.

The findings of this study were similar to the existing literature. The construct of effort relates to the ease of using the system. Prior to the pandemic, authors like Ain and authors, (2016) and Abu-Al-Aish and Love (2013) found that faculty members did not report effort as a significant aspect in influencing their use of online education in developing contexts. This was also the case after the pandemic, when quantitative studies by Malanga and researchers, (2022) found effort to be insignificant in South Africa universities, and Abbad (2021) also found this to be the case for faculty at a Jordanian university. Even as it relates, continuing to teach online beyond COVID-19, Masmali and Alghamdi (2021) discovered that effort was not considered as a significant factor for teachers.

Importantly, there are some mixed results in the literature regarding this construct. For example, effort was seen as a positive influence on intention to use, but this occurred in studies that used students as the audience as opposed to teachers (Bellaaj et al., 2015; Kim et al., 2023). In Venkatesh's original study, they found that effort expectations played a role, but effort expectations were stronger when persons were in the 'early stages of experience with a new technology'. This specific note is highly relevant to this study. Each of the participants that were interviewed individually or in groups reported in their demographics that they had multiple years of experience teaching online, with the maximum duration reported as thirteen years of experience

teaching online and the minimum being at least one year. Thus, it is relatively unsurprising that participants were likely beyond their point of learning curve. Moreover, Lin (2019) found that effort expectations were significantly influenced by facilitating conditions. As discussed later in this paper, most participants cite an abundance of support provided by the institution. With these well-established, multiple routes of support, teachers may feel that less effort is required more broadly or that their efforts would be adequately supported. Therefore, it may be seen as inconsequential to these participants. In summary, the research question is adequately answered, and it shows that in this context, efforts are not a deterrent or barrier towards online education.

***RQ3. How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean?***

Social influences are a range of external factors that may sway a faculty member away from or towards the acceptance of online learning. In this study, the investigation into social influences revealed several key themes: influences on technology, colleagues, leadership, students and other environmental factors. Firstly, technology teams expressed that trends sometimes played a role in technology selection; faculty who participated in pilots and provided feedback shaped both the technologies selected, the best practices associated with use and the training provided. The inclusion of teachers into this process are likely to ensure that the service is aligned to their needs.

Interestingly, teachers are reportedly not influential to each other. For example, when asked about the role of colleagues, most participants expressed that they had very little influence. Thus, seemingly, the influence of other colleagues was indirectly taking place through interaction with the various support teams but not directly with each other. Their intrinsic interest in teaching online and supporting students outweighed any impact co-workers may have. Their experiences diverge

from the best practices noted in the literature where communities of practice are often seen by faculty as an opportunity to strengthen their competencies and capacity (Terosky & Heasley, 2015).

Leadership was seen as mattering for a number of reasons. It was noted that collaborative leadership was preferred and made changes easier, whereas leadership styles that were challenging to work with would make teaching online difficult. This was further supported when one participant noted that their program had several changes in leadership within a short time span, after transitioning to online education. This confirms what is known as in times of change, transformation or even crisis, leadership matters (Bartsch et al., 2021). Innovation such as the kind required for online education is heavily influenced by leadership styles (Dawish et al., 2020).

Other universities and accrediting bodies were not seen as influential to those in the study as they did not feel particularly able to speak to the overall climate of online education in the region nor about the accreditation components. A few people mentioned having a general understanding of the increase in online education and that the accreditation procedures supported it. This supports the idea that most of the innovation and acceptance of online education is not coming from external market pressures or competition with other universities.

Ultimately, students were seen as the most significant external factor influencing online education, across all groups of faculty. This occurs in many ways, for instance, students' technology literacy impacted the way that online education could be delivered. There was also the importance of reaching a wider range of students, and being able to teach students who may live further away or have other fulltime commitments. Some people cited that students are the customers in higher education and, as such, were their main motivator. Within the online synchronous context, it was reported that students invariably affect the teaching based on their

engagement in class. The findings of this study align with student-centred learning approaches that prioritize active learning, metacognition and collaboration (Brenner et al., 2020).

According to the literature, social influences typically play a role in online education (Tseng et al., 2022). These influences may come from other colleagues, leadership, other universities or people that the participants feel are influential. In a study by Bellaaj and researchers (2015), social influences were as impactful for students in e-learning. Within the study carried out for this thesis, many participants identified this demand from students as the most significant of the social influences and, in some cases, more significant than factors, such as performance, effort and the facilitating conditions. Interestingly, this idea is supported in the literature as Zabri and researchers (2023) states that social influence is one of the most significant factors in adopting new technologies.

Importantly, there is some disagreement in the literature on how much importance can be assigned to the factor of social influence. To illustrate, Gunasinghe and researchers (2019) investigated this phenomenon and found that it was reportedly not a critical factor in regard to e-learning in the context of academia. That article contrasts the findings of this current study to some extent. For example, social influence can come from a range of places. In this study, most participants stated that their colleagues had little to no influence on their teaching practice or decisions, outside of a few decisions that are made at the program level. Students, in particular, have been seen as influential. Thus, in a context where students are not as heavily prioritized, the overall social influences may be reduced.

It is imperative to note that a significant chunk of the literature has found social influence to be an impacting factor. For example, Cao and researchers (2021) found that during covid, students were heavily impacted by social factors in their acceptance of online tutoring. For

students, lecturers can play an influential role in their experience and acceptance (Lin & Yu, 2023). It is therefore unsurprising that the opposite holds true; students were seen as highly influential on faculty in this study. Similarly, when looking at teachers in a study of technology acceptance in 2017, Radovan and Kristl found that social influence was a crucial factor. Given how important online education can be in the context of this study, it is likely that the faculty feel more motivated by the students. Overall, this answers this research question and finds that in this context, social influence particularly, students heavily influence the online educator's acceptance and, in some cases, the way that online teaching itself is undertaken.

***RQ4. How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean?***

Facilitating conditions refer to technological and organisational factors that support or hinder the acceptance of online education. This investigation revealed themes, such as technology support, pedagogy support, informal support, satisfaction, gaps and incentives. Specifically, this institution has a wide range of readily accessible technological support. One area of disconnect with the support includes how it is accessed. The support personnel report a strong preference for faculty using the established systems, such as submitting a ticket request. That way, support can be streamlined and tackled by the relevant personnel with the appropriate level of urgency. However, as told by the faculty, they appreciate being able to reach the support via phone or have them dropped into the location where issues arise. This level of accessibility is consistently reported as a feature of the support that allows faculty to feel confident in their work, even when they are not actively using the support

Pedagogical support was also available to faculty. This comes in the form of assistance with course development, flipped classroom creation and project management. Instructional

support is seen as critical for effective online teaching (Castro & Tumibay, 2021). Faculty also appreciated informally requesting and receiving support from their more technological savvy co-workers. This presented a problem as peer recommendations did not always follow the institutionally established best practices. Best practices support using technologies in ways that are most effective and safe for students and faculty (Yurtseven et al., 2020).

Participants reported that the support was adequate, and there were not any areas identified for improvement. Beyond that, there was an opportunity to provide some advanced standing material. For example, the faculty who feel that they have mastered the basics of online teaching and learning, expressed an increased appetite for ways to use advanced tools or be made aware of newer trends occurring in the realm of online higher education. Another idea of disconnect is in how the institution determines if the support was successful. For example, some support members perceive this increase in appetite to be a key sign that the support is working. These are specifically the instructional designers, who perceive increased requests and requests for more advanced support indicate a faculty's growing interest. Those who are likely to provide troubleshooting and support when a system is down or a procedure is not followed, cited the opposite, in that, their signs that they were adequate included a reduction in the support requests.

Incentives may be defined as any form of reward monetary or otherwise that encourages faculty to teach online. Incentives were another point of discussion by way of facilitating conditions. Across the board, no financial incentives were offered to persons who taught online. And, in fact, most participants did not see that this was necessary but a part of the job. Further probing revealed that even in the absence of financial incentives, participants felt incentivized in a number of those ways. This was also in line with the responses from the program directors. Program directors stated that they were unable to give financial incentives or bonuses for teaching

online; they tried to motivate their team members by providing inspiration, flexibility and forward thinking. HEIs have been facing significant financial challenges so the lack of available stipends is unsurprising. Their faculty cited both intrinsic and extrinsic incentives. Intrinsically, many people were drawn to the personal growth and development brought on. Moreover, the impact they had on students served as a significant incentive as well as factors like continuous improvement in the development of the curriculum. Ultimately, most people agreed that there was no need for incentivizing online teaching as it was no different from in-person education. One person who had work experience at a range of different institutions that offered incentives for teaching online believed that this institution should also provide these benefits. These need not be financial but through flexible options for working, such as remote work.

Overall, facilitating conditions were seen as very impactful for some while less meaningful for others. At this point, a fair share of people again cited the intrinsic motivation and efficacy in that regardless of the support, they would figure out the job and get it done. These primarily millennials who may feel more comfortable using the technology, and a few Gen Xers who have taught online prior to this occasion cited this experience. On the other hand, other participants felt strongly that they required the support to teach or else they would not be able to do so, as it can be frustrating and embarrassing. These participants went on to state that they do not have the skills or time required to learn how to recreate courses that are as instructionally sound without the help of the support or the technical knowledge to navigate the various platforms. As a result for this group, course directors, program leaders and instructors alike, support was essential and very influential.

A review of the literature reveals that facilitating conditions are often an important factor. These are the factors that contribute to the successful implementation, including availability of specialized training and instructions. To begin, Batucan and researchers (2022) leveraged the

UTAUT model in the context of a developing economy to investigate online education acceptance. They found that facilitating conditions in this context were particularly valuable for students. Many studies support this idea; in work done with academics, the organisational and technological infrastructure matters.

Research carried out to investigate this phenomenon with faculty, facilitating conditions has also been shown to be critical. To illustrate, Gunasinghe (2019) in a paper published prior to the pandemic also argued about the value of facilitating conditions for academics. Masmali and Alghamdi (2021) did a study to investigate teachers continuing online education. In this study, they found that facilitating conditions were significant for this group. In that same vein, in a study done in 2020, which sought to investigate and develop a model for technology adoption in pandemic, Sangeeta and Tandon found that facilitating conditions were an essential factor for teachers. In this study, it is therefore unsurprising that most people, even those who did not actively use the supports, found it valuable.

In conclusion, the findings of this study support answering all of the research questions adequately. Performance expectations were seen as highly influential in this study and in the overall literature. Effort has returned mixed results in the literature and, in this case, while challenges were acknowledged at the beginning of the transition, at this point, most participants were beyond the initial learning curve. Likely as a result of this, they found effort to be insignificant. Some initial work with this framework reported that newness of the technology mediates the impact of effort. Social influences also have a fair share of mixed results in the literature, with many studies finding it overall important. In this case, social influence, in particular, students were seen as one of the most important factors for the teachers. Finally, facilitating conditions were also investigated; in the literature during and before the pandemic, it

was seen as a valuable notion by teachers. Similarly, in this study, participants very much valued the facilitating conditions. Overall, these strong findings lay the foundation for addressing the research problem.

### **Summary**

In summary, this chapter has offered the data findings of this study and evaluated such findings. To recap, the problem of underuse of online education is a significant issue in HE. In the context of SIDS, online education can provide a range of practical benefits and contribute to the resolve of many social ills. The problem is of such critical importance and has been researched in the developed world but has been insufficiently investigated in these SIDS. While the practical implications are significant, many scholars have highlighted the need for further research to be done to close the gap in the research and to find frameworks that work for the developing world. As a result, this study seeks to investigate the problem by finding out the perspectives of HE leaders in a university that has offered online education at the graduate level for some time now. This site has rich and detailed data that can shed light into the phenomena and contribute deeply to our understanding. As a result, in this study, using a strong theoretical and conceptual framework, the following constructs are investigated: performance expectancy, effort expectancy, social influences and facilitating conditions.

To complete the purpose of the study, a qualitative case study was required. A rich highly informative site was selected, and using the framework, tools were derived. Overall, in the development of these tools, validity, reliability and trustworthiness were heavily prioritized. For example, in deriving these tools, a proven valid and reliable tool was used as the foundation. In addition to leveraging this tool, a thorough review of the literature was undertaken. This demonstrated that many scholars have used this tool to create qualitative instruments in the past.

Beyond merely the development of these tools, significant care was taken in seeking appropriate support and review, as well as approval from multiple ethics boards. These steps ensured that the study itself was trustworthy. In issuing these instruments, participants' safety and autonomy was protected through the consent forms, as well as a briefing prior to participating in any interviews and focus groups on how to withdraw their consent or skip questions they were not interested in. Once this data set was collected, participant privacy was protected by requesting member checking from each participant. Then pseudonymization of the data set was undertaken to ensure each identity was protected. This information was then stored within the data analysis system.

The data set was then analysed using Dedoose to find meaning. This software facilitated uploading documents, which were primarily transcripts and included demographic documents. That way, a participant's transcript could be linked with the demographic data. To facilitate this, focus group transcripts were required to be duplicated for each participant to be linked individually. Using the research questions as a base, each transcript was individually coded. Then, across the range of participants, themes were developed and organized. For context, course instructors, course directors, technology leaders and program chairs were all participants. Their demographic information was also analysed to see how trends may have occurred based on experience, age range, gender and other factors. As qualitative analysis relies heavily on the skill of the researcher, steps were taken to preserve the integrity of the analysis. This includes bracketing and journaling personal biases and thoughts that may impact data analysis. Moreover, given the volume of data in this qualitative analysis, steps were taken to phase the analysis, take adequate breaks and give ample time and attention to the data. The findings were able to reveal a range of unique ideas that contributed to the overall investigation.

There were major findings for the first research question as it relates to performance expectancy. It was discovered that there are perceived challenges with the performance of online education. Most notably, participants report that engaging with students in synchronous online classes is both challenging and demotivating. In some cases, students are not required to attend online classes live, and they instead watch the recording. Therefore, teachers may plan engaging activities or probing questions and ultimately have no one present in the live classroom online. This means, none of their activities can be used, and that they get no feedback from participants. In that same vein, sometimes students attend class, but their mics and cameras remain off. As a result, faculty have very little feedback on how well the class is going; such feedback is usually gathered from looking at facial expressions and questions asked in a traditional classroom. Nonetheless, in terms of effectively delivering and assessing their learning objectives, faculty feel confident. Moreover, they report that the online asynchronous environment promotes highly equitable engagement. That is, persons who cannot or do not typically engage in class, contribute to the online LMS. Moreover, to an extent, it is easier to track engagement via discussion forums or through the creation of an assignment than in class. For example, quiet students or disengaged ones may be physically in class but avoid contributing thoughts or ideas. This means that teachers can get an idea of students' understanding of material or frequently online than in-person. As a result, they find performance to be a highly influential factor.

Further findings related to effort were also revealed. In this context, most faculty reported that teaching online was very easy. They appreciated being authentic in recording videos, such as through humour and making natural speech mistakes, which reduced the stress of video recordings having to be perfect. Flexibility and accessibility were also associated with making the process easier. Moreover, the range of support available was cited as reducing the overall effort since there

was sufficient guidance. Probing revealed that the learning curve was a significant challenge. Almost all participants reported a very steep learning curve when beginning teaching online for the first time. Only faculty with significant prior experience reported that it was not as challenging for them, as they had adequate strategies for making the transition. There was also a fair share of effort noted in terms of making changes required in redesigning courses, managing classrooms, and administration and logistics. Overall, effort was not seen as a very essential in the overall influence of technology.

Social influences also presented unique findings for this study. Firstly, the technology selected as well as its training and other kinds of support were heavily influenced by the teachers within the organisation. As a result, technology pilots are usually completed prior to the selection of a technology, and best practices are also determined by faculty. From the faculty perspective, co-workers do not strongly influence each other. In cases where participants are mandated to teach online, their leadership is acknowledged as having some influence. Accreditations and other universities were not seen as very influential in decision-making. Overall, students were acknowledged as the most significant influence for all participants. Students influence acceptance, and beyond that, their technology literacy also impacted the inclusion of various technologies in the online classroom. Similarly, there was a strong influence as it relates to equity, increasing access to education and making education easier for non-traditional students. As a result, it can be seen that various aspects of social influences were more significant than others.

The final findings related to facilitating conditions and their importance. Leaders were asked to explain the context of support provided. Department leaders revealed that incentives by way of money were not provided as they did not often have budgets to do so. However, most leaders reported that they offered incentives by way of supporting faculty and modelling leadership

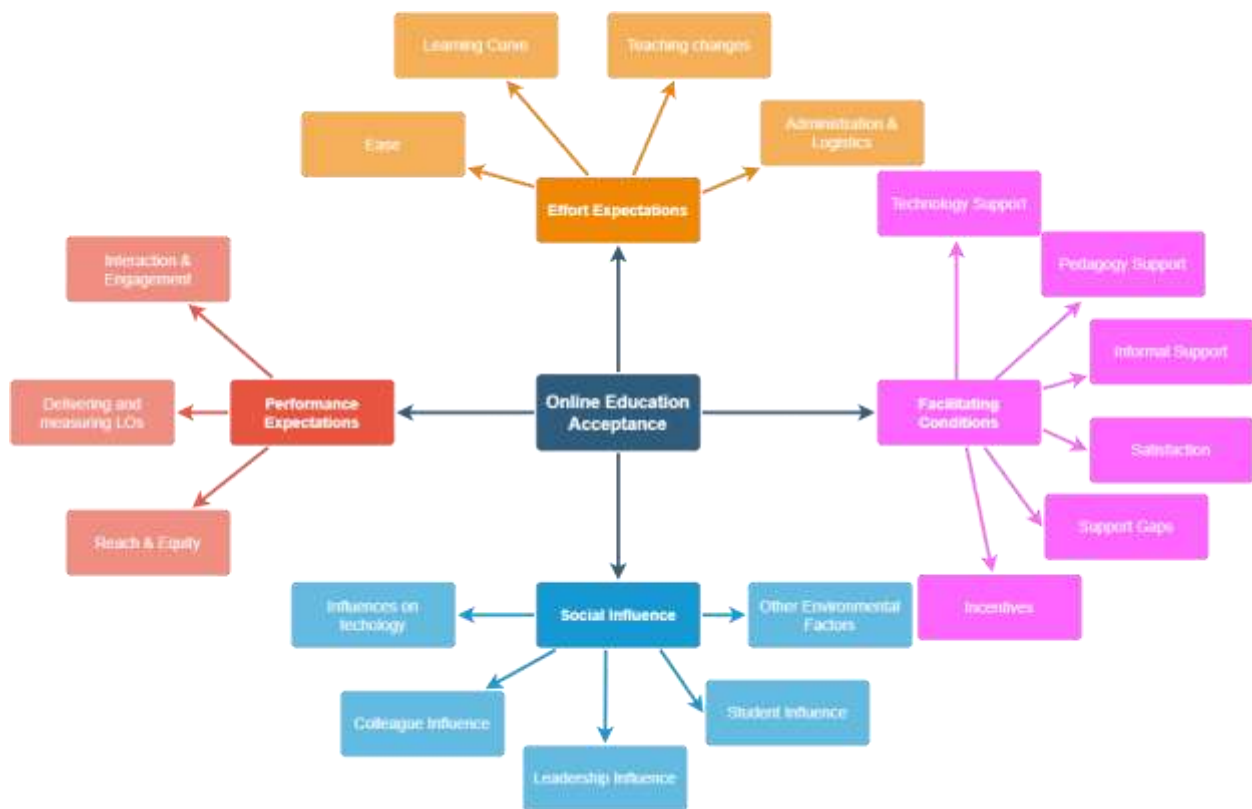
behaviours. Ultimately, most faculty agreed that this was not necessary to receive extra financial incentives. Teachers felt that they were heavily incentivized by seeing the impact their practice had on students. As it relates to the other kinds of support, there were a range of options. Firstly, there are purely technological supports, such as troubleshooting, then there are instructional design related supports. Uniformly, participants expressed significant appreciation and value in the support available. Even participants who did not feel like they needed the support reported that simply being aware that support was available improved their confidence. Ultimately, this was considered highly influential for most participants, except those who reported high technology skills. There were no gaps identified in the support, but some faculty expressed interest in gaining advanced information to make their online courses better.

An evaluation of the findings demonstrated key insights into the problem. Firstly, in line with most literature, performance is a key influencer in the acceptance of technology. This study revealed that there are significant variances in the construct. Some aspects may encourage teaching online while others are off putting. Effort was not found to be highly impactful. This may be as a result of the low effort required by most participants. Initially, there was a steep learning curve, but participants were all past this period and felt comfortable. Similarly, Venkatesh acknowledges that the effects of effort occur most strongly when the technology is newer to the user. Thus, these findings are expected. Thirdly, social influences played a role in online education both in the literature and in the study. Similar to performance expectancy, this factor has a range of complex sub-factors with varying degrees of influence. For example, co-workers were seen as not influential at all, whereas students were seen by most as very important. Finally, facilitating conditions were used by some but not all. Those who did not use the service in addition to those who did report that these were valuable. In the literature, it is often seen as important. One area of

contention in the supports was that some supports were seen as effective when they were used less, whereas others were considered successful when they increased faculty appetite for more. This is largely due to the differences in support geared towards troubleshooting issues, versus those involved in innovating the delivery of content. Overall, these findings lay the foundation for heavily contributing to the literature, and problems under investigation and are represented in the thematic web below.

**Figure 17**

*Thematic Network*



## **CHAPTER 5: IMPLICATIONS RECOMMENDATIONS, AND CONCLUSIONS**

### **Introduction**

HEIs are quickly losing their monopoly on education. With significant changes occurring across the world as it relates to technology, most sectors have innovated and adapted the delivery of their services in what has been titled Industry 4.0, the FIR. Education, on the other hand, has not been as swift with its changes, hesitating to fully embrace the transformative power of technology. This has resulted in a decline in student numbers overall, as many begin to question the value of a university degree, especially when considering the availability of information and learning in many other formats. This comes at a time when government funding to these institutions has been reduced and the demographic of students interested in pursuing degrees are likely to have other major commitments, such as jobs and families. As a result, online education is seen as a viable direction for HEIs to reduce some of their challenges. In particular, in the context of the SIDS of the Caribbean, HEIs located there may be positioned to further reap the benefits of online education. This is due to a vast number of unserved, non-traditional potential students and many challenges with physical access to institutions given the geographical separation of the islands. Ultimately, online education here may significantly reduce many economic limitations and social ills that have arisen as a result of having one of the lowest HE enrolment rates in the hemisphere. HEI leaders and teachers in this context may be critical partners in solving the issues of acceptance of technology, as leaders provide strategic vision and influence the culture of the organisation. While research has been done more broadly to investigate the acceptance of online education at these institutions, many scholars believe that developing countries have been insufficiently investigated and the current frameworks for our understanding of the phenomena are not applicable to the developing contexts (Tarhini et al., 2017; Valencia-Arias et al., 2019;

Vululleh, 2018). Overall, this chapter concludes the findings of the study set out to investigate this problem; the conclusions presented are scalable to other HEIs in SIDS.

Given the nature of the problem, a qualitative approach is highly recommended (Abraham, 2014; Carbajal, 2020; Graham, 2018; Killian, 2020). As a result, the purpose of this qualitative case study is to explore the perspectives of online education leaders toward online teaching and learning at a graduate school in the Caribbean. A case study is chosen for its ability to capture the complexities of the phenomena from a rich site that began their online education many years before the pandemic. The research focuses on how leaders and teachers who are actively engaged in online education perceive the effort, performance, ease and facilitating conditions related to online teaching and learning. The study is underpinned by two theoretical frameworks which form the basis of the research questions. Venkatesh's UTAUT, originally developed in 2003 and subsequently refined (Venkatesh, 2022), is the primary framework for this study. It is expanded by the TOE framework, which is used to relate to leadership and macro-level organisational areas (Tornatzky & Fleischer, 1990).

An examination of the research problem and objectives reveals the importance of adopting a qualitative methodology. With the well-established gap in the literature, a qualitative approach provides an opportunity to holistically view the problem (Abraham, 2014; Carbajal, 2020; Graham, 2018; Killian, 2020). In fact, the acceptance of technology is largely related to individual and human behaviour; this is perhaps why many scholars argue that it should be explored qualitatively (Bertram, 2017; Fisher, 2020), especially within this context (Boyer, 2017; Greaves, 2021). The case study format, a popular approach used in education and leadership research (Harrison et al., 2017), facilitates a comprehensive and tangible inquiry in a specific subject matter, allowing for the complexity and peculiarities of the situation, without oversimplification (Pearson et al., 2015).

The population of the study are a well-chosen group of participants that are able to provide rich data on their experience. Firstly, there are department leaders, which are important members of the university leadership. They are supported by course directors who are SMEs who assume the responsibility of managing and supervising the curriculum of a course or set of courses. Technology leaders are those who lead departments or units related to technology support, education computing teams, instructional design units and other similar teams associated with supporting technology-enhanced learning. In addition to these leaders, part-time and fulltime course instructors implement daily teaching responsibilities, such as delivering lectures, grading assignments and providing students with feedback.

In this study, there is minimal risk to participants. Importantly, even studies with minimal risks must comply with ethical requirements, enforce confidentiality and obtain informed consent (Bazzano et al., 2021). For example, the design of the study aims to protect confidentiality and anonymity. Beyond that, external ethics board approvals were sought. Firstly, approval was gained from UREC in Stage 1 and Stage 3 of the dissertation process. Subsequently, a local IRB provided useful feedback and requested minor corrections prior to approval of the study. One final step was required from the university's survey committee. Their approval was the final stage of ethical approvals required. The gatekeeper served as the chair of this committee; thus, all approvals were granted at this stage.

As with any research initiative, there were a few limitations. Firstly, faculty time constraints were challenging to navigate during the data collection phase. Given the range of feedback received from the various ethics boards, the actual data collection process did not start until the last few weeks of the term. One program, which ends in mid-November, was in its final two weeks of the semester. This means that faculty were extremely busy with getting their exams

and grading done. As a result, some people who committed to interviews were unable to do them, and some people would withdraw from the focus group sessions a few minutes before they started due to the unexpected meetings. Given the constraints, the researcher prioritized the groups of participants based on urgency and was able to get an adequate response rate.

Prior to the data collection, the study was limited by the lack of prior research on the topic. The paucity of existing literature in the SIDS of the Caribbean limits the kind of studies that can be done. For example, as the first study of its kind in this context, the goal was to lay the preliminary foundation, upon which other studies can be built. However, the current state of the literature did not allow for any advanced testing of theories or existing context-specific frameworks. While the little available literature was leveraged in support of the design of this study, the results form the basis for major work to be done in the future.

Finally, there were a few limitations brought about by the fact that this study required faculty's self-reported data. As participants recall matters like their transition to teaching online, it is possible that they were limited by their memories - for example, not remembering experiences, training or support that was available during the transition or having an exaggerated recollection of the challenges faced. This was mitigated by using a range of participants, some who have transitioned sooner than others and incorporating technology support leaders who can provide different perspectives. Overall, this challenge was not very impactful as participants would often state if they could not recall something, and self-reported information was the best approach for the nature of this study and the research questions.

In this chapter, the implications, recommendations and conclusions are outlined. There were several implications for this study, which are described in more detail in subsequent sections. For each of the research questions, the findings revealed significant implications that often

converged with and extended the literature. Most notable, across a few of the constructs investigated, it was determined that they are quite multifaceted and complex. This leads to several implications for organisations that are seeking to improve the acceptance of online education. Beyond these, six key recommendations for application arose from the study. These include creating professional development structures for faculty, ensuring that there are appropriate and relevant facilitating conditions, creating social support structures, engaging with students, selecting technologies that fit the task and continuously refining these as the students and faculty needs change. Finally, given the significance of the study in an area that has historically been under-researched, the findings open the door for further work to be done. In particular, there are recommendations to research these constructs with different groups, such as students under different conditions and in similar and dissimilar contexts.

### **Implications**

In order to fully assess the implications of the findings, it is critical to view them from the lenses of the research problem and purpose. The overall problem involves underuse of online education, despite its significant advantages, especially in the context of SIDS where access to education is limited. As a result, the purpose of the study was to investigate HE leaders and teachers' perspectives towards online education at a case site that has successfully implemented graduate level education. The constructs investigated from this group were performance, effort, social influences and facilitating conditions. These were chosen based on the framework and literature review. In this section, the implications for each question are discussed in this context.

***RQ1: What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean?***

To gain an adequate understanding of the problem, it was imperative that the performance expectancy was evaluated. This study contributes several unique findings that deepen our understanding of the construct of performance expectations in the acceptance of online education in higher education. Firstly, in the findings, it was determined that performance is a uniquely complex factor in higher education. Unlike some contexts where task performance is more clear-cut, the task of teaching is both an elaborate art and a science. For example, participants found that the performance of HE was limited, in that they were restricted in terms of how well they could interact with their students, specifically in online synchronous classes. It was also identified as a demotivator. This was particularly the case for teachers who appreciate engaging with their classroom and the in-person energy of their students. Such a challenge implies that there are opportunities to revise and refine their strategies for student-centred learning and collaboration. Nonetheless, the overall focus of teaching, the ability to successfully deliver and assess learning outcomes remained intact. That is, participants were still able to effectively teach and, as a result, this was an overall stronger positive factor than the negative influence brought on by engagement. A strong implication of the current study is that teachers require a setting where they are able to effectively teach their courses within the online environment to promote acceptance. Similarly, this study has revealed that while interaction is a noteworthy challenge, there may be some aspects of performance that outweigh others. The discovery of the multifaceted nature of the construct in this context furthers our understanding of acceptance behaviours and opens the door for future studies.

The implications validate and extend the existing literature. Based on the UTAUT and TOE framework, guiding this study, performance plays a significant role in the acceptance of technology. While this current study also found that participants highly valued and considered the

performance of online education, it also uniquely sheds light into the sophisticated nature of the construct. The specific nuances around low engagement and effective teaching gives insight into the complexity of performance in the context of higher education. The convergence between this finding and the literature reveals that this construct is likely to be highly relevant in other developing contexts. This matters as many scholars have recognized that frameworks created for the developed world are not directly applicable to developing countries, which warrants further research (Bacow et al., 2012; Brockman, 2018; Graham, 2018; Kayali & Alaaraj, 2020; Underwood, 2022; Williams et al., 2021). Therefore, the contribution to the literature is putting forward performance as a construct for this particular context with the caveat that it requires further refining to sieve out the most relevant aspects. Given the paucity in the literature as it relates to faculty perspectives in this context, this finding plays a pivotal role in bridging the existing gap. Finally, frameworks developed for this context may benefit from separating various performance factors.

This finding has significance at all levels of practice and theory. The qualitative nature of this study revealed that performance is a multifaceted and nuanced phenomenon in higher education. While in many contexts it relies on the function of the technology completing the task, in this context, there are other considerations. This study revealed that students play an indispensable role in HE in the consideration of performance. Therefore, how well they interact and engage in this format is seen as a factor influencing how well the teaching can be completed. Ultimately, further studies may investigate the additional factors that faculty consider as impacting how well they can teach in the online environment.

There are profound implications arising out of this study for teachers and institutions alike. At the highest-level, performance as it relates to teaching is multifaceted in nature and may vary

based on context; there are some positive and negative factors associated with the overall construct. As a result, the ability to effectively teach must be considered as crucial; with the caveat that other factors such as engagement must also be kept in mind for the purpose of keeping faculty engaged and motivated. Finally, balance is another important implication, given that some aspects of performance hold more weight than others in the acceptance. Thus, understanding the factors and their weights can guide efforts towards online education acceptance. With the findings, it is clear that there are many venues in which the institutions can intervene to prevent negative impacts from occurring. For example, through a combination of training, policy approaches and expectation setting, engagement and interaction can be better supported. Moreover, institutions should align their efforts, systems and training to support faculty in effective teaching, given the significance. This may be achieved through resources on instructional design, assessment strategies and curriculum development to empower faculty to design effective learning experiences which was found to be effective by Singleton et al., (2023). The specific approaches that institutions can use to improve performance expectancy of their online systems are discussed in a subsequent section.

***RQ2. What is the role of perceived effort expectations by higher education leaders and teachers on online learning in the Caribbean?***

The effort construct was investigated as a factor that was associated with the acceptance of technology in these contexts. As a result, it served to provide insight into how the problem of underuse could be better understood and aligned with the purpose of gaining these perspectives from leaders and teachers. These findings yielded some interesting results that can strongly contribute to solving the overall problem. Within the study, it was discovered that most participants did not find effort to be a significant factor in their acceptance of technology overall. That is, most

stated that regardless of the effort required, they would not be swayed towards accepting or rejecting technology.

This converged with the existing literature on Malanga and researchers (2022) and Abbad (2021). Further probing revealed that most people found teaching online to be very easy, with some noting that it is easier than teaching in traditional methods. Nonetheless, it is important to note that this was not always the case of these participants. For context, many of these participants had experience with teaching online for at least one year prior to the study and for some, it had been decades. Choi and Park's (2006) findings converge on the idea of difficulties arising for novice teachers, as cited by Kellen and Kumar (2021). It is likely that comfort with this mode was developed over time, as participants almost unanimously expressed challenges when discussing their initial transition to online teaching and its steep learning curve. Moreover, participants cited systems in place, which aided their transition and being aware of a range of support services available in the event that they require support. There is further convergence with the literature here as several scholars acknowledge that facilitating conditions mediate effort expectations. This demonstrates that participants who have gotten over the beginning phase of teaching online and are adequately supported are less likely to factor in effort.

Overall, the study offers agreement and a better understanding of the literature and the framework. It was revealed that effort was not a significant construct in the acceptance of technology in this study, despite its prominent place in the UTAUT framework. In Venkatesh's original study in 2003, effort was put forward as a significant factor impacting the acceptance of technology, and it has remained as one of the core elements of the UTAUT framework to date. However, in 2003, Venkatesh noted that effort was mediated by other factors. The specific nuance of when the participants made the transition and the familiarity of the technology must be

considered. Given that these participants reported using the technology for some time, it is likely that such a factor has impacted their overall perception of effort and its weight in the decision to accept technology. Beyond this initial study by Venkatesh, other scholars have found that the construct of effort becomes insignificant after extensive use of the technology (Chauhan & Jaiswal, 2016; Marikyan & Papagiannidis, 2023). Lin (2019) also stated that facilitating conditions, such as the abundance of support services provided by this institution, may limit the influence of effort. Further delving into the literature, studies related to effort have had mixed results, which gain clarity when contexts are considered. For example, Masmali and Alghamdi (2021) found effort to be important for teachers in K-12 continuing online education, while scholars such as Malanga and researchers (2022), Abbad (2021) and Abu-Al-Aish and Love (2013) found effort to be insignificant for HE faculty in developing contexts. The conclusion may be drawn that in developing contexts, such as these, efforts has less of an impact than other contexts.

There is significance in these findings as they can contribute to the development of a framework for this context. While more research is required, studies within the last decade investigating HE faculty have found effort to be insignificant. If this consistently holds true, a framework developed for this context may not include this construct going forward.

Their practical implications are also important. For example, institutions or organisations looking to increase acceptance of online education, may look towards the initial learning curve as a mechanism of mediating effort. This may be done through leveraging familiar technology, processes and providing adequate facilitating conditions. Faculty may benefit from interventions and training prior to transitioning to reduce the steep curve. Ultimately, effort should be considered in the beginning of the transition efforts with practical implications, and theoretically may play a less significant role in developing contexts.

Moreover, faculty tend to find the changes associated with classroom management to be effortful. As a result, institutions may prioritize further support, time and training to adequately prepare faculty for successfully navigating the online classroom as indicated in a study by Singleton et al., (2023). By that same token, there were efforts associated with administration and logistics. Academic institutions should create/eliminate procedures and policies to support a reduction in effort.

***RQ3. How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean?***

The findings related to social influences in this study shed light into our understanding of why some schools underuse the technology associated with online education. The results of the current study demonstrate that social influences are quite diverse and are not equally weighted, in the context of higher education in particular, from the lenses of its leaders and teachers. To illustrate, when participants discussed social influence, they did so in reference to accrediting bodies, other universities, colleagues, leadership and students. Some aspects of social influence reportedly did not matter at all, for example, colleagues. This finding departed from the existing literature in which faculty members tend to appreciate communities of practice (Terosky & Heasley, 2015). Even more unexpectedly in this study was that in some units, participants were not aware if their colleagues taught online or not. On the other hand, students were seen as a very important social influence, which drove acceptance for online education as well as impacted how the teaching of the class would occur. That is, participants felt moved by the students' desire and need to be online. Moreover, they considered students' technology literacy as a critical factor in designing their courses. Much of the literature describes how students' acceptance is impacted by their teachers (Cao et al., 2021). However, the implication of a bidirectional relation also aligns

with the nature of student-focused teaching. According to Brenner and researchers (2020), this kind of teaching relies on the student being central in their own success. Persons who engage in this type of teaching have more student-based leading philosophies. And, according to Zhang et al., (2023) a student-based approach has proven to be successful in transitioning to online learning. The discovery of the intricacy of social influence in this context furthers our understanding of acceptance behaviours.

These results align with the framework and some of the literature. As a construct of the framework, social influences were seen as important in the original study. It adds further context and clarity to the framework, with the idea that in HE some social factors are very unimportant, whereas others are seen as very significant. The implications for newer frameworks built for these settings may involve recognizing the heterogeneity of the construct and providing different categories of influences. This may be particularly relevant when looking at the disparity between different aspects of influences and the perspectives surrounding them. The literature has mixed reviews based on the influence of social factors. On one hand, Gunasinghe and researchers (2019) found that e-learning acceptance in particular was not influenced by social influences. They noted the absence of social influence factors tends to occur more in conditions where participants are voluntarily teaching online. Overall. These findings from the current study diverged from Gunasinghe (2019). The faculty who was required to teach online as their programs mandated it, also cited the influence of their leaders towards their acceptance, most of whom expressed preference for collaborative and change-friendly leaders. This converges while the existing body of literature heavily communicates the importance of leadership in time of change. The current study also converges with studies such as those done by Tseng and researchers (2022), Zabri and researchers, (2023) and Bellaaj and researchers (2015), which demonstrated the value of social

influence in technology acceptance. Such nuanced discoveries of this study may be what leads to mixed findings in the literature.

The theoretical implication of this finding is that the construct of social influence has its place in models built for the developing context. It appears imperative that future instruments and studies separate students from other aspects of social influences to see how significant it is in relation to other social factors. By most participants in the study, students were seen as the most important and influential factor in their overall acceptance.

As a result, there are major implications for organisations and schools looking to increase the acceptance of technology. Overall, these HEIs should take time to establish the need or interest of students and establish this for their faculty members. In the current study, participants enjoy meeting the needs of students for whom it would be impractical to attend in-person education, as this contributes to equity and meaningful reach of students. On the other hand, without the appeal of student demand, they are likely to become less interested, especially if the decision is perceived as motivating without student considerations. Given the general shift in demographics, understanding and communicating this need is likely a broadly applicable approach. In particular, creating or changing programs to specifically accommodate students who are non-traditional may give faculty a greater sense of meaning in their work, as was the case in this study. Institutions should not assume that faculty are aware of the benefits revealed to equity and research, and this should clearly articulate these values to their teachers.

***RQ4. How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean?***

The key findings in the current study contributes to significantly improving our understanding of the problem of the underutilization of online education. This study revealed that

faculty is significantly influenced by facilitating conditions and found them very valuable. Unique to this study was the discovery that facilitating conditions are multifaceted. In particular, financial or other forms of incentives mattered very little to faculty, with many feeling that these incentives are not required to teach online. This had little to no influence as it relates to teaching online. On the other hand, support mattered extensively. Support related to online education, including pedagogical, technological and instructional, were rated by most faculty as a critical factor in their ability and confidence to teach online. Not all participants used the support, but awareness that support was there if needed was still found to be highly impactful. While all participants reported the support services highly, the influence of support ranged. Some participants felt that it is very important and without it, they could not teach online. Whereas, those who were younger, and felt more comfortable using technology stated that they were more intrinsically motivated to teach online, and the support was not critical.

Another key insight from this study is that faculty appreciate receiving and providing informal peer support. This study converges with and extends the existing literature. As it relates to the literature, many scholars prior to and after the pandemic reported that teachers value facilitating conditions (Alghamdi, 2021; Gunasinghe, 2019; Sangeeta & Tandon, 2020). The same can be said for the UTAUT framework in which facilitating conditions is a core construct. While support is heavily discussed as the core of facilitating conditions in the study, it is important to note that resources are also important. As this construct also reduces the effort in this and other contexts, it is important that it is included in the academic discourse on the acceptance of technology.

This finding has significant implications for academic institutions. For those interested in increasing the acceptance of online education, the importance of facilitating conditions must be

considered as highly impactful. As the organisation has a significant role to play in this particular factor, institutions must ensure that faculty feel adequately supported when they undertake online teaching. In this context, there is a range of support available to faculty. These are likely to vary based on the context, and faculty should be encouraged to be involved in determining the nature and extent of the support in order to maximize the benefits. Facilitating conditions should be considered early in the process as they are likely to be highly beneficial during the learning curve and reduce overall effort. Support should be appropriately advertised to faculty so that they are adequately aware of what exists as well as how or when it can be accessed. Faculty really appreciated ease and speed when it came to the access of support. Thus, organisations should consider these factors in the development of well-designed support. Sümer (2021) found that faculty benefited significantly from support when teaching online.

### ***Summary***

Overall, the findings from each of these research questions directly serve the purpose of the study and contribute to a better understanding of the problem. The four major constructs of the UTAUT framework were investigated: performance expectancy, effort expectancy, social influences and facilitating conditions. In many cases, the study aligns with the literature and the framework used. To illustrate, performance is consistently found to be influential; effort is found to be of little significance to this group; social influences, in particular students, were cited as the most important consideration for faculty; and facilitating conditions were viewed favourably by all and influential to most. In particular, this study offers some unique implications as it sheds light into the specific factors that are important in each construct as well as the conditions in which some are more relevant than others. Each finding strengthens the possibility of a framework being developed for HEIs in SIDS. Similarly, they present clear implications for improving the

acceptance of online education, based on this successful case study. As a result, the findings contribute to the gap in the literature and may improve practice.

### **Recommendations for Application**

Six key recommendations are presented based on the findings and implications detailed in the preceding sections. These guidelines, derived from the current study's insights, offer actionable steps toward addressing the challenges of accepting and adjusting to online education. Importantly, these recommendations are specifically designed to align with the unique contexts of the study, particularly in relation to the constructs of performance expectancy, effort expectancy, facilitating conditions and social influences.

#### ***Recommendation 1: Organizations should Create Adequate Professional Development and Structures for Faculty***

HEIs must implement thorough training to ensure faculty members understand online education's merits. For schools or organisations looking to increase acceptance, the performance of online education has proven to be critical. It is important that those involved in teaching in the online environment feel that they can produce academically sound, if not superior, courses compared to traditional teaching. This can be done in a range of ways, even before adopting the technology. Firstly, professional development opportunities should be presented to teachers and leaders to improve their knowledge of effective teaching (Fernández-Batanero et al., 2022). In these collaborative sessions, faculty can develop their teaching skills and strategies for the online environment, ask questions, discuss concerns and understand the strengths of online education. Secondly, best practices for teaching and learning online should be created and modelled for teachers (Neuwirth et al., 2021). That is, the institution should create materials such as guidelines that demonstrate how technology specific to the institution can be used in line with existing

policies to promote effective teaching. Depending on the newness of the technology, outside consultants or experts can be leveraged; however, in-house faculty benefit from being involved in the process. Based on the challenges outlined in the current study, key areas of interest to faculty include being interactive in live online lectures to modify lectures in real-time based on student understanding (Mahmood, 2021). Finally, assisting faculty in developing effective feedback mechanisms and student scaffolding is crucial to support student learning in the online environment (Al Mamun et al., 2020). While the details are specific to each program or school, typically, faculty report that the feedback required in the online environment is more extensive since there are fewer opportunities to offer incremental feedback. Thus, teachers require time, planning and strategies to provide feedback to students during a timeframe that allows them to learn more before doing another assignment. Finally, once all these preliminary trainings and systems are in place, faculty should receive ongoing evaluations and feedback mechanisms to help them improve how well they teach online.

Providing adequate instructions can be particularly valuable for universities in reducing the initial effort of implementing online learning systems. Firstly, effort was noted by participants in this thesis study as significant in the learning curve or initial transition. As a result, institutions should take steps to make these transitions smoother. This includes providing instructions, training and intuitive software related to video recordings. While participants found these activities more straightforward to do now, in the beginning, they were seen by most as very challenging. Therefore, educating faculty on best practices in creating video recordings and establishing practical expectations for achievable and satisfactory benchmarks rather than perfection may be very useful in the initial stages. These tips should include strategies for maintaining engagement without an audience and effectively managing the pace of a video presentation (Mahmoud, 2021).

Beyond just the technology and the guidance, it is important to recognize the emotional labour cited by participants during the interviews and focus groups. Many participants in this study found the experience emotionally draining and vulnerable. One approach that can reduce this is creating the space for learning technology and learning the new delivery methods, as opposed to seeing it as an automatic next step that experienced teachers should be ready to do. While this will be institution-specific, it is important that teachers feel more optimistic about the learning curve, as this is a fragile process that may significantly impact acceptance at the beginning.

Effective project management can assist in diffusing the effort required in online education. For example, participants in this study reported that were required to change their courses, assessments, materials and classroom management styles. As a result, time can be the most significant factor in serving to ease the effort. According to Musaji and researchers (2020), a higher pace limits the ability to process information and, ultimately, limits organisational learning. Beyond the technology components, significant instructional and creative changes require research, ample thought and practice (Mamood, 2021). Therefore, teachers need to have an adequate timeline to adjust. In addition to allocating sufficient time, it is crucial to establish timelines to keep participants on track. Those transitioning for the first time may not be aware of the complexities and intricacies; thus, timelines and check-ins can ensure that teachers get started sooner. Many of the facilitating conditions in this case include instructional design support that guides participants through these phases. However, budgets and personnel may be limited in some institutions. If it is not possible to have these additional supports, the timelines, and check-in meetings can be directly helpful. It will also guide leaders toward determining whether participants require additional time or different types of support and prompt early interventions to ensure the project stays on track.

***Recommendation 2: HEIs should Establish Appropriate Facilitating Conditions***

Institutions should heighten the degree of assistance available for these online initiatives. In this particular study, participants valued having a person present with them initially to help with recording videos and creating content. Beyond that, this study revealed that in the live classroom environment, teachers value having someone valuable available on short notice to troubleshoot issues as they arise. In the classroom, it can be embarrassing and disempowering for faculty to be unable to navigate the technology, especially during the learning curve. From an instructional design perspective, it is also very valuable for faculty to have support in developing their coursework (Barbour et al., 2020). Recognizing that budgetary constraints can limit support staff, more innovative methods of including support should be considered.

Expanding the support to include individuals with similar or more significant expertise can be beneficial. Support can be diffused throughout the faculty population as part of the facilitating conditions. Support is recognized as incredibly important, but institutional and budgetary factors may limit the extent to which support can be expanded. To mitigate this, technology champions or faculty members with interest can be identified and trained to provide essential support to their peers. To make support scalable and accessible, faculty members should be identified as critical experts for specific technologies. In this particular study, faculty articulated that it was pretty simple to ask their peers questions instead of submitting a formal ticket for help. Evidence suggests that faculty value the help of their peers and feel comfortable assisting each other. As a result, faculty mentorship programs may be created with more experienced faculty initially providing hands-on support to their less experienced colleagues. In a study by Terosky and Heasley (2015), faculty reported significantly desiring collegiality and community in the online teaching

environment. Similarly, participants in this current study reported that fostering a culture of collaboration can contribute to easing the learning curve, as the sense of community and peer support was cited as very valuable. This study revealed that participants appreciated that they could ask their peers questions and were more likely to trust technology endorsed by their peers than others. Moreover, most people felt excited to support their team members in this transition.

However, another key discovery offered by this study was that a significant issue or conflict occurs when the help provided by the peers did not support best practices and the usage guidelines of the institution. As a result, by recruiting champions for various technologies, the various departments can ensure these people are adequately informed to the required standards and can support their immediate peers with minor questions and small aspects of support. These may require connection with leadership to ensure the technology champions feel adequately rewarded or incentivized. Similarly, student teaching assistants can help in various technological aspects of course setup (Mahmood, 2021).

Support should be differentiated to meet the diverse range of faculty. As established in this study, novices require support to meet online education's primary teaching and learning standards. However, faculty with different levels of expertise reported that they could still benefit from support in this current study. For example, some felt they were already versed in fundamental to intermediate online teaching standards but would like to be kept abreast with trends and newer innovations to enhance their courses. These faculty felt that the current support was directed at the newer faculty and did not engage with it. However, they were in a position where they felt comfortable enough to be interested in newer trends or ideas to refine their courses further. As a result, support should extend beyond the basics to include more tech-savvy faculty and those who

rely more heavily on it. De Vries and researchers (2014) argue that continuous professional development is essential for teachers.

An awareness of the support and how it may be used is critical. If support exists but is inadequately advertised to faculty or they perceive it as unhelpful or inaccessible, it may not be used or seen as valuable. Therefore, institutions must ensure that the support can be accessed easily and that faculty members are adequately aware of what is available. This helps with maximizing use. Based on this particular study, awareness and availability of support increases confidence. That is, some faculty who did not actively use the support still found the awareness of the support helpful as they knew they could seek help if they ever needed it. Thus, awareness must be prioritized.

Facilitating conditions appear to underline many other aspects, so they must be effectively boosted. Throughout this current study, participants expressed a significant appreciation for the volume of support available to them at the institution and considered it essential for online education. Therefore, institutions should prioritize collaborating with leaders and faculty to ensure that the technologies and support are appropriate and comprehensive. This includes pedagogical, technological and instructional support to address the diverse needs of educators.

### ***Recommendation 3: HEIs should Create Social Support Structures for Faculty***

Social influences are a complex range of factors that can be used to increase the overall acceptance of technology. As mentioned, in this particular study, some factors were seen as essential, while others were seen as less important. It was found that colleagues or peers provided limited influence on each other's acceptance of online learning, except behind the scenes when choosing the appropriate learning technologies and their related training. The recommendations for this construct discuss strategies for enhancing peer-to-peer, leadership and student influences.

In-house, peer-to-peer collaboration may play a key role in increasing the value of peer influence. While in this particular study, it was not critical to faculty, it may still be beneficial to ensure adequate positive peer influence. One way can be creating communities of practice where faculty members can share ideas. Communities of practice are valuable in teaching, and online education may also serve a similar purpose (Terosky & Heasley, 2015). This recommendation comes from the fact that people reported feeling a sense of community during the pandemic as their colleagues were also transitioning. As a result, fostering communities would be a practical step toward increasing overall acceptance.

Developing structures supporting positive leadership influence in online education is also essential. To illustrate, leadership can also be influential to participants, specifically in cases where online education is mandatory, and leaders have some influence on how this is done. For example, faculty appreciate a collaborative leadership style that considers their expertise and experience and keeps them informed about online education decisions. They do not necessarily want to be presented with a finished product or mandate for teaching online but appreciate being included in the decision-making process and the rationales behind decisions, which makes them easier to accept. Implementing such leadership changes may be done through training or selecting leaders who exhibit these traits. Ultimately, the leadership should be change-friendly and support faculty through the decisions (Asbari et al., 2021).

Students were reportedly a very important influence in the acceptance of technology, in this case site. As a result, institutions need to prioritize students in the discussion and decisions about online education. Faculty in this study were found to appreciate the feeling of being able to solve students' needs and meet their demands. Therefore, the recommendation is for institutions to research what best meets their students' needs and wants (Chen & Tsai, 2021). Beyond using

students to inform their decisions, faculty must be well-informed about the demands and preferences expressed by students.

This current study revealed that students also impact the way online education is delivered. For example, within a class, students impact the types of technology that can be used and how technology can be incorporated to support education based on their literacy and comfort with the technology. Thus, while faculty digital literacy is essential, student literacy must also be considered for students to succeed online. Hence, investing in students' technology literacy so a more comprehensive range of technologies can engage students creates a broader range of learning experiences that support a range of learning preferences and needs. In turn, this increases faculty satisfaction with the online teaching experience.

***Recommendation 4: HEIs should Implement Strategies for Equitable Student Engagement***

Students should be encouraged to participate and engage with faculty through policies, teaching approaches or the delivery medium. For example, student engagement in live sessions was seen as a significant hindrance to teaching and a demotivator for faculty, according to the participants in this current study and the literature (Werang & Leba, 2022). Even though their objectives are delivered, and assessments can determine how well students achieved these objectives accurately, faculty in this case study reported that important subtleties are lost. Therefore, in addition to training the faculty, policies around engagement should be carefully considered. In some programs on this campus, students can attend class or watch the recording of class, which is called a hybrid delivery in this context. The problematic component of this is that it is often more beneficial for students to watch recordings. As a result, teachers feel that they are prepared to deliver a live lecture and are left to interact only with the camera. A balance can be achieved here, in which students are given incentives to attend the live online sessions and

information on how to make the most of these live sessions. Alternatively, due to the low demand, they may be reduced and replaced with shorter interactive asynchronous activities combined with the opportunity of a few live lectures. Mahmood (2021) recommends using asynchronous content to encourage self-study in students. Setting norms around engagement is also crucial for students who attend the synchronous class but do not answer questions or provide feedback to the teachers. This can include setting platforms for interaction via polling, quizzes, chats, or cloud-based documents for students who may not be interested in using their cameras or mics. While this is not as critical as effective teaching, long-term low motivation in faculty will likely lead to disengagement in the workplace.

***Recommendation 5: Technology Leaders should Select Appropriate Technologies***

Reid (2019) acknowledges that LMSs are critical in creating transformative learning experiences online. Therefore, performance can also be enhanced during technology selection. In the current study, some participants mentioned being limited by their LMSs. While IT departments often select technologies, it is critical that those using the technology can provide input as to whether it supports their tasks and processes. Even beyond its initial selection, the online learning environment and technologies upon which it exists must be continuously monitored and adjusted. This is because the needs and preferences of faculty and students change over time, and it is important that technology can accommodate these shifts.

***Recommendation 6: Organizations should Continuously Revise the Support***

Finally, it is the institution's role to consciously monitor and improve their support. This can be done by regularly connecting with teachers, getting their feedback and making necessary changes. Even when the support is being used and is well received, it is important to recognize

that the needs of online educators and their learners evolve. Overall, even well-designed supports may become outdated or irrelevant.

### ***Summary***

In conclusion, there are several recommendations for application and practice based on this current study. Professional development opportunities for faculty can be helpful in ensuring their understanding of the functionality of online education so as to improve performance factors. This may also include instructions that can be used to guide the implementation and reduce some of the initial effort. Moreover, support is required for the success of these programs and are highly appreciated. As a result, there should be adequate support and peer support should be considered for expanding the support as needed. It should also be made clear to faculty what these supports are and how to access them. Support should be easily accessible and differentiated to ensure it matches the needs of faculty with different expertise levels. Regarding social influences, increasing peer-to-peer collaboration, improving leadership structures and prioritizing students in decision-making should be considered. Furthermore, students in particular should be encouraged to engage with faculty and supported to do so through policies and various formats. Technology remains an important consideration when teaching online. Finally, these steps are not linear but iterative and therefore, should be monitored and revised as needed.

### **Recommendations for Future Research**

Based on the findings of this unique research, there are several recommendations for further and future studies. At the time of writing, research related to the Caribbean, particularly its education systems, is sparse. This scarcity of research poses numerous challenges as it often restricts the type of evidence-based decision-making needed to address existing issues (Tewarie, 2011). This study delved into the realm of online HE within an institution on a SIDS in the

Caribbean. Given the dearth of research and the literature's call for investigations into the HE landscape in this region, this study stands as a significant achievement. As mentioned, SIDS confront various challenges, such as economic instability and vulnerability. Education can often serve as a remedy for these issues (United Nations, n.d.). Unfortunately, the region still grapples with some of the lowest rates of HE within the region. The current situation can be described as a mismatch between the market's needs and the population's qualifications (Louisy, 2004). Geographically, the issues with access to education can be attributed to the overall population of 44.2 million people scattered over 700 islands, islets, reefs and cays divided into nations. However, this limitation surrounding educating the population poses a challenge for businesses striving to innovate and advance. At this pivotal juncture, it is crucial to note that the education provided should be culturally and contextually relevant to avoid widening the divide. The current institutions serving the region may expand their student base and enhance the availability of degrees through online education. Yet, much like the rest of HE, there have not been significant attempts to revolutionize the delivery of education (Dhawan, 2020; Park & Choi, 2014). Technology has become more affordable and capable than ever before, enabling institutions to offer online education without incurring significant expenses. Similarly, prospective students now have more access to technology, with some studies estimating that more people on earth have access to smart mobile devices than have access to clean drinking water. This case study significantly contributes to our understanding of the acceptance of online education. As a major stride for research in this area, the study lays the groundwork for significant further research that must be conducted in the region.

Further studies are recommended into the construct of performance expectancy to better understand the construct. Briefly recapped, this construct relates to how well participants believe

they can complete the task using the available technology (Rachmawati et al., 2020). Unsurprisingly, teaching is a complex and nuanced task that goes far beyond lecture delivery. It encompasses lesson planning and preparation, classroom management, student engagement and motivation, assessment and feedback, collaboration, and emotional intelligence (Strom & Viesca, 2021). As a result, investigating how well faculty felt they could teach online revealed interesting insights that opened the door for further investigation.

An important discovery was made in this study, where the performance phenomenon was seen as quite complex. It was made up of several components, some of which outweighed others. To illustrate, in this study, teachers believe that they can effectively deliver and measure their learning outcomes in the online environment. This is seen as a benefit and positive factor in acceptance. On the other hand, low engagement with students was seen as an unfavourable aspect related to performance. This creates a disconnect and hinders their ability to gauge students' understanding of the material in real time. It was seen as discouraging and demotivating to faculty. Nonetheless, faculty members were willing to adapt and move past this challenge. Therefore, it appears that some aspects of performance are more heavily weighted than others. This requires further investigation to understand various aspects that contribute to the performance of online education. Beyond the definition of the various components, research must be done to find which ones are significant and which others are less consequential. Class sizes impact how teaching online occurs, based on the reports from faculty in this current study. Therefore, further studies should investigate the role class sizes play in the performance of teaching, qualitatively and quantitatively. This can serve to further refine the construct, especially in similar contexts.

Specifically, the context of online HE in the SIDS requires further investigation. Performance is well-established in the developed world as an essential factor. In the context of

developing countries, it remains insufficiently explored (Kanwal & Rehman, 2017; Underwood, 2022). The unique socio-cultural factors in SIDS likely provide nuance not found in other contexts. As a result, the specific recommendation involves the investigation of SIDS that are contextually similar to those described in this study.

As much as teaching is a complex task, learning can be equally intricate. Learning requires active construction of knowledge, feedback and reflection, technology, and resources. It is impacted by environment, cultural and socioeconomic background, and unique strengths (Ogunyemi et al., 2020). Students' perception in this context is also essential. With the recognition of this complexity, there is an opportunity to gain students' perspectives on learning and how well it can be done by leveraging online education. Students play a huge role in the education system, and well-crafted systems must be designed with their perspectives in mind. Many of these recommendations would benefit from a qualitative approach to dissect and delve into the complexity. Ultimately, these findings can further inform the practice of teaching and the overall acceptance by faculty.

Moreover, some recommendations are related to further study effort expectancy. Simply put, effort refers to the ease at which systems can be used (Fatoni & Surani, 2022). Online education relies on various systems, from video conferencing hardware to LMSs (Marek et al., 2021). The existing literature shows some mixed insights on the effort required. In some studies, it is seen as very important, while in others, it is less critical. In this study, some fascinating perspectives open the door to further recommendations and exploration. For example, most participants cited that effort was not a significant factor for them. However, there are several caveats and institution-specific factors that are noteworthy. In the original framework, Venkatesh noted that a few factors mediated effort. Notably, it was impacted by the newness of the system to

the people using it. In this study, most participants had gotten past the newness phase. However, in their recollections of it, they describe it as challenging and discouraging. Moreover, some facilitating conditions also limit the effort required overall (Lin, 2019). Given that effort can be influenced by technology, organisation and the individual, it is worthy of considerable attention and further investigation.

The future studies are recommended to investigate effort in relation to timeline. Specifically, additional studies using UTAUT with newly transitioning faculty are recommended as they can be significant for the literature; longitudinal studies may provide rich data. This would effectively allow for a detailed report on where the challenges with effort lie. For example, it would be essential to consider if some technologies or skills differ significantly from in-person delivery. Secondly, they may reveal how the effort can be reduced, such as what training or support faculty desire during the transition phases and beyond. Moreover, overall, how faculty may be more prepared prior to engaging in the online environment is worth investigating. This is important because the learning curve was seen as a very unpleasant experience for participants in the study. Beyond the technological challenges, it was reported as a psychologically vulnerable time and emotionally trying experience. As a result, effort likely played a significant role at that time and should be further investigated during this window.

Further research should be done in developing contexts to understand how effort matters, if at all, in similar contexts. For the participants investigated in this study, it is also important to note that they felt the effort was worth it, given their impact. In the context of SIDS, the impact can be significant and may outweigh effort, but more studies are required to confirm this and discover if other factors not revealed in this case site may mediate effort. Further, studies should investigate if the feeling that the effort associated with changing to online education is justified

applies in other diverse contexts. This is because other scholars have found effort to be less relevant than other constructs in HE. Therefore, a qualitative study may shed light into what factors mediate effort in undergraduate contexts as well as universities with more traditional students. These results may contribute to frameworks in this region, highlighting that while efforts should be reduced for the faculty's sake, these efforts do not impact acceptance. Overall, these studies are required to draw a more conclusive statement on the relationship between effort, impact and acceptance.

Moreover, there is merit to investigating the relation, if any exists, between effort and age, which may be done quantitatively. To illustrate, in many HEIs, there have been mass retirements, leaving behind a younger faculty body overall (Eddy & Kirby, 2020). Given that the majority of participants in this study were millennials, it is likely that the technologies that facilitate online education are more familiar to this group. Therefore, less effort may be expected. As a result, future studies may benefit from investigating the construct of effort, with age being a significant consideration. For example, case studies where prior generations primarily comprise the faculty body may yield different results. Moreover, studies may benefit from looking at Gen Z as faculty members. At the time of writing, this group had already entered the workforce and, in the future, may make up a significant portion of the faculty. This is particularly relevant as it is the first generation to be made up almost entirely of digital natives or persons using the technologies at a very young age (Tran et al., 2020). These groups may have varying degrees of ease associated with the effort required to teach and varying perspectives. The results provide insight into the longevity of the construct.

Similarly, there may be benefits in using qualitative research to learn more about students opting into online education. Many students currently enrolled in HE are digital natives; this group makes up the main target of HE. However, in many contexts, there are large numbers of students

who are non-traditional and may be older than the typical cohort (Walker & Malcolm, 2022). In particular, these students may opt for online education due to the range of responsibilities they have to manage. It is, therefore, important to understand how these people feel about the ease or difficulty associated with using the technologies. These findings would improve institutions' knowledge about their customer base and ability to serve them. And, as studies are important to faculty's teaching, their skills and competencies must be better understood.

Social influences in this study have yielded interesting results that should also be further investigated. These influences are a range of external factors that may persuade or dissuade faculty from accepting online education (Rachmawati et al., 2020). The study revealed that this construct was considerably nuanced and complex. Some aspects of social influence were reportedly not influential, having no overall bearing on acceptance or teaching; yet other aspects of social influence were considered highly impactful. For example, colleagues were seen as not impactful in one's acceptance. Participants were not interested in what their colleagues perceived about online education or their level of involvement. On the other hand, students were considered one of the most critical influences. With such variance experienced within one construct, more qualitative studies are required to better understand the phenomenon.

Future qualitative studies to understand which factors make up social influence and their impact are essential. For example, this study highlighted colleagues, leadership, students, other universities, and regulations such as academic accreditors. This list is by no means exhaustive, and future studies may be able to determine a more thorough list of factors that influence a faculty member. Beyond that, the extent of influence of each factor can be investigated to refine the construct and determine which are relevant and which are not. For example, at the case site investigated, students are at the forefront of the learning experience and are heavily prioritized,

which explains why they are considered necessary. In contexts where collaboration and community are highly prioritized amongst the faculty, their influences may differ from those discovered in the study. Developing contexts may be particularly relevant for these studies because students in these communities often lack access to HE. Moreover, online education may provide a more affordable alternative in these contexts. As a result, the impact of technology and online education on students may be highly visible to faculty, leading to the prioritization of students' interests. Similar studies may also investigate leadership as social influence in developing contexts. This is because, in this study, some participants cited the influence of leaders and generally expressed preference for collaborative leadership styles. Furthermore, many scholars have recently called for more research into the leadership structures in the SIDS in the Caribbean (Allahar, 2019; Tirmizi et al., 2019).

Case studies, both qualitative and quantitative, should be further carried out with a different group of participants. Understanding factors impacting students in various conditions might also assist in building a holistic picture. The social factors impacting students' acceptance of online education may be necessary for institutions to better serve their audiences. This may also be critical for faculty since students impact their acceptance and other outcomes in online classrooms. Finally, further research should also consider the impact of social influences on acceptance at higher levels of leadership in universities. Higher levels of leadership may include the school president, the school boards and other administrators and faculty that provide strategic direction for the university and long-term goals. Significantly different factors may influence these leaders' acceptance, and ultimately, their acceptance shapes the course of HE as a field. A study that investigates these factors is indeed crucial.

Additional studies are required to better understand the role of the supporting infrastructure that an organisation provides. In the case study, these factors, such as technological and other support, were critical to many persons' ability to teach online. It was not the most important factor for younger faculty, but it was still considered valuable support. In fact, all the people who used the available support found it valuable. Those who did not actively use the support still found it incredibly valuable, citing that the availability of support boosted their confidence in engaging in online education. In this context, there are several kinds of support, from technological to pedagogical. However, incentives (financial or otherwise) were not seen as required for acceptance. Further quantitative studies may be done to discover which supports are most important for faculty and which, if any, are non-essential in most developing contexts.

By that same token, facilitating conditions also impact other constructs and should be investigated in relation to them. For example, in this setting, effort was seen as not as impactful or important. This may be due to the vast amounts of support available to faculty who undertake online education. Lin (2019) suggested that facilitating conditions mediate effort expectations. The connection between these factors may be further explored in future research to analyse at which point facilitating conditions become enough to reduce or completely eliminate the effects of effort expectations.

Future quantitative studies may verify if facilitating conditions are significant in other developing contexts. Much like the factor of effort, which is closely associated with age, the extent of facilitating conditions may have other mediators. For example, additional studies may be able to determine if generational factors associated with technological familiarity impact the perception or need for facilitating conditions or if different groups have preferences for different types of support. While this particular study did not identify much value with incentives, there is also merit

in finding out if this too is generationally impacted. Some studies suggest that due to experiencing many financial crises, generation Z tends to value money more than previous generations (Gomes et al., 2023).

Likewise, students' perspectives on facilitating conditions should also be investigated. Many students join online degree programs and participate using their own devices and connectivity. As a result, some faculty found that this could bring with it a level of instability and limitations. While providing physical technologies may not be a financially feasible solution for most institutions, there may be benefits to understanding the support students experience and perceive. For example, much like faculty are provided with pedagogical support to create their courses, students may benefit from learning specialist support that assists them with developing self-regulation skills to maximize learning within the online learning environment (Landrum, 2020). Similarly, despite students using their own devices, they may still require technology support for hardware and software-related challenges. Thus, further studies may investigate how students in developing countries believe they will be supported in their pursuit of online education, and if this support impacts their overall willingness to accept and participate in online education programs.

More broadly, any of these factors, or their combination, can be studied in a multi-site case study. This would be relevant in further assessing the framework's value in this frame of reference and contribute to developing a context-specific framework for SIDS. Qualitative work is recommended at this phase to understand further the nuance of these constructs and how they are perceived in these institutions. However, as the literature on these institutions and their leadership grows, so does the aptitude for quantitative-style research. This will be particularly favourable in the development of a theoretically sound framework.

### *Summary*

To summarize, this research project contributes significantly to the well-defined gaps in the literature. Beyond theoretical application, these gaps limit education practices and overall economic stability. With this contribution to the literature, several doors have been opened for further research into the phenomena. Firstly, as it relates to performance expectations, more research is recommended. This relates to a better understanding of the phenomena and which performance aspects are essential and less meaningful. Moreover, research on performance in SIDS should be done. There are also avenues for student-based research to understand how well online education is believed to support learning. Furthermore, the construct of effort can be further investigated to better understand this study's results. Contexts where faculty are still within the transitioning or learning curve phase may yield profound insights into reducing the required efforts, as it is documented as an effort-intensive phase. Developing contexts remain interesting in this construct as participants cited their impact on students outweighing any required efforts. Subsequently, the age of the faculty body in relation to effort can be researched. Digital natives may find the effort associated with using the technology less impactful. Overall, to better understand HE's customer base, students' perspectives on the effort they are required to undertake to learn online should be better understood. By the same token, social influences were discovered to be nuanced and worthy of further investigation. Future scholars can define the factors that influence faculty, particularly in discovering which factors are most impactful, especially in developing country-specific contexts. Social influences may play a role at all levels, from students to top leadership. Thus, students should be the focus of a study to understand their decision-making better. Upper leadership, such as leaders and administrators on school boards, should be investigated in contexts where possible to understand what influences them socially towards online

education. Additionally, future research on facilitating conditions, such as technological and pedagogical support, should be considered. Due to its complex nature and influence on effort, age may affect how much support is expected from the institution. There are also other factors within this construct, and clarity must be sought on which items are critical, and which are non-essential in the SIDS. Finally, while a wide range of support may be provided for faculty, students' perception of the institutional support available is essential to understand. These factors may be studied further towards developing a comprehensive framework for this context.

### **Conclusions**

HE is facing a significant crisis as it relates to sustainability, across the world (Johnson, 2019a; Lederman, 2021). By that same token, these challenges are faced by institutions in the SIDS in the Caribbean as well. The region has crippling low HE enrolment rates, which significantly impacts the economic prosperity of businesses, but also contributes negatively to other issues (Beckles & Richards-Kennedy, 2021; Louisy, 2004). For example, these SIDS are considered particularly vulnerable to external shocks and have become more vulnerable in recent decades (CARICOM, n.d.). In fact, the United Nations (n.d.) recommends that priority is placed on these countries towards educating the population. One of the most significant challenges lies with access to education. Many of the unserved potential students in this context are non-traditional, with existing careers, families and other obligations (Walker & Malcolm, 2022). Moreover, even with the distribution of the population across hundreds of geographically separated land masses, it is not uncommon that a degree program of interest may be physically located across the ocean. Therefore, a significant and critical solution to this problem lies in the acceptance of online education by universities within this region. While online degrees exist in many forms in North America and nearby regions, culturally relevant curricula are likely to be the solution of bridging

the mismatch in population skills and the market's needs (Allen 2016; Sealy & Zong, 2019). Unfortunately, HE has not been as responsive as many other fields when it comes to leveraging the internet in the delivery of education. Given the significance within this region and the implications for practice, many scholars have recommended that studies be carried out to assess the situation. While many theories have been used to investigate the acceptance of technology in developed countries, they are insufficiently explored in developing countries (Kanwal & Rehman, 2017). As pedagogy is rooted in behavioral, cultural and socioeconomic factors, many prominent scholars believe that the existing frameworks are not applicable to developing contexts (Tarhini et al., 2017; Thongsri et al., 2019; Valencia et al., 2019). Therefore, this study sought to investigate the phenomenon of acceptance of online education by leaders and course instructors within a HEI that has successfully implemented graduate level online education.

To investigate this phenomenon, several theoretical and conceptual frameworks were considered. The field of technology acceptance has increased in popularity as technology grows. A thorough review of the literature revealed several possible and well-substantiated theories. Ultimately, due to their fit with the purpose and problem the UTAUT was chosen in conjunction with the TOE theory. Venkatesh (2003) leveraged eight theories as the basis for his framework. Tornatzky and Fleisher (1990) developed the TOE framework to better understand an organisation's ability to accept technological innovation. With these two theories a conceptual framework was developed to investigate the following constructs: performance expectations, effort expectations, social influences and facilitating conditions. With the purpose of investigating the perspectives of HE leaders, the following research questions were developed: What is the function of perceived performance expectations by higher education leaders and teachers on online learning in the Caribbean? What is the role of perceived effort expectations by higher education leaders and

teachers on online learning in the Caribbean? How does perceived social influence contribute to the use of online learning by higher education leaders and teachers in the Caribbean? How do perceived facilitating conditions influence the use of online learning by higher education leaders and teachers in the Caribbean? Overall, these were determined based on well-defined gaps in the literature.

The leadership of HE has significantly shaped the delivery of education. This began with the earliest innovations that sought to increase openness and access to education. For example, universities began offering DE via mail as early as the late 1800s, which gained popularity as education via correspondence with the improved efficiency of the postal service (Pityana, 2007). This had many advantages and would eventually target women who were primarily in the home in caretaking roles (Coriale & Edelstein, 2021). Then, mass media, such as the radio and later the television, was experimented with by universities to deliver lecture-style coursework (Woodley & McIntosh, 2022). Finally, with the advent of the internet, online education began with many phases. While the mediums changed, the demographics of the typical HE student also changed: beginning with young, white, men from upper class families who could study fulltime on campus, to a wider range of races, genders and socioeconomic backgrounds becoming interested in pursuing degrees (Lin & Gao, 2020). The leaders themselves face a range of challenges, with enrolment, attrition, and their impact on finances in the face of reduced government funding (Johnson, 2019a). The leadership themselves are not well-understood or researched and are believed to be selected differently and navigate dissimilar challenges from their industry counterparts (Alward & Phelps, 2019; Eddy & Kirby, 2020). Therefore, it is important to understand what leads to the acceptance of online education, especially in SIDS.

With the problem well-defined, the approach to investigating it was determined. A qualitative study was selected as the only methodology that could provide the kind of data required to answer the research questions (Carbajal, 2020; Killian, 2020). Of all the qualitative designs, such as phenomenology and grounded theory, the case study design was the most appropriate. This is because it allows for capturing the complexities and peculiarities of situations, without being overly simplistic. The case study followed the recommended steps outlined by Creswell (2018), Yin (2009) and Stake (1995), which ensure that it is systematic in nature. Moreover, it is informed by multiple units of analysis and data collection tools.

As mentioned, HE leaders and teachers are the primary population of the study. This is because their insights in particular are under-captured and key to resolving the problem in this context. A single case sampling frame was essential to investigating this phenomenon as the university case site had a wealth of rich and dense data on online education. The case site design also used multiple units of analysis to support its development. Department leaders were a highly important group that played a crucial role (Boyers, 2017; Kanwal & Rehman, 2017). They provide vision to their department, manage faculty and demands of the HE administrators. Course directors support the department chair, by overseeing and managing the curriculum and teaching teams of individual courses. Course instructors are those who interact daily with students in class, online and are involved in grading assessments. Finally, another group are the technology leaders who lead the technology-related components associated with online education. These groups were chosen based on calls in the literature and insufficient investigations.

The instruments of data collection were derived directly from the literature. While the UTAUT2 framework was published with an accompanying survey that can be used to investigate the constructs, several prominent scholars have used it to develop qualitative instruments, such as

Alshehri (2012), Bixter and researchers (2019), Evers (2014), Gruzd and researchers (2012), Jung (2014), Limna and researchers (2023), Namatovu and researchers (2021), and Rempel and Mellinger (2015). In this study, two qualitative instruments were derived from reviewing the literature and framework. The first was an interview guide that was modified and refined for the different groups: course directors, technology leaders and department chairs. Each of these were modified carefully to ensure that they specifically targeted constructs that were in the participants' domain of practice and expertise. Then, a focus group guide was created to facilitate focus group discussions among the course instructors. It was decided that while interviews were the best way to gain rich data from the leaders, focus groups would allow for the gaining perspectives from the instructors while also encouraging the development of ideas and deep exchanges.

Across the study, ethical assurances were prioritized. Upon the design of the data collection tools, several reviews were undertaken. Firstly, the project supervisor reviewed the tools and provided essential feedback. Then, the university ethics body reviewed and made suggestions. Upon making those changes, the study received ethical approval. The university where the study took place also had the ethics board review and make suggestions, prior to receiving their final approval. Then, the gatekeeper letter was sent in with an application for a final committee and was approved. Several steps were then taken to ensure the validity and reliability of the data generated in the study. These included systematic design, triangulation and member checking.

Trustworthiness is critical in qualitative research to protect integrity and quality (Stahl & King, 2020). It is supported in several ways in this study. Firstly, credibility, which refers to the degree of truth in the findings, is maintained through a strong audit trail, documentation, multiple units of analysis, theoretical triangulation and member checking (Cope, 2014; Wood et al., 2020). Similarly, transferability means ensuring that the research is relevant beyond its case site

(Carminati, 2018). This is created by leveraging the strong theoretical foundation and clearly documenting the case and its participants such that readers can determine its applicability to their context. Dependability is a core requirement of this study, such that the study is repeatable and consistent, which is ensured through researcher reflectivity, clear documentation and overlapping instruments (Korstjens & Moser, 2018). Confirmability was protected by ensuring the research reflects the actual participants of the study, not those of the researcher, as Korstjens and Moser note. These concepts are protected to ensure that the study's results remain highly reliable and meaningful to the research community and practitioners.

The significance of this study is in its impact on governmental and HE leaders. It is well-established that the perspectives of leaders in HE shapes the acceptance of online teaching and learning (Allen & Seaman, 2017). In particular, the low levels of HE enrolment has caused detrimental impacts on the economic prosperity of the region. These HEIs are grappling with lower enrolment as it also limits their financial stability. At the individual and societal levels, there are many positive impacts to increasing enrolment. These include correlation with lower crime rates, increased innovation, increased life spans and better health (Mazur Yuliia, 2022).

From an intergovernmental perspective, this study contributes to the Sustainable Development Goals, particularly, those that advocate for an increase in equitable access for education, which many believe HEIs should play a role in achieving (Ferguson & Rooft, 2020; Vinuesa et al., 2020). Individual governments have also prioritized these initiatives within the islands. Their goals are to democratize access to HE and increase enrolment rates. They are at this stage currently as most islands have successfully implemented UPE and USE (Beckles & Richards-Kennedy, 2021). Finally, the results from this current study may go a long way to protecting the culture and identity of these islands. As globalization continues, many scholars and

leaders have recognized its impact on the erosion of cultures to be replaced with Euro-American standards (Sealy & Zong, 2019). While a range of online programs exist currently in other regions, the lack of cultural relevance may be detrimental to the Caribbean. Empowering its own people, using its own institutions is an important way of achieving the goals of the ‘ideal Caribbean person’ laid out at the Jotiem Convention (Louisy, 2004).

HEIs’ leaders in the region stand to benefit strongly from these findings as the results provide an opportunity for them to strengthen the acceptance of online education in their organisations. This translates into increasing their institutions' relevance, during these very volatile times for the field, in which the very future is unclear (Eddy & Kirby, 2020). Moreover, some institutions have begun embracing online education to increase their reach, finances and future. If these Caribbean institutions fail to move in this direction, they will not be able to compete globally.

This study builds upon the literature associated with the acceptance of online education. This area has been an active topic of research since the advent of the internet and has been exponentially increasing in recent years. There are prominent theories that seek to explain the behaviours associated with technology acceptance, such as UTAUT with its core constructs of: performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh, 2022). While it has received credit for being reliable and valid in developed countries, it remains insufficiently explored in the context of the developing world, such as the SIDS within the Caribbean (Boyers, 2017; Greaves, 2021). As a result, a significant contribution of this study to the literature lies in extending the use of the UTAUT framework in these new contexts. It is incredibly pertinent as many scholars have been asking for the gap in the literature to be addressed so as to determine what kinds of frameworks would be most suited to these contexts. Furthermore, it puts forward new knowledge on the matter of acceptance of online education by HE leaders and

teachers in a SIDS. Furthermore, it presents a qualitative application of the UTAUT framework, which overcomes some of the limitations of using the framework in its quantitative state.

As it relates to performance expectations, there were several key findings that gave rise to implications, recommendations for future research. The thematic analysis revealed the themes of interaction and engagement, delivering and measuring learning outcomes and reach, and equity. There were several challenges offered with interaction and engagement. These ranged from low class attendance, students attending class with their cameras or mics off and being unable to gauge students' understanding in real time. While a person, with adequate online teaching experience, found that there was opportunity to be more interactive online, and it was largely up to the skillset of the instructors, delivering and measuring outcomes were seen as effective and positive, with some faculty going on to state that it was much easier to track students' progress in the online environment than in traditional in-person classes. Finally, increased reach and equity were also seen as a positive aspect of performance. Many participants expressed feeling compelled to offer this format as it was much easier to reach a wider audience and to serve students who would otherwise not have access to HE. Beyond access, participants felt that it reduced power structures and biases that are in the traditional classroom and improved accessibility, such as through record classes that students can more readily review.

These findings of this current study converge with the literature in that performance is typically seen as a factor that contributes to the acceptance of technology in HE (Abu-Al-Aish & Love, 2013) and sheds more light and detail into the phenomena. For example, the factor of performance was determined to be complex and multifaceted. While some aspects were considered as favourable motivators toward the acceptance, others were considered as barriers to the acceptance. Importantly, these were not all weighed equally. As a result, while performance was

reported to be impactful, a framework developed for this context should further deconstruct the notion of performance to understand which aspects are most applicable in this context.

From the angle of the future studies, performance expectancy should be further investigated in developing countries to understand which factors contribute to said construct and how these are weighted. Students' perspectives also significantly matter and should be investigated to understand performance in the context of learning. This is because teaching is complex and as a result, its performance is also multifaceted. Similarly, learning is context-specific, learner-specific and a highly nuanced phenomenon that directly entangles with teaching. The students were also seen as essential for faculty, so their perspectives can further shape our understanding.

The implications for practice based on the findings of this current study are pivotal for all academic institutions. Effective teaching is critical to faculty's acceptance of online learning, and institutions should demonstrate a strong commitment to facilitating this through efforts, systems and training to support faculty. Challenges exist in terms of interaction in online learning, and institutions should address these challenges through the creation of policies as well as adequate professional development and setting clear expectations for students and faculty.

The findings of the current study offered significant insight into the phenomenon of effort expectations, as perceived by HE leaders and faculty. Thematic analysis of the data associated with this research question revealed the following key themes: ease, learning curve, teaching changes, and administration and logistics. For mostly all participants, teaching online was considered very easy. This departed from the literature slightly as it is often cited as an effortful activity. Importantly, most of the participants in this study had been teaching for some time and are likely to have developed this ease with time. A few participants, who on the other hand, were newer to teaching online expressed a few difficulties. Of greater effort was the initial learning curve

associated with teaching online. The majority of participants who currently found teaching online easy, reported that the learning curve was steep, and emotionally exhausting. Some other areas of effort included the changes required to teaching, such as the creation of additional material and the changes associated with the management of an online classroom. Finally, a fair bit of effort was also put in by the course instructors and directors when it comes to the administration and logistics associated with the courses, especially as the course materials for these courses were required to be prepared prior to the start of the term.

This study supports and extends upon the existing literature such as by scholars Malanga and researchers (2022) and Abbad (2021) that acknowledges effort is rarely a factor in the HE landscape. Despite having a prominent place in the framework, Venkatesh acknowledges that effort can be mediated by experience with a particular technology and is more prominent in the early phases of technology use. This was later reinforced by Marikyan and Papagiannidis (2023), and Chauhan and Jaiswal (2016). As a result, the current study aligns with the literature. This study also reinforces and confirms the theories by Lin (2019) that facilitating conditions strongly mediate effort expectations. As discussed previously, the faculty teaching in this case site reported having a wide range of easily accessible support. Frameworks being generated for the developing region may benefit from revisiting the construct of effort and reducing its prominence.

Further, effort expectations should be looked into in future studies. It should be determined if specifically in developing contexts, effort has less of a role to play. Studies are required to understand how effort matters, if at all, during the transition phases. Effort can be mediated by technology familiarity, and, as a result, there may be generalization associations with the impact of effort. This should be further investigated to understand if effort will play a role as digital natives take on roles in the faculty body of academia. As students make up a critical component of HE, it

is important to understand how students perceive effort as learners in online environments. In this way, both students and faculty can be appropriately supported.

Typically, effort in HE has not been a significant factor in the literature. Yet, in the early stages, the level of effort is substantial, and thus, upon further research, it will likely be discovered that initiatives to reduce effort should be geared towards the transition and initial learning curve of the experience. This implies that all academic institutions should prepare faculty for online education, in advance of the transition to teaching online. Universities, including those outside of the case site location, may also benefit from revisiting and revising policies and procedures currently in place for traditional in-person education to see if they are still beneficial to the online environment. This may serve to mitigate some of the administrative and logistical challenges experienced by faculty.

The investigation into social influences yielded findings that crucially impact the current body of knowledge on social influences. The following themes were revealed from the analysis: influences on technology, colleague influence, leadership influence, student influence and other environmental factors. Technology leaders reported that both industry standards and faculty members impacted the way technology is selected and determining best practices for its use. On the other hand, colleagues did not reportedly have any impact on each other. Leadership had some impact on their online teaching due to factors like budget. Overall, participants valued a kind and collaborative leadership style. On the topic of students, most participants felt strongly that students were the most important factor in their decision to teach online and the way that they were able to host online classes. Other environmental factors, such as accreditors and other universities, were not very significant.

This diverges from the existing literature as social influences were not found to be a critical factor in the acceptance of eLearning in higher education by Gunasinghe and researchers (2019). As a result, the findings in this current study are significant. While some aspects of social influences are not prioritized, the discovery that students are the most significant factor shifts our understanding of how to motivate faculty to accept online education. While some studies focused on students have found that they are influenced heavily by their teachers in the acceptance of online education (Lun & Yu, 2023), this extends our understanding of faculty based on experiences. Students themselves may be considered a significant factor in frameworks developed for this context, upon further research.

Given the complexity of the social influence construct discovered by this study, more research must be done to fully understand what transpires in these contexts. For example, social influences revealed the importance of students in overall acceptance, with leadership being second and other factors not being influential at all. Future studies must investigate which factors contribute in terms of social influence and their relative importance compared to other factors. This is required to get a holistic understanding of the phenomenon in this context. The factors influencing students and board members of the school are also worthy of investigation. Students impact online teaching, and, thus, their perspectives will provide an understanding on this matter. Leadership matters to faculty, and, as a result, it may be important to understand what motivates these higher leads to embrace or avoid online education.

There are several implications for practice. Given the importance of students to these leaders and teachers, students should be considered at the forefront of online education. From their demand and interest to their willingness to engage in classrooms and their online skill levels, which are all very impactful on the acceptance and delivery of education, especially in other SIDS and

developing contexts more broadly. Thus, investing in students' skills and incorporating them in the transition is likely to be highly beneficial to all participants.

The findings associated with the facilitating conditions provided very valuable insights. An analysis of the data led to the discovery of the following themes: technology support, pedagogical support, informal support, satisfaction, support gaps and incentives. A range of support is available to assist faculty with troubleshooting technical issues as well as receiving technical training. They provide both asynchronous and synchronous forms of support and can be reached by email, ticketing systems and video conferencing. Ultimately, an area of contention is that in order to provide sustainable support, the IT department has a preference for using the ticketing system, but faculty have a preference for informal and immediate support, such as through phone calls. Pedagogical and instructional support involves assisting faculty with modifications to assignments, creating course shells in the LMS and adjusting material to be suitable for the online environment. An interesting discovery is that faculty also enjoy receiving and providing support to each other based on their knowledge and experience with various platforms. This gives rise to another area of content as many times, faculty may provide support to each other that is not aligned with institutional policies and best practices. Overall, faculty were incredibly satisfied with the support, including those who did not actively use it. In some cases, faculty felt that they had the skills to do it themselves, but knowing support was available boosted their confidence. On the other hand, those with less comfort or time reported that the support was essential for them to teach.

The results of this study converge with the literature and extend our understanding of the role of facilitating conditions. The participants in this study found that facilitating conditions were impactful for them, and much of the existing literature agrees, such as studies done by Gunasinghe

(2019), Alghamdi (2021b) and Sangeeta and Tandon (2020). Overall, it added nuance to the existing knowledge in terms of understanding what impacts satisfaction with support and the importance of ease of access and timeliness.

Facilitating conditions are of critical importance for the teachers and leaders. Yet, the construct revealed some nuance. Most people did not care about financial incentives, but all participants found value in the technological and pedagogical support. It is important for additional studies to be done to understand which factors contribute to facilitating conditions and their relative importance with each other. In particular, there may be unique factors in developing contexts that should be analysed. Much like effort, there may be mediating factors, such as age. As a result, studies are required to investigate the construct in its entirety.

The results of this study raised several important implications. Facilitating conditions were essential. Many faculty needed the support, while others appreciated its existence. Hence, all academic institutions should ensure that relevant support is available to faculty prior to rolling out online education. This includes a range of support both pedagogical and technical to meet the evolving needs of the faculty. Most appreciated by faculty is ease of access when using the support, so institutions must be mindful of the processes and procedures associated with requesting support and timelines for receiving support.

There are six key recommendations for application based on the implications and findings. These recommendations are transferable to a range of institutions outside of the case site. Firstly, institutions should implement effective and targeted professional development for faculty. This should be geared towards developing their competencies and understanding of the benefits of online education, such that they feel more equipped to effectively teach online (Neuwirth et al., 2021). This, in combination with adequate just-in-time instructions and training and project

management support, can assist faculty in alleviating many initial challenges. All institutions may benefit from prioritizing this recommendation, as it also closely aligns with the existing literature. Secondly, appropriate facilitating conditions should be established, especially at institutions located in SIDS. This can be done by finding out what supports are most important at the institution and increasing the support where it matters (Barbour et al., 2020). In the absence of budgetary conditions that allow for expansion, faculty peers may be trained to provide basic support to their units. Thirdly, social influences should be created to support faculty with their transition. For example, communities of practice allow faculty to share their highlights and challenges and learn from each other (Fernández-Batanero et al., 2022). Similarly, leadership also matters, and the leaders of the departments should demonstrate the characteristics required to facilitate organisational change (Asbari et al., 2021). This is applicable to all institutions due to its alignment with the literature. Fourthly, institutions should implement strategies for equitable student engagement. Students should be included in and represented in the decision-making processes in all institutions seeking to transition to online education. Moreover, they should be encouraged to engage with their material and lectures through revised policies, improved teaching approaches and more accessible mediums (Mahmood, 2021). The fifth recommendation involves the careful selection of technologies that support online education and is applicable to all institutions. LMSs, in particular, play a central role in creating learning experiences (Reid, 2019). Therefore, usability and functionality should be strongly considered to impact performance and effort and reduce the amount of training and support required. Finally, organisations are recommended to continuously revise the support. The needs of learners and teachers, as well as the capabilities of technology are ever-changing, and the support must be flexible to adapt. This recommendation is critical and can be applied to all institutions, even those that currently offer online education programs.

An important concluding remark is the applicability and transferability of these findings and recommendations. With the recognition that the case site itself was unique in that it exists on a SIDS and has experimented with and embraced online education before the pandemic, the key considerations are remarkably applicable to similar contexts. The rich, contextual details provided allow readers to assess the transferability, and using a robust theoretical framework extends the generalizability to many other developing contexts. In particular, there are 58 members of the SIDS located in the Caribbean, Pacific, Atlantic, Indian Ocean and South China Seas. These SIDS face similar challenges with economic diversification and limited finances, and they are dispersed throughout the seas and oceans, making physical access to education highly difficult and expensive. The findings from this institution may better position institutions on these islands to embrace online education to develop their populations and improve their sustainability. According to the UN, education access is critical for SIDS, and online education has been identified and highlighted as a goal for this group (Vaughter et al., 2023). As a result, this study contributes to a highly relevant challenge that must be addressed with growing urgency.

## References

- Aarts, H., Greijn, H., Mohamedbhai, G., & Jowi, J. O. (2020). The SDGs and African higher education. In Ramutsindela, M., Mickler, D. (Eds.), *Africa and the sustainable development goals* (pp. 231–241). Sustainable Development Goals Series. Springer, Cham. [https://doi.org/10.1007/978-3-030-14857-7\\_22](https://doi.org/10.1007/978-3-030-14857-7_22)
- Abbad, M. M. (2021). Using the UTAUT model to understand students' usage of e-learning systems in developing countries. *Education and information technologies*, 26(6), 7205–7224. <https://doi.org/10.1007/s10639-021-10573-5>
- Abbas, A., Saud, M., Suhariadi, F., Usman, I., & Ekowati, D. (2022). Positive leadership psychology: Authentic and servant leadership in higher education in Pakistan. *Current Psychology*, 41(9), 5859–5871. <https://doi.org/10.1007/s12144-020-01051-1>
- Abdalla, M. M., Oliveira, L. G. L., Azevedo, C. E. F., & Gonzalez, R. K. (2018). Quality in qualitative organisational research: Types of triangulation as a methodological alternative. *Administração: ensino e pesquisa*, 19(1). <https://doi.org/10.13058/raep.2018.v19n1.578>
- Abdekhoda, M., Dehnad, A., & Zarei, J. (2022). Factors influencing adoption of e-learning in healthcare: integration of UTAUT and TTF model. *BMC Medical Informatics and Decision Making*, 22(1), 327. <https://doi.org/10.1186/s12911-022-02060-9>
- Aboramadan, M., Dahleez, K., & Hamad, M. H. (2020). Servant leadership and academics outcomes in higher education: the role of job satisfaction. *International Journal of Organisational Analysis*, 29(3), 562–584. <https://psycnet.apa.org/doi/10.1108/IJOA-11-2019-1923>

- Abraham, S. E. (2014). *Online education: Perceptions of faculty and administrators at three different types of institutions of higher education* (Publication no. 3584938) [Doctoral dissertation, East Tennessee State University]. ProQuest Dissertations & Theses.
- Abu-Al-Aish, A., & Love, S. (2013). Factors influencing students' acceptance of m-learning: An investigation in higher education. *International Review of Research in Open and Distributed Learning*, 14(5), 82–107. <https://doi.org/10.19173/irrodl.v14i5.1631>
- Abu-Rumman, A. (2021). Transformational leadership and human capital within the disruptive business environment of academia. *World Journal on Educational Technology: Current Issues*, 13(2), 178–187. <http://dx.doi.org/10.18844/wjet.v13i2.5652>
- Adhabi, E., & Anozie, C. B. (2017). Literature review for the type of interview in qualitative research. *International Journal of Education*, 9(3), 86–97. <https://doi.org/10.5296/ije.v9i3.11483>
- Ahmad, I., Zafar, M. A., & Shahzad, K. (2015). Authentic leadership style and academia's creativity in higher education institutions: intrinsic motivation and mood as mediators. *Transylvanian review of administrative sciences*, 11(46), 5–19. <https://rtsa.ro/tras/index.php/tras/article/view/448>
- Ahmad, M. I. (2015). Unified theory of acceptance and use of technology (UTAUT). *LinkedIn Pulse*, 179–211. [https://www.researchgate.net/publication/270282896\\_Unified\\_Theory\\_of\\_Acceptance\\_and\\_Use\\_of\\_Technology\\_UTAUT\\_A\\_Decade\\_of\\_Validation\\_and\\_Development](https://www.researchgate.net/publication/270282896_Unified_Theory_of_Acceptance_and_Use_of_Technology_UTAUT_A_Decade_of_Validation_and_Development)
- Ahmad, T. (2020a). Student perceptions on using cell phones as learning tools: Implications for mobile technology usage in Caribbean higher education institutions. *PSU Research Review*, 4(1), 25–43. <http://dx.doi.org/10.1108/PRR-03-2018-0007>

- Ahmad, T. (2020b). Undergraduate mobile phone use in the Caribbean: Implications for teaching and learning in an academic setting. *Journal of Research in Innovative Teaching & Learning*, 13(2), 191–210. <https://www.emerald.com/insight/content/doi/10.1108/JRIT-01-2019-0001/full/html>
- Ahuja, J., Puppala, H., Sergio, R. P., & Hoffman, E. P. (2023). E-Leadership Is Un (usual): Multi-Criteria Analysis of Critical Success Factors for the Transition from Leadership to E-Leadership. *Sustainability*, 15(8), 1–20. <http://dx.doi.org/10.3390/su15086506>
- Ain, N., Kaur, K., & Waheed, M. (2016). The influence of learning value on learning management system use: An extension of UTAUT2. *Information Development*, 32(5), 1306–1321. <https://doi.org/10.1177/0266666915597546>
- Ajayi, V. O. (2017). Primary sources of data and secondary sources of data. *Benue State University*, 1(1), 1–6.  
[https://www.researchgate.net/publication/370608670\\_A\\_Review\\_on\\_Primary\\_Sources\\_of\\_Data\\_and\\_Secondary\\_Sources\\_of\\_Data](https://www.researchgate.net/publication/370608670_A_Review_on_Primary_Sources_of_Data_and_Secondary_Sources_of_Data)
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In Kuhl, J., Beckmann, J. (Eds.), *Action control* (pp. 11–39). Springer, Berlin, Heidelberg.  
[https://doi.org/10.1007/978-3-642-69746-3\\_2](https://doi.org/10.1007/978-3-642-69746-3_2)
- Ajzen, I., & Fishbein, M. (1975). A Bayesian analysis of attribution processes. *Psychological Bulletin*, 82(2), 261–277. <https://doi.org/10.1037/h0076477>
- Akinyode, B. F., & Khan, T. H. (2018). Step by step approach for qualitative data analysis. *International Journal of built environment and sustainability*, 5(3). <http://orcid.org/0000-0003-0578-2905>

- Al Mamun, M. A., Lawrie, G., & Wright, T. (2020). Instructional design of scaffolded online learning modules for self-directed and inquiry-based learning environments. *Computers & Education*, 144, 103695. <https://doi.org/10.1016/j.compedu.2019.103695>
- Al-Adwan, A. S., Al-Madadha, A., & Zvirzdinaite, Z. (2018). Modeling students' readiness to adopt mobile learning in higher education: An empirical study. *International Review of Research in Open and Distributed Learning*, 19(1).  
<https://doi.org/10.19173/irrodl.v19i1.3256>
- Alatawi, F., Dwivedi, Y. K., Williams, M. D., & Rana, N. P. (2012). Conceptual model for examining knowledge management system (KMS) adoption in public sector organisations in Saudi Arabia. *Brunel University, West London*.
- Al-Balas, M., Al-Balas, H. I., Jaber, H. M., Obeidat, K., Al-Balas, H., Aborajoo, E. A., ... & Al-Balas, B. (2020). Distance learning in clinical medical education amid COVID-19 pandemic in Jordan: current situation, challenges, and perspectives. *BMC medical education*, 20(1), 1–7. <https://doi.org/10.1186/s12909-020-02257-4>
- Albejaidi, F., Muhammad G., Akhtar. R. (2017). Challenges in development of eLearning systems in higher education of the developing countries. *London Journal of Research in Humanities and Social Sciences*, 17(2).  
[https://journalspress.com/LJRHSS\\_Volume17/142\\_Challenges-in-Development-of-eLearning-Systems-in-Higher-Education-of-the-Developing-Countries.pdf](https://journalspress.com/LJRHSS_Volume17/142_Challenges-in-Development-of-eLearning-Systems-in-Higher-Education-of-the-Developing-Countries.pdf)
- Aldiab, A., Chowdhury, H., Kootsookos, A., Alam, F., & Allhibi, H. (2019). Utilization of Learning Management Systems (LMSs) in higher education system: A case review for Saudi Arabia. *Energy Procedia*, 160, 731–737.  
<https://doi.org/10.1016/j.egypro.2019.02.186>

- Aldrich, R., Dean, D., & Gordon, P. (2013). *Education and policy in England in the twentieth century*. Routledge. <https://doi.org/10.4324/9780203770535>
- Al-Emran, M., Mezhuyev, V., & Kamaludin, A. (2021). Is M-learning acceptance influenced by knowledge acquisition and knowledge sharing in developing countries? *Education and Information Technologies*, 26, 2585–2606. <https://doi.org/10.1007/s10639-020-10378-y>
- Alghamdi, A. A. (2021a). Impact of the COVID-19 pandemic on the social and educational aspects of Saudi university students' lives. *PLoS One*, 16(4), e0250026. <https://doi.org/10.1371/journal.pone.0250026>
- Alghamdi, T. A. (2021b). *Blended MOOCs acceptance and use: A cross-cultural study of the factors affecting lecturers' use of MOOCs* (Doctoral dissertation, University of Southampton).
- Aljohani, O. (2016). A comprehensive review of the major studies and theoretical models of student retention in higher education. *Higher Education Studies*, 6(2), 1–18. <https://doi.org/10.5539/hes.v6n2p1>
- Allahar, H. (2019). Towards a development-oriented sustainable entrepreneurial leadership style for Caribbean countries. *Journal of Management Research*, 19(2), 79–92. <https://managementresearch.co.in/download/towards-a-development-oriented-sustainable-entrepreneurial-leadership-style-for-caribbean-countries/>
- Allen, D., & Wolniak, G. C. (2019). Exploring the effects of tuition increases on racial/ethnic diversity at public colleges and universities. *Research in Higher Education*, 60, 18–43. <https://doi.org/10.1007/s11162-018-9502-6>

- Allen, I. E., & Seaman, J. (2004). *Entering the Mainstream: The Quality and Extent of Online Education in the United States, 2003 and 2004*. Sloan Consortium. PO Box 1238, Newburyport, MA 01950.
- Allen, I. E., & Seaman, J. (2006). Growing by degrees: Online education in the United States, 2005. *Sloan Consortium (NJ1)*.
- Allen, I. E., & Seaman, J. (2016). *Online report card: Tracking online education in the United States*. Babson Survey Research Group. Babson College, 231 Forest Street, Babson Park, MA 02457.
- Allen, I. E., & Seaman, J. (2017). Digital compass learning: Distance education enrollment report 2017. *Babson Survey Research Group*.
- Allen, Y. V. (2016). *Global citizenship and global school-links: perceptions from Tobago and the United Kingdom* [Doctoral dissertation, UCL (University College London)].
- Almaiah, M. A., Alamri, M. M., & Al-Rahmi, W. (2019). Applying the UTAUT model to explain the students' acceptance of mobile learning system in higher education. *IEEE Access*, 7, 174673–174686. <https://doi.org/10.1109/ACCESS.2019.2957206>
- Alqurashi, E. (2016). Self-efficacy in online learning environments: A literature review. *Contemporary Issues in Education Research (CIER)*, 9(1), 45–52. <https://doi.org/10.19030/cier.v9i1.9549>
- Al-Saedi, K., Al-Emran, M., Abusham, E., & El Rahman, S. A. (2019). Mobile payment adoption: a systematic review of the UTAUT model. In *2019 International Conference on Fourth Industrial Revolution (ICFIR)* (pp. 1-5). IEEE. <https://doi.org/10.1109/ICFIR.2019.8894794>

- Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. *Technology in Society*, 62, 101293. <https://doi.org/10.1016/j.techsoc.2020.101293>
- Al-Samarraie, H., & Saeed, N. (2018). A systematic review of cloud computing tools for collaborative learning: Opportunities and challenges to the blended-learning environment. *Computers & Education*, 124, 77–91. <https://doi.org/10.1016/j.compedu.2018.05.016>
- Alshahrani, H. A., & Walker, D. A. (2017). Validity, reliability, predictors, moderation: The UTAUT model revisited. *General Linear Model Journal*, 43(2), 23–34. <https://doi.org/10.31523/glmj.043002.003>
- Alshehri, M. A. (2012). Using the UTAUT model to determine factors affecting acceptance and use of e-government services in the kingdom of Saudi Arabia. *Griffith University*, 10(1912), 1770. <https://www.semanticscholar.org/paper/Using-the-UTAUT-Model-to-Determine-Factors-and-Use-Alshehri/1da9640c237d3b9a1ca44b6685ed7794c0ee8825>
- Altalhi, M. (2021). Toward a model for acceptance of MOOCs in higher education: the modified UTAUT model for Saudi Arabia. *Education and Information Technologies*, 26(2), 1589–1605. <https://doi.org/10.1007/s10639-020-10317-x>
- Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2010). Financing higher education. *Trends in Global Higher Education*, 65–74. [https://doi.org/10.1163/9789004406155\\_006](https://doi.org/10.1163/9789004406155_006)
- Alward, E., & Phelps, Y. (2019). Impactful leadership traits of virtual leaders in higher education. *Online Learning*, 23(3), 72–93. <https://doi.org/10.24059/olj.v23i3.2113>

- Amirrudin, M., Nasution, K., & Supahar, S. (2021). Effect of variability on Cronbach alpha reliability in research practice. *Jurnal Matematika, Statistika dan Komputasi*, 17(2), 223–230. <https://doi.org/10.20956/jmsk.v17i2.11655>
- Ammar, A., & Ahmed, E. M. (2016). Factors influencing Sudanese microfinance intention to adopt mobile banking. *Cogent Business & Management*, 3(1), 1154257. <https://doi.org/10.1080/23311975.2016.1154257>
- Ammenwerth, E. (2019). Technology acceptance models in health informatics: TAM and UTAUT. *Stud Health Technol Inform*, 263, 64–71. <https://doi.org/10.3233/shti190111>
- Anderson N. (2022). College enrollment declines for third straight year since pandemic. Retrieved from <https://www.washingtonpost.com/education/2022/10/20/college-enrollment-declines-since-pandemic/>
- Andrade, M. S., Miller, R. M., Kunz, M. B., & Ratliff, J. M. (2020). Online learning in schools of business: The impact of quality assurance measures. *Journal of Education for Business*, 95(1), 37–44. <https://doi.org/10.1080/08832323.2019.1596871>
- Andyani, H., Setyosari, P., Wiyono, B., & Djatmika, E. (2020). Does technological pedagogical content knowledge impact on the use of ICT in pedagogy? *International Journal of Emerging Technologies in Learning (iJET)*, 15(3), 126–139. <https://doi.org/10.3991/ijet.v15i03.11690>
- Anthony, S. G., & Antony, J. (2017). Academic leadership—special or simple. *International Journal of Productivity and Performance Management*, 66(5), 630–637. <https://doi.org/10.1108/IJPPM-08-2016-0162>
- Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021). Transformational leadership and digital skills in higher education institutes: during the COVID-19

- pandemic. *Emerging science journal*, 5(1), 1–15. <https://doi.org/10.28991/esj-2021-01252>
- Arar, K., & Masry-Harzallah, A. (2019). Trust among teachers and educational counsellors in the Arab education system. *International Journal of Leadership in Education*, 22(4), 456–468. <https://doi.org/10.1080/13603124.2018.1481534>
- Arifin, S. R. M. (2018). Ethical considerations in qualitative study. *International journal of care scholars*, 1(2), 30–33. <https://doi.org/10.31436/ijcs.v1i2.82>
- Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, 12(1), 29–42. <https://www.ijern.com/journal/2014/December-2014/34.pdf>
- Arnold, R., Donnelley-Power, C., Jacobs, H., & Rainey, M. (2022). Re/diss/assembling “Educational Imaginaries” through Regionalism—The Construction of the Caribbean Education Policy Space. *Current Issues in Comparative Education*, 24(1). <https://doi.org/10.52214/cice.v24i1.8863>
- Artal, R., & Rubenfeld, S. (2017). Ethical issues in research. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 43, 107–114. <https://doi.org/10.1016/j.bpobgyn.2016.12.006>
- Asbari, M., Hidayat, D. D., & Purwanto, A. (2021). Managing employee performance: From leadership to readiness for change. *International Journal of Social and Management Studies*, 2(1), 74–85. [https://www.researchgate.net/publication/349305387\\_Managing\\_Employee\\_Performance\\_From\\_Leadership\\_to\\_Readiness\\_for\\_Change](https://www.researchgate.net/publication/349305387_Managing_Employee_Performance_From_Leadership_to_Readiness_for_Change)

- Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*, 6(5), 76–89.  
<https://www.scirp.org/reference/referencespapers?referenceid=3108895>
- Astuti, N. W. (2021). I feel less judged, so I speak more: Introverted students' response on online learning platforms in speaking class. *Journal of English Language Teaching and Learning (JETLE)*, 2(2), 51–56. <https://doi.org/10.18860/jetle.v2i2.11795>
- Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative research*, 1(3), 385–405. <https://doi.org/10.1177/146879410100100307>
- Aung, K. T., Razak, R. A., & Nazry, N. N. M. (2021). Establishing validity and reliability of semi-structured interview questionnaire in developing risk communication module: A pilot study. *Edunesia: Jurnal Ilmiah Pendidikan*, 2(3), 600–606.  
<https://doi.org/10.51276/edu.v2i3.177>
- Avant, L. C., & Swetz, K. M. (2020). Revisiting beneficence: what is a 'Benefit', and by what criteria? *The American Journal of Bioethics*, 20(3), 75–77.  
<https://doi.org/10.1080/15265161.2020.1714808>
- Awa, H. O., Ojiabo, O. U., & Emecheta, B. C. (2015). Integrating TAM, TPB and TOE frameworks and expanding their characteristic constructs for e-commerce adoption by SMEs. *Journal of Science & Technology Policy Management*.  
<https://doi.org/10.1108/JSTPM-04-2014-0012>
- Awa, H. O., Ojiabo, O. U., & Orokor, L. E. (2017). Integrated technology-organisation-environment (TOE) taxonomies for technology adoption. *Journal of Enterprise Information Management*. <https://doi.org/10.1108/JEIM-03-2016-0079>

- Awa, H. O., Ukoha, O., & Igwe, S. R. (2017). Revisiting technology-organisation-environment (TOE) theory for enriched applicability. *The Bottom Line*. <https://doi.org/10.1108/BL-12-2016-0044>
- Azman N., Halim S., Komoo I., (2012). Academic Managers or Leaders? Developing a New Paradigm of Academic Leadership for University Organisation. *The International Journal of Knowledge Culture and Change Management Annual Review*, 11(3), 71–83. <https://doi.org/10.18848/1447-9524/CGP/v11i03/50121>
- Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. *Journal of Education and e-learning Research*, 7(3), 285–292. <https://doi.org/10.20448/journal.509.2020.73.285.292>
- Bacchus, M. K. (1988). The role of denominational bodies in education in the development of education in the Commonwealth Caribbean. *In Christianity and Educational Provision in International Perspective* (pp. 217-269). Routledge.
- Bacchus, M. K. (2001). Education in the pre emancipation period (with special reference to the colonies which later became British Guiana). *Caribbean Sociology: An Introduction*. Kingston, Oxford: Ian Randle/James Currey.
- Bacow, L. S., Bowen, W. G., Guthrie, K. M., Long, M. P., & Lack, K. A. (2012). *Barriers to adoption of online learning systems in US higher education* (pp. 39-51). New York, NY: Ithaka.
- Badali, M., Hatami, J., Banihashem, S. K., Rahimi, E., Noroozi, O., & Eslami, Z. (2022). The role of motivation in MOOCs' retention rates: a systematic literature review. *Research and Practice in Technology Enhanced Learning*, 17(1), 1–20. <https://doi.org/10.1186/s41039-022-00181-3>

- Bagozzi, R. P. (2007). The legacy of the technology acceptance model and a proposal for a paradigm shift. *Journal of the Association for Information Systems*, 8(4), 3.  
<https://doi.org/10.17705/1jais.00122>
- Bailey, R. (2018). *Education in the open society-Karl Popper and schooling*. Routledge.  
<https://doi.org/10.4324/9781315182872>
- Baker III, F. W. (2017). An alternative approach: Openness in education over the last 100 years. *TechTrends*, 61(2), 130–140. <https://doi.org/10.1007/s11528-016-0095-7>
- Baker, C. (2017). Quantitative research designs: Experimental, quasi-experimental, and descriptive. *Evidence-based practice: An integrative approach to research, administration, and practice*, 155–183.
- Baker, P., & Maxwell J. (2012). Social work in the Caribbean. 2012). *Handbook of international social work: Human rights, development, and the global profession*. Oxford University Press, USA, 383–389. <https://doi.org/10.1093/acprof:oso/9780195333619.003.0058>
- Baliņa, S., Baumgarte, D., & Salna, E. (2015). The Model for Balancing Learning Workload. *Procedia Computer Science*, 77, 113–118. <https://doi.org/10.1016/j.procs.2015.12.367>
- Baltaci-Goktalay, S., & Ocak, M. A. (2006). Faculty adoption of online technology in higher education. *Turkish Online Journal of Educational Technology-TOJET*, 5(4), 37–43.  
<https://files.eric.ed.gov/fulltext/EJ1102592.pdf>
- Bandura, A. (1986). Fearful expectations and avoidant actions as coefficients of perceived self-inefficacy. *American Psychologist*, 41(12), 1389–1391. <https://doi.org/10.1037/0003-066X.41.12.1389>

- Banks, T., & Dohy, J. (2019). Mitigating barriers to persistence: A review of efforts to improve retention and graduation rates for students of color in higher education. *Higher Education Studies*, 9(1), 118–131. <https://doi.org/10.5539/hes.v9n1p118>
- Bans-Akutey, A., & Tiimub, B. M. (2021). Triangulation in research. *Academia Letters*, 2, 1–6. <https://doi.org/10.20935/AL3392>
- Barbour, M. K., LaBonte, R., Hodges, C. B., Moore, S., Lockee, B. B., Trust, T., ... & Kelly, K. (2020). Understanding pandemic pedagogy: Differences between emergency remote, remote, and online teaching. *State of the Nation: K-12 e-Learning in Canada*. <https://k12sotn.ca/wp-content/uploads/2020/12/understanding-pandemic-pedagogy.pdf>
- Barclay, C., Donalds, C., & Osei-Bryson, K. M. (2018). Investigating critical success factors in online learning environments in higher education systems in the Caribbean. *Information Technology for Development*, 24(3), 582–611. <https://doi.org/10.1080/02681102.2018.1476831>
- Barger, R. P. (2020). Democratization of education through massive open online courses in Asia. *IAFOR Journal of Education*, 8(2), 29–46. <https://doi.org/10.22492/ije.8.2.02>
- Barnes, A. C. (2015). Servant leadership for higher education. *Journal of College and Character*, 16(2), 131–133. <https://doi.org/10.1080/2194587x.2015.1024798>
- Barnett, D. E. (2017). *The effect of leadership on the job satisfaction of online adjunct faculty at a for-profit university* (Doctoral dissertation, Grand Canyon University). <https://doi.org/10.17220/ijpes.2017.03.006>
- Barrow, M., & Grant, B. (2019). The uneasy place of equity in higher education: Tracing its (in) significance in academic promotions. *Higher Education*, 78, 133–147. <https://doi.org/10.1007/s10734-018-0334-2>

- Bartlett, T., & Schugurensky, D. (2020). Deschooling Society 50 years later: Revisiting Ivan Illich in the era of Covid-19. *Sisyphus: Journal of Education*, 8(3), 65–84.  
<https://doi.org/10.25749/sis.20833>
- Bartsch, S., Weber, E., Büttgen, M., & Huber, A. (2021). Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic. *Journal of service management*, 32(1), 71–85. <https://doi.org/10.1108/JOSM-05-2020-0160>
- Baskarada, S. (2014). Qualitative case study guidelines. *Qualitative case studies guidelines. The Qualitative Report*, 19(40), 1 – 25.
- Baskir, C. E. (2015). Legal education in China: Globalizing with Chinese characteristics. *Asian Journal of Legal Education*, 2(2), 143–156. <https://doi.org/10.1177/2322005815578516>
- Batucan, G. B., Gonzales, G. G., Balbuena, M. G., Pasaol, K. R. B., Seno, D. N., & Gonzales, R. R. (2022). An extended UTAUT model to explain factors affecting online learning system amidst COVID-19 pandemic: The case of a developing economy. *Frontiers in Artificial Intelligence*, 5, 768831. <https://doi.org/10.3389/frai.2022.768831>
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *Sage Open*, 6(1), 2158244015621777.  
<https://doi.org/10.1177/2158244015621777>
- Bazzano, L. A., Durant, J., & Brantley, P. R. (2021). A modern history of informed consent and the role of key information. *Ochsner Journal*, 21(1), 81–85.  
<https://doi.org/10.31486/toj.19.0105>

- Beaudoin, M. F. (2003). Distance education leadership for the new century. *Online Journal of Distance Learning Administration*, 6(2), 1.  
<https://ojdla.com/archive/summer62/beaudoin62.pdf>
- Becker, K. M. (2019). Beyond researcher as instrument: Researcher with instrument: musicking in qualitative data collection. *Qualitative Research Journal*, 19(4), 426–437.  
<https://doi.org/10.1108/QRJ-02-2019-0021>
- Beckles, H., & Course Instructor 9s-Kennedy, S. (2021). Accelerating the Future into the Present: Re-imagining Higher Education in the Caribbean. In *The Promise of Higher Education* (pp. 363–368). Springer, Cham. [https://doi.org/10.1007/978-3-030-67245-4\\_54](https://doi.org/10.1007/978-3-030-67245-4_54)
- Bellaaj, M., Zekri, I., & ALBUGAMI, M. (2015). The continued use of e-learning system: An empirical investigation using UTAUT model at the University of Tabuk. *Journal of Theoretical & Applied Information Technology*, 72(3), 464–474.  
[https://www.researchgate.net/publication/281717268\\_The\\_continued\\_use\\_of\\_e-learning\\_system\\_An\\_empirical\\_investigation\\_using\\_UTAUT\\_model\\_at\\_the\\_University\\_of\\_Tabuk](https://www.researchgate.net/publication/281717268_The_continued_use_of_e-learning_system_An_empirical_investigation_using_UTAUT_model_at_the_University_of_Tabuk)
- Belotto, M. J. (2018). Data analysis methods for qualitative research: Managing the challenges of coding, interrater reliability, and thematic analysis. *The Qualitative Report*, 23(11), 2622–2633. <https://doi.org/10.46743/2160-3715/2018.3492>
- Berger, J. B., Blanco-Ramírez, G., & Lyon, S. (2012). Past to present: A historical look at retention (pp. 7-34). *College student retention: Formula for student success*. Recuperado de [https://www.academia.edu/6049081/Past\\_to\\_present\\_A\\_historical\\_look\\_at\\_retention](https://www.academia.edu/6049081/Past_to_present_A_historical_look_at_retention)

- Berjaoui, R. R., & Karami-Akkary, R. (2020). Distributed leadership as a path to organisational commitment: The case of a Lebanese school. *Leadership and Policy in Schools, 19*(4), 610–624. <https://doi.org/10.1080/15700763.2019.1637900>
- Bernal, R. L. (2018). The export of higher education services from small island developing states: The Caribbean potential. In *Handbook of Small States* (pp. 103–117). Routledge. <https://doi.org/10.4324/9781351181846-6>
- Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction treatments in DE. *Review of Educational research, 79*(3), 1243–1289. <https://doi.org/10.3102/0034654309333844>
- Bertram, M. (2017). Understanding Faculty Perceptions in Undergraduate Online Math Courses. *ProQuest LLC*.
- Bervell, B., & Umar, I. N. (2017). A decade of LMS acceptance and adoption research in Sub-Saharan African higher education: A systematic review of models, methodologies, milestones and main challenges. *Eurasia Journal of Mathematics, Science and Technology Education, 13*(11), 7269–7286. <https://doi.org/10.12973/ejmste/79444>
- Bezuidenhout, A. (2015). Implications of distance educator's changing work roles for academic workload.
- Bhagat, K. K., Liou, W. K., Michael Spector, J., & Chang, C. Y. (2019). To use augmented reality or not in formative assessment: A comparative study. *Interactive Learning Environments, 27*(5-6), 830–840. <https://doi.org/10.1080/10494820.2018.1489857>
- Bhat A. (2018). Qualitative Research Questions: What it is and how to write it. QuestionPro. Retrieved from <https://www.questionpro.com/blog/qualitative-research-survey-question/>

- Bhat, B. A., & Bhat, G. J. (2019). Formative and summative evaluation techniques for improvement of learning process. *European Journal of Business & Social Sciences*, 7(5), 776–785.  
[https://www.researchgate.net/publication/333633265\\_Formative\\_and\\_Summative\\_Evaluation\\_Techniques\\_for\\_Improvement\\_of\\_Learning\\_Process](https://www.researchgate.net/publication/333633265_Formative_and_Summative_Evaluation_Techniques_for_Improvement_of_Learning_Process)
- Biancolli, D. (2015). *An archipelago of thinkers: The free school movement as a social movement* (Doctoral dissertation, University of Maryland, College Park).
- Bigelow, R. W. (2017). *Perception of Online Legal Education among Recently Retired Law School Faculty* (Doctoral dissertation, Capella University).
- Bixter, M. T., Blocker, K. A., Mitzner, T. L., Prakash, A., & Rogers, W. A. (2019). Understanding the use and non-use of social communication technologies by older adults: A qualitative test and extension of the UTAUT model. *Gerontechnology: international journal on the fundamental aspects of technology to serve the ageing society*, 18(2), 70.  
<https://doi.org/10.4017/gt.2019.18.2.002.0>
- Black, D., Bissessar, C., & Boolaky, M. (2019). Online education as an opportunity equalizer: The changing canvas of online education. *Interchange*, 50, 423–443.  
<https://doi.org/10.1007/s10780-019-09358-0>
- Blasiman, R. N., Larabee, D., & Fabry, D. (2018). Distracted students: A comparison of multiple types of distractions on learning in online lectures. *Scholarship of Teaching and Learning in Psychology*, 4(4), 222. <https://doi.org/10.1037/stl0000122>
- Bloom, N., Van Reenen, J., & Williams, H. (2019). A toolkit of policies to promote innovation. *Journal of economic perspectives*, 33(3), 163–184. <https://doi.org/10.1257/jep.33.3.163>

- Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, 22(2), 27–30. <https://doi.org/10.33235/jarna.22.2.27-30>
- Blut, M., Chong, A., Tsiga, Z., & Venkatesh, V. (2021). Meta-analysis of the unified theory of acceptance and use of technology (UTAUT): challenging its validity and charting A research agenda in the red ocean. *Journal of the Association for Information Systems*, forthcoming. <https://doi.org/10.17705/1jais.00719>
- Bobb-Smith, Y. (2006). National report on higher education in Grenada (Vol. 11). *International Institute for Higher Education in Latin America and the Caribbean*.
- Boddy, C. R. (2016). Sample size for qualitative research. *Qualitative Market Research: An International Journal*, 19(4), 426–432. <https://doi.org/10.1108/QMR-06-2016-0053>
- Boeren, E., & Field, J. (2019). 4th global report on adult learning and education: Leave no one behind--Participation, equity and inclusion. *UNESCO Institute for Lifelong Learning*. <https://unesdoc.unesco.org/ark:/48223/pf00000372274>
- Boisselle, L. N. (2014). Online-learning and its utility to higher education in the Anglophone Caribbean. *Sage Open*, 4(4), 2158244014555118. <https://doi.org/10.1177/2158244014555118>
- Borup, J., Graham, C. R., West, R. E., Archambault, L., & Spring, K. J. (2020). Academic communities of engagement: An expansive lens for examining support structures in blended and online learning. *Educational Technology Research and Development*, 68, 807-832. between noncognitive attributes and college retention. *Research in Higher Education*, 60, 135–152. <https://doi.org/10.1007/s11423-020-09744-x>

- Bowman, N. A., Miller, A., Woosley, S., Maxwell, N. P., & Kolze, M. J. (2019). Understanding the link between noncognitive attributes and college retention. *Research in higher education*, 60, 135–152. <https://doi.org/10.1007/s11162-018-9508-0>
- Boyers, J. (2017). A leader's understanding: Faculty perception of academic quality and effective implementation of online modality in higher education (Publication No. 10273325) [Doctoral dissertation, Creighton University].
- Boyraz, S., & Ocak, G. (2021). Connectivism: a literature review for the new pathway of pandemic driven education. *International Journal of Innovative Science and Research Technology*, 6(3), 1122–1129. <https://eric.ed.gov/?id=ED625559>
- Bozkurt, A. (2019). The historical development and adaptation of open universities in Turkish context: Case of Anadolu university as a giga university. *International Review of Research in Open and Distributed Learning*, 20(4), 36–59. <https://doi.org/10.19173/irrodl.v20i4.4086>
- Bozkurt, A., Koseoglu, S., & Singh, L. (2019). An analysis of peer reviewed publications on openness in education in half a century: Trends and patterns in the open hemisphere. *Australasian Journal of Educational Technology*, 35(4). <https://doi.org/10.14742/ajet.4252>
- Brandon, E. (2005). New external providers of tertiary education in the Caribbean. *International Institute for Higher Education in Latin America and the Caribbean*. <https://unesdoc.unesco.org/ark:/48223/pf0000149355>
- Brau, B., Fox, N., & Robinson, E. (2020). Behaviorism. *The Students' Guide to Learning Design and Research*. <https://edtechbooks.org/studentguide>

- Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis?. *Qualitative research in psychology*, 18(3), 328-352.
- Braun, V., Clarke, V., Boulton, E., Davey, L., & McEvoy, C. (2021). The online survey as a qualitative research tool. *International journal of social research methodology*, 24(6), 641–654. <https://doi.org/10.1080/13645579.2020.1805550>
- Brenner, T. J., Beaver, A. G., Kuzmick, M., Pollock, P., & Lue, R. A. (2020). Partners in creating student-centered learning: Case study of the Derek Bok Center for teaching and learning at Harvard University. In *The Routledge International Handbook of Student-Centered Learning and Teaching in Higher Education* (pp. 401–413). Routledge. <https://doi.org/10.4324/9780429259371-30>
- Bridges, D., & Bridges, D. (2017). Four issues for ethical code makers. *Philosophy in Educational Research: Epistemology, Ethics, Politics and Quality*, 301–313. [https://doi.org/10.1007/978-3-319-49212-4\\_18](https://doi.org/10.1007/978-3-319-49212-4_18)
- Brigance, S. K. (2011). Leadership in online learning in higher education: Why instructional designers for online learning should lead the way. *Performance Improvement*, 50(10), 43–48. <https://doi.org/10.1002/pfi.20262>
- Broadbent, J. (2016). Academic success is about self-efficacy rather than frequency of use of the learning management system. *Australasian Journal of Educational Technology*, 32(4). <https://doi.org/10.14742/ajet.2634>
- Brockman, J. (2018). *The Lived Experiences of Students in the Online Classroom* [Doctoral dissertation, The University of the Rockies].

- Broeckelman-Post, M. A., & Simonds, C. J. (2020). Recruiting and Nurturing a Pipeline of Future Basic Course Directors. *Basic Communication Course Annual*, 32(1), 12.  
<https://ecommons.udayton.edu/cgi/viewcontent.cgi?article=1609&context=bcca>
- Brown, A. (2012). Practical constraints in social field research in the Caribbean. In *Cultures, Politics, and Research Programs* (pp. 19-40). Routledge.
- Bryant, S. M., Kahle, J. B., & Schafer, B. A. (2005). DE: A review of the contemporary literature. *Issues in accounting education*, 20(3), 255–272. <https://doi.org/10.2308/iace.2005.20.3.255>
- Buchanan C., (2022). Student enrollment declines continue to impact higher education.  
<https://www.fierceeducation.com/leadership/student-enrollment-declines-continue-impact-higher-education>
- Burke, A. (2019). Student retention models in higher education: A literature review. *College and University*, 94(2), 12–21. <https://eric.ed.gov/?id=EJ1216871>
- Butler Lamar, S. C., Samms-Brown, C., & Brown Iii, U. J. (2016). Technology acceptance in a sample of college students. *International Journal of Education Research*, 11(1).  
<https://link.gale.com/apps/doc/A474041513/AONE?u=anon~a52e2470&sid=googleScholar&xid=c4b427d6>
- Butler-Henderson, K., & Crawford, J. (2020). Digitally empowered students through teacher leadership: The role of authentic leadership. *Journal of Applied Learning & Teaching*, 3(SI1), 1–9. <https://doi.org/10.37074/jalt.2020.3.s1.6>
- Buttrick, H. G., Davidson, J., & McGowan, R. J. (2016). The skeleton of the data breach: The ethical and legal concerns. *Rich. JL & Tech.*, 23, 1.  
<https://doi.org/10.4324/9781315767901-6>

- Cahyono, Y., Jihadi, M., Arifin, Z., Purnamasari, W., Wijoyo, H., Putra, R. S., ... & Purwanto, A. (2020). Do servant leadership influence market performance? Evidence from Indonesian pharmacy industries. *Systematic Reviews in Pharmacy*, 11(9), 439–451.  
<http://dx.doi.org/10.31838/srp.2020.9.62>
- Cantu-Bazaldua, F. (2021). *Remote but Well Connected? Neighboring but Isolated? Measuring Remoteness in the Context of SIDS*. UNCTAD/SER (No. 67). RP/2021/10. UNCTAD Research Paper.
- Cao, J., Yang, T., Lai, I. K. W., & Wu, J. (2021). Is online education more welcomed during COVID-19? An empirical study of social impact theory on online tutoring platforms. *The International Journal of Electrical Engineering & Education*, 0020720920984001.  
<https://doi.org/10.1177/0020720920984001>
- Carbajal, S. D. (2020). *A Comparative Analysis of Student and Faculty Perceptions of Online and Face-To-Face Instruction* [Doctoral dissertation, Northcentral University].
- CARICOM (2020). Organisation of Eastern Caribbean States (OECS).  
<https://caricom.org/institutions/organisation-of-eastern-caribbean-states-oecs/>
- Carminati, L. (2018). Generalizability in qualitative research: A tale of two traditions. *Qualitative health research*, 28(13), 2094–2101.  
<https://doi.org/10.1177/1049732318788379>
- Carter, D., & Baghurst, T. (2014). The influence of servant leadership on restaurant employee engagement. *Journal of Business Ethics*, 124, 453–464. <https://doi.org/10.1007/s10551-013-1882-0>

- Caruth, G. D., & Caruth, D. L. (2013). DE in the United States: From correspondence courses to the Internet. *Turkish Online Journal of DE*, 14(2), 141–149.  
<https://dergipark.org.tr/en/pub/tojde/issue/16896/176051>
- Cassie, D. V. (2022). The e-leadership challenge in online chemistry learning in the Caribbean. *Open Praxis*, 14(1), 68–82. <https://doi.org/10.55982/openpraxis.14.1.143>
- Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching and Learning*, 10(6), 807–815.  
<https://doi.org/10.1016/j.cptl.2018.03.019>
- Castro, M. D. B., & Tumibay, G. M. (2021). A literature review: efficacy of online learning courses for higher education institution using meta-analysis. *Education and Information Technologies*, 26(2), 1367–1385. <https://doi.org/10.1007/s10639-019-10027-z>
- Çetin, M., & Karsantık, I. (2022). Current Trends in School Management: School Leadership in Education 4.0. In *Educational Theory in the 21st Century: Science, Technology, Society and Education* (pp. 197-216). Singapore: Springer Nature Singapore.  
[https://doi.org/10.1007/978-981-16-9640-4\\_9](https://doi.org/10.1007/978-981-16-9640-4_9)
- Chan, C. D., Henesy, R. K., & Erby, A. N. (2019). Toward praxis, promise, and futures of intersectionality in multimethod counseling research. *Counseling Outcome Research and Evaluation*, 10(1), 12–18. <https://doi.org/10.1080/21501378.2018.1562845>
- Chan, S. C., Wan, C. J., & Ko, S. (2019). Interactivity, active collaborative learning, and learning performance: The moderating role of perceived fun by using personal response systems. *The International Journal of Management Education*, 17(1), 94–102.  
<https://doi.org/10.1016/j.ijme.2018.12.004>

- Chankseliani, M., & McCowan, T. (2021). Higher education and the sustainable development goals. *Higher Education*, 81(1), 1–8. <https://doi.org/10.1007/s10734-020-00652-w>
- Chao, C. M. (2019). Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model. *Frontiers in psychology*, 10, 1652. <https://doi.org/10.3389/fpsyg.2019.01652>
- Chauhan, S., & Jaiswal, M. (2016). Determinants of acceptance of ERP software training in business schools: Empirical investigation using UTAUT model. *The International Journal of Management Education*, 14(3), 248–262. <https://doi.org/10.1016/j.ijme.2016.05.005>
- Chen, C. H., & Tsai, C. C. (2021). In-service teachers' conceptions of mobile technology-integrated instruction: Tendency towards student-centered learning. *Computers & Education*, 170, 104224. <https://doi.org/10.1016/j.compedu.2021.104224>
- Chen, C. K., & Almunawar, M. N. (2019). Cloud learning management system in higher education. In *Opening Up Education for Inclusivity Across Digital Economies and Societies* (pp. 29-51). IGI Global. <https://doi.org/10.4018/978-1-5225-7473-6.ch002>
- Chen, J. C. (2014). Teaching nontraditional adult students: Adult learning theories in practice. *Teaching in Higher Education*, 19(4), 406–418. <https://doi.org/10.1080/13562517.2013.860101>
- Cherrstrom, C. A., & Boden, C. J. (2018). Beacon of hope: Award-winning program redesign for post-traditional students. *International Journal of Adult Vocational Education and Technology (IJAVET)*, 9(2), 30–47. <https://doi.org/10.4018/IJAVET.2018040103>
- Chevallier, T., & Eicher, J. C. (2002). Higher education funding: A decade of changes. *Higher Education in Europe*, 27(1-2), 89–99. <https://doi.org/10.1080/0379772022000003242>

- Chiu, T. K. (2021). Digital support for student engagement in blended learning based on self-determination theory. *Computers in Human Behavior*, 124, 106909. <https://doi.org/10.1016/j.chb.2021.106909>
- Chiu, Y. L., & Tsai, C. C. (2014). The roles of social factor and internet self-efficacy in nurses' web-based continuing learning. *Nurse education today*, 34(3), 446–450. <https://doi.org/10.1016/j.nedt.2013.04.013>
- Chopra, G., Madan, P., Jaisingh, P., & Bhaskar, P. (2019). Effectiveness of e-learning portal from students' perspective: A structural equation model (SEM) approach. *Interactive Technology and Smart Education*, 16(2), 94–116. <https://doi.org/10.1108/ITSE-05-2018-0027>
- Chowdhury, I. A. (2015). Issue of quality in a qualitative research: An overview. *Innovative Issues and Approaches in Social Sciences*, 8(1), 142–162. <https://doi.org/10.12959/issn.1855-0541.IIASS-2015-no1-art09>
- Choy, L. T. (2014). The strengths and weaknesses of research methodology: Comparison and complimentary between qualitative and quantitative approaches. *IOSR journal of humanities and social science*, 19(4), 99–104. <https://doi.org/10.9790/0837-194399104>
- Chung, E., Turnbull, D., & Chur-Hansen, A. (2017). Differences in resilience between 'traditional' and 'non-traditional' university students. *Active Learning in Higher Education*, 18(1), 77–87. <https://doi.org/10.1177/1469787417693493>
- Clark, J. T. (2020). DE. In *Clinical engineering handbook* (pp. 410–415). Academic Press. <https://doi.org/10.1016/B978-0-12-813467-2.00063-8>
- Clarke, V., & Braun, V. (2017). Thematic analysis. *The journal of positive psychology*, 12(3), 297–298.

- Class, B., de Bruyne, M., Willemin, C., Donzé, D., & Claivaz, J. B. (2021). Towards open science for the qualitative researcher: From a positivist to an open interpretation. *International Journal of Qualitative Methods*, 20, 16094069211034641.  
<https://doi.org/10.1177/16094069211034641>
- Clegg, P. (2012). Independence movements in the Caribbean: withering on the vine? *Commonwealth & Comparative Politics*, 50(4), 422–438.  
<https://doi.org/10.1080/14662043.2012.729728>
- Coate, K. L., Howson, C. B. K., & de St Croix, T. (2015). *Mid-career academic women: Strategies, choices and motivation*. <https://kclpure.kcl.ac.uk/portal/en/publications/mid-career-academic-women-strategies-choices-and-motivation>
- Cobley, A. (2000). The historical development of higher education in the Anglophone Caribbean. *Higher Education in the Caribbean: Past, present, and future directions*, 123.
- Cochran-Smith, M., & Fries, K. (2008). Research on teacher education: Changing times, changing paradigms. In *Handbook of research on teacher education* (pp. 1050-1093). Routledge.
- Cole, A. W., Lennon, L., & Weber, N. L. (2021). Student perceptions of online active learning practices and online learning climate predict online course engagement. *Interactive Learning Environments*, 29(5), 866–880.  
<https://doi.org/10.1080/10494820.2019.1619593>
- Colpaert, J. (2020). Brave new digital classroom: Technology and foreign language learning, by Robert J. Blake and Gabriel Guillén. *Calico Journal*, 37(1), 113–116.  
<https://doi.org/10.1558/cj.40426>

- Cope, D. G. (2014). Methods and meanings: credibility and trustworthiness of qualitative research. In *Oncology nursing forum*, 41(1). <https://doi.org/10.1188/14.ONF.89-91>
- Corbett, S. (2017). From teacher to manager: expectations and challenge in the further education sector. a relationship model. *Research in Post-Compulsory Education*, 22(2), 208–220. <https://doi.org/10.1080/13596748.2017.1314680>
- Coriale, D., & Edelstein, S. (2021). The Society to Encourage Studies at Home (in a pandemic). *ESQ: A Journal of Nineteenth-Century American Literature and Culture*, 67(1), 246–256. <https://doi.org/10.1353/esq.2021.0009>
- Corry, M., & Stella, J. (2018). Teacher self-efficacy in online education: A review of the literature. *Research in Learning Technology*, 26(2018). <https://doi.org/10.25304/rlt.v26.2047>
- Crawford-Franklin, C., & Robinson, L. (2013). “Even in an age of wonders”: radio as an information resource in 1920s America. *Journal of Documentation*, 69(3), 417–434. <https://doi.org/10.1108/JD-08-2012-0108>
- Creswell, J. (2014). *Research design : qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, California: SAGE Publications, Inc.
- Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design (international student edition): Choosing among five approaches. *Language*, 25(459p), 23cm.
- Crossley, M., & Louisy, P. (1994). The changing role of the small state in higher education: A comparison of national and regional initiatives in the Caribbean and the South Pacific. *Compare*, 24(2), 109–125. <https://doi.org/10.1080/0305792940240202>

- Darwish, T. K., Zeng, J., Rezaei Zadeh, M., & Haak-Saheem, W. (2020). Organisational learning of absorptive capacity and innovation: does leadership matter?. *European Management Review*, 17(1), 83–100. <https://doi.org/10.1111/emre.12320>
- Davies, H. (2022). Reshaping the review of consent so we might improve participant choice. *Research Ethics*, 18(1), 3–12. <https://doi.org/10.1177/17470161211043703>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319–340. <https://doi.org/10.2307/249008>
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace 1. *Journal of Applied Social Psychology*, 22(14), 1111–1132. <https://doi.org/10.1111/j.1559-1816.1992.tb00945.x>
- De Lisle, J. (2011). The benefits and challenges of mixing methods and methodologies: Lessons learnt from implementing qualitatively led mixed methods research designs in Trinidad and Tobago. *Caribbean Curriculum*, 18, 87–120. <https://www.semanticscholar.org/paper/The-Benefits-and-Challenges-of-Mixing-Methods-and-Lisle/f72659af59d346ae461951ab1ef4307588e746ad>
- de Oliveira, M. M. S., Penedo, A. S. T., & Pereira, V. S. (2018). Distance education: advantages and disadvantages of the point of view of education and society. *Dialogia*, (29), 139–152. <https://doi.org/10.5585/dialogia.N29.7661>
- De Vries, S., van de Grift, W. J., & Jansen, E. P. (2014). How teachers' beliefs about learning and teaching relate to their continuing professional development. *Teachers and Teaching*, 20(3), 338–357. <https://doi.org/10.1080/13540602.2013.848521>
- Deb, S. (2015, April). Gap between GDP and HDI: Are the rich country experiences different from the poor. In *IARIW-OECD Special Conference*.

- Degn, L. (2015). Sensemaking, sensegiving and strategic management in Danish higher education. *Higher Education*, 69, 901–913. <https://doi.org/10.1007/s10734-014-9812-3>
- DeLotell, P. J. (2014). *Examining the relationship between department chair leadership style and organisational commitment of online adjunct faculty*. Northcentral University.
- DePietro, R., Wiarda, E., & Fleischer, M. (1990). The Context for Change: Organisation, Technology, and Environmental. In Tornatzky, L. G., & Fleischer, M. (Eds.). *The Process of Technological Innovation*. (pp. 151-175). Lexington, MA: Lexington Books.
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of educational technology systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>
- Dias-Lacy, S. L., & Guirguis, R. V. (2017). Challenges for new teachers and ways of coping with them. *Journal of Education and Learning*, 6(3), 265–272. <https://doi.org/10.5539/jel.v6n3p265>
- Dick, R., Baggerly-Hinojosa, B., Sun, Y., & Wheeler, C. (2017). Leadership in Online Education: Does it Matter? *Leadership*, 47, 01. [http://ibii-us.org/Journals/JESD/V1N2/Publish/V1N2\\_1.pdf](http://ibii-us.org/Journals/JESD/V1N2/Publish/V1N2_1.pdf)
- Dieterich, C. A., Hamsher, S., & Anderson, A. (2022). Maximizing the Needs of School Leaders in Online Educational Leadership Coursework. *eJEP: eJournal of Education Policy*, 23(2), n2. <https://eric.ed.gov/?id=EJ1366095>
- Donaghy, E., Atherton, H., Hammersley, V., McNeilly, H., Bikker, A., Robbins, L., ... & McKinstry, B. (2019). Acceptability, benefits, and challenges of video consulting: a qualitative study in primary care. *British journal of general practice*, 69(686), e586-e594. <https://doi.org/10.3399/bjgp19X702941>

- Doolan, D. M., Winters, J., & Nouredini, S. (2017). Answering research questions using an existing data set. *Medical Research Archives*, 5(9).  
<https://esmed.org/MRA/mra/article/view/1543>
- Dooly, M., Moore, E., & Vallejo, C. (2017). Research ethics. *Research-publishing. net*.  
<https://eric.ed.gov/?id=ED573618>
- Dornyei, Z. (2020). *Innovations and challenges in language learning motivation*. Routledge.  
<https://doi.org/10.4324/9780429485893>
- Drozdzowski M. (2023). Looming Enrollment Cliff Poses Serious Threat to Colleges. Retrieved from <https://www.bestcolleges.com/news/analysis/looming-enrollment-cliff-poses-serious-threat-to-colleges/>
- Dubey, P., & Pandey, D. (2020). Distance learning in higher education during pandemic: challenges and opportunities. *The International Journal of Indian Psychology*, 8(2), 43–46. <https://ijip.in/articles/0802204/>
- Duval, E., Sharples, M., & Sutherland, R. (2017). Research themes in technology enhanced learning. *Technology enhanced learning: Research themes*, 1–10.  
[https://doi.org/10.1007/978-3-319-02600-8\\_1](https://doi.org/10.1007/978-3-319-02600-8_1)
- Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019). Re-examining the unified theory of acceptance and use of technology (UTAUT): Towards a revised theoretical model. *Information Systems Frontiers*, 21, 719–734.  
<https://doi.org/10.1007/s10796-017-9774-y>
- Economic Commission for Latin America and the Caribbean (1999). The Caribbean in the decade of the 90s: summary. <https://repositorio.cepal.org/handle/11362/27454?locale-attribute=en>

- Eddy, P. L., & Kirby, E. (2020). *Leading for tomorrow: A primer for succeeding in higher education leadership*. Rutgers University Press. <https://doi.org/10.36019/9780813596822>
- Edwards, A. (2020). Qualitative designs and analysis. In *Doing early childhood research* (pp. 155-175). Routledge. <https://doi.org/10.4324/9781003115403-11>
- Ekren, G., Karataş, S., & Demiray, U. (2015). Understanding of leadership in DE management. In *Identification, Evaluation, and Perceptions of DE Experts* (pp. 46-61). IGI Global. <https://doi.org/10.4018/978-1-4666-8119-4.ch004>
- Elfil, M., & Negida, A. (2017). Sampling methods in clinical research; an educational review. *Emergency*, 5(1). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5325924/>
- Elias, T. (2011). Learning analytics: Definitions, processes and potential. *Learning*, 1–22. <https://landing.athabasca.ca/file/download/43713>
- Elliott, V. (2018). Thinking about the coding process in qualitative data analysis. *Qualitative Report*, 23(11). <https://doi.org/10.46743/2160-3715/2018.3560>
- Ellis, P. (2009). Community Perspectives on Poverty and Poverty Alleviation in the Caribbean. In *Cross-Cultural Perspectives on Policy and Practice* (pp. 193-208). Routledge.
- Elrehail, H., Emeagwali, O. L., Alsaad, A., & Alzghoul, A. (2018). The impact of transformational and authentic leadership on innovation in higher education: The contingent role of knowledge sharing. *Telematics and Informatics*, 35(1), 55–67. <https://doi.org/10.1016/j.tele.2017.09.018>
- Enarson, H., & Drucker, P. F. (1960). Innovation in higher education. *The Journal of Higher Education*, 31(9), 495–501. <https://doi.org/10.1080/00221546.1960.11777628>

- Erkutlu, H., & Chafra, J. (2017). Authentic leadership and organisational job embeddedness in higher education. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 32(2), 413–426.  
<http://www.efdergi.hacettepe.edu.tr/upload/files/3378-kodlu-makalemiz.pdf>
- Etajuri, E. A., Mohd, N. R., Naimie, Z., & Ahmad, N. A. (2022). Undergraduate dental students' perspective of online learning and their physical and mental health during COVID-19 pandemic. *PLoS One*, 17(6), e0270091. <https://doi.org/10.1371/journal.pone.0270091>
- Evans, L. (2017). University professors as academic leaders: Professorial leadership development needs and provision. *Educational management administration & leadership*, 45(1), 123–140. <https://doi.org/10.1177/1741143215578449>
- Evers, M. (2014). *The Intention of Healthcare Professionals to Continue Using Telerevalidation: An evaluation of Telerevalidation.nl after the first implementation phase using the UTAUT model* (Master's thesis, University of Twente).
- Fabri, M., & Fortuna, S. (2020). Maria Montessori and neuroscience: The trailblazing insights of an exceptional mind. *The Neuroscientist*, 26(5-6), 394–401.  
<https://doi.org/10.1177/1073858420902677>
- Fadzil, A. S. A., Nasir Syed Mohamad, S. J. A., Hassan, R., Hamid, N. A., & Zainudin, M. I. (2019). Change management designed for schools: Expanding the continuum of UTAUT on education reform. *Global Business & Management Research*, 11(2).  
[https://www.researchgate.net/publication/334668414\\_Change\\_Management\\_Designed\\_for\\_Schools\\_Expanding\\_the\\_Continuum\\_of\\_UTAUT\\_on\\_Education\\_Reform](https://www.researchgate.net/publication/334668414_Change_Management_Designed_for_Schools_Expanding_the_Continuum_of_UTAUT_on_Education_Reform)
- Fahmi, K., Kurniawan. T., Cahyono. Y., Sena. A., Suhadarliyah., Suryani. P., Sugianto. A., Amelia. D., Musnaini., Amin. S., Hasbullah. H., Jihadi. M., Wijoyo. H. & Purwanto. A. (2020). Did servant, digital and green leadership influence market performance?

- Evidence from Indonesian pharmaceutical industry. *Systematic Reviews in Pharmacy*, 11 (9), 642–653. <https://www.sysrevpharm.org/articles/did-servant-digital-and-green-leadership-influence-market-performance-evidence-from-indonesian-pharmaceutical-industry.pdf>
- Faibisoff, S. G., & Willis, D. J. (1987). Distance Education: Definition and overview. *Journal of Education for library and Information Science*, 223–232.  
<https://doi.org/10.2307/40323650>
- Farkhani, Z. A., Badiei, G., & Rostami, F. (2022). Investigating the teacher's perceptions of classroom management and teaching self-efficacy during Covid-19 pandemic in the online EFL courses. *Asian-Pacific Journal of Second and Foreign Language Education*, 7(1), 25. <https://doi.org/10.1186/s40862-022-00152-7>
- Farooq, M. S., Salam, M., Jaafar, N., Fayolle, A., Ayupp, K., Radovic-Markovic, M., & Sajid, A. (2017). Acceptance and use of lecture capture system (LCS) in executive business studies: Extending UTAUT2. *Interactive Technology and Smart Education*.  
<https://doi.org/10.1108/ITSE-06-2016-0015>
- Fatoni, A. U., & Surani, D. (2022, April). UTAUT. In *4th Social and Humanities Research Symposium (SoRes, 2021)* (pp. 595-600). Atlantis Press.  
<https://doi.org/10.2991/assehr.k.220407.122>
- Ferguson, R., & Sharples, M. (2014). Innovative pedagogy at massive scale: teaching and learning in MOOCs. In *Open Learning and Teaching in Educational Communities: 9th European Conference on Technology Enhanced Learning, EC-TEL 2014, Graz, Austria, September 16-19, 2014, Proceedings 9* (pp. 98-111). Springer International Publishing.

- Ferguson, T., & Rooft, C. G. (2020). SDG 4 in higher education: Challenges and opportunities. *International Journal of Sustainability in Higher Education*, 21(5), 959–975. <https://doi.org/10.1108/IJSHE-12-2019-0353>
- Fernanda, K. R. I., Scott, S., & Scott, D. E. (2021). A thematic literature review about academic leadership development: Exploring and comparing Latin American with non-Latin American leadership literature. *Research in Educational Administration and Leadership*, 6(2), 378–430. <https://doi.org/10.30828/real/2021.2.2>
- Fernández Batanero, J. M., Román Graván, P., Montenegro Rueda, M., & Fernández Cerero, J. (2022). Conocimiento del profesorado universitario sobre el uso de recursos digitales para atender a personas con discapacidad. El caso de la Comunidad Autónoma de Castilla-La Mancha. *Revista Interuniversitaria de Formación del Profesorado*, 98(36.2), 63–78. <https://doi.org/10.47553/rifop.v98i36.2.93947>
- Fernandez Lynch, H. (2020). Minimal or reasonable? Considering the ethical threshold for research risks to nonconsenting bystanders and implications for nonconsenting participants. *Bioethics*, 34(9), 923–932. <https://doi.org/10.1111/bioe.12725>
- Fernandez, A., & Shaw, G. (2020). Leadership in higher education in an era of new adaptive challenges. In *INTED2020 Proceedings* (pp. 61-65). IATED. <https://doi.org/10.21125/inted.2020.0037>
- Fernández-Batanero, J. M., Montenegro-Rueda, M., Fernández-Cerero, J., & García-Martínez, I. (2022). Digital competences for teacher professional development. Systematic review. *European Journal of Teacher Education*, 45(4), 513–531. <https://doi.org/10.1080/02619768.2020.1827389>

- Findley, M. G., Kikuta, K., & Denly, M. (2021). External validity. *Annual Review of Political Science*, 24, 365–393. <https://doi.org/10.1146/annurev-polisci-041719-102556>
- Finley, S. (2012). Servant leadership: A literature review. *Review of Management Innovation & Creativity*, 5(14).
- Fisher, J. E. (2012). KUHT-TV: The University of Houston's Second Great Vision. *Houston History Magazine*, 10, 30-34.
- Fisher, J. T. (2020). *Faculty perceived barriers of online education at a Midwestern University in Ohio*. The University of Toledo.
- FitzPatrick, B. (2019). Validity in qualitative health education research. *Currents in Pharmacy Teaching and Learning*, 11(2), 211–217. <https://doi.org/10.1016/j.cptl.2018.11.014>
- Flake, J. K., Davidson, I. J., Wong, O., & Pek, J. (2022). Construct validity and the validity of replication studies: A systematic review. *American Psychologist*, 77(4), 576. <https://doi.org/10.1037/amp0001006>
- Flick, U. (2018). Doing qualitative data collection—charting the routes. *The SAGE handbook of qualitative data collection*, 1–16. <https://doi.org/10.4135/9781526416070.n1>
- Floyd, A., & Preston, D. (2018). The role of the associate dean in UK universities: distributed leadership in action? *Higher Education*, 75, 925–943. <https://doi.org/10.1007/s10734-017-0178-1>
- Frederick, A., Jarvis, A., Lansiquot, A., Roland, A., & Tuitt, A. (2019). A 2020 plan-of-action for Caribbean integration and development: The relevance of Caribbean integration efforts in a world of globalization. *Journal of Caribbean Studies*, 1(1), 1–8. <https://osf.io/5pnd8/download>

- Frierson, P. (2021). The moral philosophy of Maria Montessori. *Journal of the American Philosophical Association*, 7(2), 133–154. <https://doi.org/10.1017/apa.2019.41>
- Friesen, N. (2013). Educational technology and the “New language of learning”: Lineage and limitations. *The Politics of Education and Technology: Conflicts, Controversies, and Connections*, 21–38. [https://doi.org/10.1057/9781137031983\\_2](https://doi.org/10.1057/9781137031983_2)
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. <https://doi.org/10.46743/2160-3715/2015.2281>
- Fusch, P., Fusch, G. E., & Ness, L. R. (2018). Denzin’s paradigm shift: Revisiting triangulation in qualitative research. *Journal of Sustainable Social Change*, 10(1), 2. <https://doi.org/10.5590/JOSC.2018.10.1.02>
- Gaffar, K., Singh, L., & Thomas, T. (2011). Are we ready for Web 2.0? Evidence from a Caribbean University. *The Caribbean Teaching Scholar*, 1(2). <https://journals.sta.uwi.edu/ojs/index.php/cts/article/view/13>
- Gaina, D. M. (2019). Re: Proposed regulations on recognition of accrediting agencies and recognition procedures for state agencies, 84 Fed. Reg. 27,404; Docket ID ED-2018-OPE-0076.
- Galef Jr, B. G. (1998). Edward Thorndike: Revolutionary psychologist, ambiguous biologist. *American Psychologist*, 53(10), 1128. <https://doi.org/10.1037/0003-066X.53.10.1128>
- Gamlath, S. (2022). Peer learning and the undergraduate journey: a framework for student success. *Higher Education Research & Development*, 41(3), 699–713. <https://doi.org/10.1080/07294360.2021.1877625>

- Gangwar, H., Date, H., & Raoot, A. D. (2014). Review on IT adoption: insights from recent technologies. *Journal of Enterprise Information Management*.  
<https://doi.org/10.1108/JEIM-08-2012-0047>
- Gao, H. (2022). Online AI-guided video extraction for DE with applications. *Mathematical Problems in Engineering*, 2022. <https://doi.org/10.1155/2022/5028726>
- Geiger, R. L. (2019). American higher education since World War II. In *American Higher Education since World War II*. Princeton University Press.  
<https://doi.org/10.1515/9780691190648>
- Ghateolbahra, A., & Samimi, F. (2021). Classroom management strategies in online environment: A comparative study on novice and experienced Teachers. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(14), 510–516.  
<https://doi.org/10.17762/turcomat.v12i14.10313>
- Gibson, J. (2019). Is remoteness a cause of slow growth in the Pacific? A spatial-econometric analysis. <https://openresearch-repository.anu.edu.au/handle/1885/157860>
- Gift, S., Leo-Rhynie, E., & Moniquette, J. (2006). Quality assurance of transnational education in the English-speaking Caribbean. *Quality in Higher Education*, 12(2), 125–133.  
<https://doi.org/10.1080/13538320600916692>
- Gigliotti, R. A. (2017). *The social construction of crisis in higher education: Implications for crisis leadership theory and practice*. Rutgers The State University of New Jersey, School of Graduate Studies. Global Higher Education, 65–74.
- Gigliotti, R. A. (2021). The impact of COVID-19 on academic department chairs: Heightened complexity, accentuated liminality, and competing perceptions of reinvention. *Innovative Higher Education*, 46(4), 429–444. <https://doi.org/10.1007/s10755-021-09545-x>

- Gill, P., & Baillie, J. (2018). Interviews and focus groups in qualitative research: an update for the digital age. *British dental journal*, 225(7), 668–672.  
<https://doi.org/10.1038/sj.bdj.2018.815>
- Gomes, A. (2022). Paulo Freire: Review of “the pedagogy of the oppressed”. *Harm Reduction Journal*, 19(1), 1–3. <https://doi.org/10.1186/s12954-022-00605-9>
- Gomes, S., Lopes, J. M., & Nogueira, S. (2023). Willingness to pay more for green products: A critical challenge for Gen Z. *Journal of Cleaner Production*, 390, 136092.  
<https://doi.org/10.1016/j.jclepro.2023.136092>
- Goodwin, D., Mays, N., & Pope, C. (2020). Ethical issues in qualitative research. *Qualitative research in health care*, 27–41. <https://doi.org/10.1002/9781119410867.ch3>
- Grace, D., Weaven, S., Bodey, K., Ross, M., & Weaven, K. (2012). Putting student evaluations into perspective: The course experience quality and satisfaction model (CEQS). *Studies in Educational Evaluation*, 38(2), 35–43. <https://doi.org/10.1016/j.stueduc.2012.05.001>
- Graham, N. V. (2018). *A Qualitative Multiple Case Study of Factors that Impact Educator’s Success in an Online Environment* [Doctoral dissertation, Northcentral University]
- Greaves, D. (2021). Perception of young adults in higher education: a case study of Caribbean students in the online learning environment. *Open Learning: The Journal of Open, Distance and e-Learning*, 1–17. <https://doi.org/10.1080/02680513.2021.1906640>
- Greenstein, S. (2020). Inconvenient truths: Interpreting the origins of the internet. *JL & Innovation*, 3, 36. <https://www.hbs.edu/faculty/Pages/item.aspx?num=58349>
- Gregory, M. S. J., & Lodge, J. M. (2015). Academic workload: the silent barrier to the implementation of technology-enhanced learning strategies in higher education. *DE*, 36(2), 210–230. <https://doi.org/10.1080/01587919.2015.1055056>

Gregory, R. L., Rockinson-Szapkiw, A. J., & Cook, V. S. (2020). Community College Faculty Perceptions of the Quality Matters™ Rubric. *Online Learning*, 24(2), 128–141.

<https://doi.org/10.24059/olj.v24i2.2052>

Grigoropoulos, J. E. (2019). The role of ethics in 21<sup>st</sup> century organisations. *International Journal of Progressive Education*, 15(2), 167–175.

<https://doi.org/10.29329/ijpe.2019.189.12>

Gruzd, A., Staves, K., & Wilk, A. (2012). Connected scholars: Examining the role of social media in research practices of faculty using the UTAUT model. *Computers in Human Behavior*, 28(6), 2340–2350. <https://doi.org/10.1016/j.chb.2012.07.004>

Guest, G., Namey, E., Taylor, J., Eley, N., & McKenna, K. (2017). Comparing focus groups and individual interviews: findings from a randomized study. *International Journal of Social Research Methodology*, 20(6), 693–708. <https://doi.org/10.1080/13645579.2017.1281601>

Guillemin, M., Gillam, L., Barnard, E., Stewart, P., Walker, H., & Rosenthal, D. (2016). “Doing trust” how researchers conceptualize and enact Trust in Their Research Practice. *Journal of Empirical Research on Human Research Ethics*, 11(4), 370–381.

<https://doi.org/10.1177/1556264616668975>

Gul, F. A., & Chia, Y. M. (1994). The effects of management accounting systems, perceived environmental uncertainty and decentralization on managerial performance: a test of three-way interaction. *Accounting, Organisations and Society*, 19(4-5), 413–426.

[https://doi.org/10.1016/0361-3682\(94\)90005-1](https://doi.org/10.1016/0361-3682(94)90005-1)

Gunasinghe, A., Abd Hamid, J., Khatibi, A., & Azam, S. F. (2019). Academicians’ acceptance of online learning environments: A review of information system theories and models.

- Global Journal of Computer Science and Technology*, 19(H1), 31–39.  
<https://doi.org/10.34257/GJCSTHVOL19IS1PG31>
- Gunasinghe, A., Hamid, J. A., Khatibi, A., & Azam, S. F. (2020). The viability of UTAUT-3 in understanding the lecturer's acceptance and use of virtual learning environments. *International Journal of Technology Enhanced Learning*, 12(4), 458–481.  
<http://dx.doi.org/10.1504/IJTEL.2019.10023751>
- Guri-Rosenblit, S. (2005). 'Distance education' and 'e-learning': Not the same thing. *Higher education*, 467-493. <https://doi.org/10.1007/s10734-004-0040-0>
- Güzer, B., & Caner, H. (2014). The past, present and future of blended learning: an in depth analysis of literature. *Procedia-social and behavioral sciences*, 116, 4596–4603.  
<https://doi.org/10.1016/j.sbspro.2014.01.992>
- Hadi, F., & Kishik, A. (2014). Acceptance of mobile learning among university students in Malaysia. *Journal of Computing and organisational Dynamics*, 1(1), 1–14.
- Hafeez, M. (2021). A critical review on blended learning versus traditional lecture method. *International Journal of Management and Human Science (IJMHS)*, 5(3), 1–21.  
<https://doi.org/10.18844/ijlt.v13i2.5668>
- Hall, C. (2018). What is a West Indian? In *West Indian Intellectuals in Britain* (pp. 31-50). Manchester University Press. <https://doi.org/10.7765/9781526137968.00007>
- Hamdan, A., Hassanien, A. E., Razzaque, A., & Alareeni, B. (Eds.). (2021). *The fourth industrial revolution: implementation of artificial intelligence for growing business success* (Vol. 935). Springer Nature. <https://doi.org/10.1007/978-3-030-62796-6>

- Hannum, W. H., Irvin, M. J., Banks, J. B., & Farmer, T. W. (2009). Distance education use in rural schools. *Journal of Research in Rural Education (Online)*, 24(3), 1.  
<https://jrre.psu.edu/sites/default/files/2019-08/24-3.pdf>
- Hansen, B. L., & Gray, E. (2018). Creating boundaries within the ubiquitous online classroom. *Journal of Educators Online*, 15(3), n3.  
<https://doi.org/10.9743/jeo.2018.15.3.2>
- Harasim, L. (2000). Shift happens: Online education as a new paradigm in learning. *The Internet and higher education*, 3(1-2), 41–61. [https://doi.org/10.1016/S1096-7516\(00\)00032-4](https://doi.org/10.1016/S1096-7516(00)00032-4)
- Hargreaves, A., & Goodson, I. (2006). Educational change over time? The sustainability and nonsustainability of three decades of secondary school change and continuity. *Educational administration quarterly*, 42(1), 3–41.  
<https://doi.org/10.1177/0013161X05277975>
- Harland, N., & Holey, E. (2011). Including open-ended questions in quantitative questionnaires—theory and practice. *International Journal of Therapy and Rehabilitation*, 18(9), 482–486. <https://doi.org/10.12968/ijtr.2011.18.9.482>
- Harrison, H., Birks, M., Franklin, R., & Mills, J. (2017). Case study research: Foundations and methodological orientations. In *Forum qualitative Sozialforschung/Forum: Qualitative Social Research* 18(1), 1–17. <https://www.qualitative-research.net/index.php/fqs/article/view/2655>
- Hartnett, M., & Hartnett, M. (2016). The importance of motivation in online learning. *Motivation in online education*, 5–32. [https://doi.org/10.1007/978-981-10-0700-2\\_2](https://doi.org/10.1007/978-981-10-0700-2_2)

- Haßler, B., Adam, T., Blower, T., & Megha-Bongkar, G. (2021). Academic recovery programmes in the Eastern Caribbean—Literature review.  
<https://docs.opendeved.net/lib/DZA3GVBD>
- Hayashi, P., Abib, G., & Hoppen, N. (2019). Validity in qualitative research: A processual approach. *The qualitative report*, 24(1), 98–112. <https://doi.org/10.46743/2160-3715/2019.3443>
- Heath, J., Williamson, H., Williams, L., & Harcourt, D. (2018). “It’s just more personal”: Using multiple methods of qualitative data collection to facilitate participation in research focusing on sensitive subjects. *Applied Nursing Research*, 43, 30–35.  
<https://doi.org/10.1016/j.apnr.2018.06.015>
- Heaton, J. (2022). “\* Pseudonyms are used throughout”: a footnote, unpacked. *Qualitative Inquiry*, 28(1), 123–132. <https://doi.org/10.1177/10778004211048379>
- Heffernan, T. A., & Bosetti, L. (2020). The emotional labour and toll of managerial academia on higher education leaders. *Journal of Educational Administration and History*, 52(4), 357–372. <https://doi.org/10.1080/00220620.2020.1725741>
- Hennink, M. M., Kaiser, B. N., & Weber, M. B. (2019). What influences saturation? Estimating sample sizes in focus group research. *Qualitative health research*, 29(10), 1483–1496.  
<https://doi.org/10.1177/1049732318821692>
- Herman, W. E., & Pinard, M. R. (2015). Critically examining inquiry-based learning: John Dewey in theory, history, and practice. In *Inquiry-based learning for multidisciplinary programs: A conceptual and practical resource for educators*. Emerald Group Publishing Limited. <https://doi.org/10.1108/S2055-364120150000003016>

- Higgins, B., & Thomas, I. (2016). Education for sustainability in universities: challenges and opportunities for change. *Australian Journal of Environmental Education*, 32(1), 91–108.  
<https://doi.org/10.1017/aee.2015.56>
- Hollis, R. B., & Was, C. A. (2016). Mind wandering, control failures, and social media distractions in online learning. *Learning and Instruction*, 42, 104–112.  
<https://doi.org/10.1016/j.learninstruc.2016.01.007>
- Horblitt, S. (1996). Leadership in the Caribbean. Policy Papers on the Americas, VII(5). *Center for Strategic and International Studies*.
- Horvath, V. E., & Mills, C. S. (2011). The challenges for faculty using interactive television in DE. *Journal of Technology in Human Services*, 29(1), 33–48.  
<https://doi.org/10.1080/15228835.2011.568678>
- Houlden, S., & Veletsianos, G. (2019). A posthumanist critique of flexible online learning and its “anytime anyplace” claims. *British Journal of Educational Technology*, 50(3), 1005–1018. <https://doi.org/10.1111/bjet.12779>
- Howard B., (2016). Despite progress, basic infrastructure still a challenge in Africa. *Afrobarometer*.
- Hsu, H. C. K., Wang, C. V., & Levesque-Bristol, C. (2019). Reexamining the impact of self-determination theory on learning outcomes in the online learning environment. *Education and information technologies*, 24, 2159–2174. <https://doi.org/10.1007/s10639-019-09863-w>
- Hullinger, A. M., & DiGirolamo, J. A. (2020). A professional development study: The lifelong journeys of coaches. *International Coaching Psychology Review*, 15(1), 8–19.  
<https://doi.org/10.53841/bpsicpr.2020.15.1.8>

- Hunte, S. (2011). Profile of the UWI distance learners: The implications for online curriculum development, teaching and learning at the university. *Turkish Online Journal of Distance Education*, 11(3), 98–118. <https://files.eric.ed.gov/fulltext/EJ1042460.pdf>
- Hunter, J., & Kier, C. A. (2022). Canadian open digital DE universities and academic integrity. In *Academic integrity in Canada: An enduring and essential challenge* (pp. 249-266). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-030-83255-1\\_13](https://doi.org/10.1007/978-3-030-83255-1_13)
- Hurd, S., & Xiao, J. (2006). Open and distance language learning at the Shantou Radio and TV University, China, and the Open University, United Kingdom: A cross-cultural perspective. *Open Learning: The Journal of Open, Distance and e-Learning*, 21(3), 205–219. <https://doi.org/10.1080/02680510600953161>
- Hurwitz, S. J. (1966). The Federation of the West Indies: A study in nationalisms. *Journal of British Studies*, 6(1), 139–168. <https://doi.org/10.1086/385530>
- Hussin, A. A. (2018). Education 4.0 made simple: Ideas for teaching. *International Journal of Education and Literacy Studies*, 6(3), 92–98. <https://doi.org/10.7575/aiac.ijels.v.6n.3p.92>
- Ikumoro, A. O., & Jawad, M. S. (2019). Intention to use intelligent conversational agents in e-commerce among Malaysian SMEs: an integrated conceptual framework based on tri-theories including unified theory of acceptance, use of technology (UTAUT), and TOE. *International Journal of Academic Research in Business and Social Sciences*, 9(11), 205–235. <https://doi.org/10.6007/IJARBS/v9-i11/6544>
- Ilies, R., Yao, J., Curseu, P. L., & Liang, A. X. (2019). Educated and happy: A four-year study explaining the links between education, job fit, and life satisfaction. *Applied Psychology*, 68(1), 150–176. <https://doi.org/10.1111/apps.12158>

- Ingrams, A. (2020). Administrative reform and the quest for openness: A Popperian review of open government. *Administration & Society*, 52(2), 319–340.  
<https://doi.org/10.1177/0095399719875460>
- Iqbal, S., & Qureshi, I. A. (2012). M-learning adoption: A perspective from a developing country. *International Review of Research in Open and Distributed Learning*, 13(3), 147–164. <https://doi.org/10.19173/irrodl.v13i3.1152>
- Isah, A., Akanbi, M. L., & Mutshewa, A. (2022). A review of dominant information technology adoption frameworks and their relevance to digital library adoption and usage studies. *Ilorin Journal of Computer Science and Information Technology*, 5(1), 1–11.  
<https://www.iljcsit.com.ng/index.php/ILJCSIT/article/view/57>
- Ishak, N. M., & Abu Bakar, A. Y. (2014). Developing sampling frame for case study: Challenges and conditions. *World Journal of Education*, 4(3), 29–35.  
<https://doi.org/10.5430/wje.v4n3p29>
- Ismail, N., Kinchin, G., & Edwards, J. A. (2018). Pilot study, Does it really matter? Learning lessons from conducting a pilot study for a qualitative PhD thesis. *International Journal of Social Science Research*, 6(1), 1–17. <https://doi.org/10.5296/ijssr.v6i1.11720>
- Jaradat, M. I. R. M., & Banikhaled, M. (2013). Undergraduate students' adoption of website-service quality by applying the unified theory of acceptance and use of technology (UTAUT) in Jordan. *Int. J. Interact. Mob. Technol.*, 7(3), 22–29.  
<https://doi.org/10.3991/ijim.v7i3.2482>
- Jindal, A., & Chahal, B. P. S. (2018). Challenges and opportunities for online education in India. *Pramana Research Journal*, 8(4), 99–106.  
[https://www.pramanaresearch.org/gallery/prj\\_c\\_ap\\_12.pdf](https://www.pramanaresearch.org/gallery/prj_c_ap_12.pdf)

- Johnson, D. M. (2018). *The uncertain future of American public higher education: Student-centered strategies for sustainability*. Springer. <https://doi.org/10.1007/978-3-030-01794-1>
- Johnson, D. M. (2019a). Campuses: overvalued, underused, and very costly. In *The Uncertain Future of American Public Higher Education* (pp. 59–74). Palgrave Macmillan, Cham. [https://doi.org/10.1007/978-3-030-01794-1\\_5](https://doi.org/10.1007/978-3-030-01794-1_5)
- Johnson, D. M. (2019b). Student demographics: The coming changes and challenges for Higher Education. *The uncertain future of American public higher education: Student-centered strategies for sustainability*, 141–156. [https://doi.org/10.1007/978-3-030-01794-1\\_10](https://doi.org/10.1007/978-3-030-01794-1_10)
- Johnson, J. L., Adkins, D., & Chauvin, S. (2020). A review of the quality indicators of rigor in qualitative research. *American Journal of Pharmaceutical Education*, 84(1). <https://doi.org/10.5688/ajpe7120>
- Joksimović, S., Poquet, O., Kovanović, V., Dowell, N., Mills, C., Gašević, D., ... & Brooks, C. (2018). How do we model learning at scale? A systematic review of research on MOOCs. *Review of Educational Research*, 88(1), 43–86. <https://doi.org/10.3102/0034654317740335>
- Joo, Y. J., Bong, M., & Choi, H. J. (2000). Self-efficacy for self-regulated learning, academic self-efficacy, and internet self-efficacy in web-based instruction. *Educational Technology Research and Development*, 48, 5–17. <https://doi.org/10.1007/BF02313398>
- Jules, D. (2008). Rethinking education for the Caribbean: A radical approach. *Comparative Education*, 44(2), 203–214. <https://doi.org/10.1080/03050060802041142>

- Jules, T. D., & Arnold, R. (2021). Constructing global citizenship education at the regional level: regionalism and Caribbean citizen education. *Globalisation, Societies and Education*, 19(4), 393–404. <https://doi.org/10.1080/14767724.2021.1911630>
- Jung, C. H., & Namn, S. H. (2014). Cloud computing acceptance at individual level based on extended UTAUT. *Journal of digital convergence*, 12(1), 287–294. <https://doi.org/10.14400/JDC.2017.15.1.287>
- Jung, H. J. (2014). Ubiquitous learning: Determinants impacting learners' satisfaction and performance with smartphones. <https://scholarspace.manoa.hawaii.edu/bitstreams/41720e5c-e42e-4a67-99d5-e2b5dae7eef9/download>
- Kaba, B., & Touré, B. (2014). Understanding information and communication technology behavioral intention to use: Applying the UTAUT model to social networking site adoption by young people in a least developed country. *Journal of the Association for Information Science and Technology*, 65(8), 1662–1674. <https://doi.org/10.1002/asi.23069>
- Kahu, E. R., Stephens, C., Zepke, N., & Leach, L. (2014). Space and time to engage: Mature-aged distance students learn to fit study into their lives. *International Journal of Lifelong Education*, 33(4), 523–540. <https://doi.org/10.1080/02601370.2014.884177>
- Kaliisa, R., Palmer, E., & Miller, J. (2019). Mobile learning in higher education: A comparative analysis of developed and developing country contexts. *British Journal of Educational Technology*, 50(2), 546–561. <https://doi.org/10.1111/bjet.12583>

- Kang, E., & Hwang, H. J. (2021). Ethical conducts in qualitative research methodology: Participant observation and interview process. *Journal of Research and Publication Ethics*, 2(2), 5–10. <https://koreascience.kr/article/JAKO202130550806959.pdf>
- Kanwal, F., & Rehman, M. (2017). Factors affecting e-learning adoption in developing countries—empirical evidence from Pakistan’s higher education sector. *Ieee Access*, 5, 10968-10978. <https://doi.org/10.1109/ACCESS.2017.2714379>
- Kaplan, A. M., & Haenlein, M. (2016). Higher education and the digital revolution: About MOOCs, SPOCs, social media, and the Cookie Monster. *Business Horizons*, 59(4), 441–450. <https://doi.org/10.1016/j.bushor.2016.03.008>
- Karagiozis, N. (2018). Complexities of the researcher’s role. *The International Journal of Interdisciplinary Educational Studies*, 13(1), 19. <https://doi.org/10.18848/2327-011X/CGP/v13i01/19-31>
- Kaufmann, R., & Vallade, J. I. (2022). Exploring connections in the online learning environment: student perceptions of rapport, climate, and loneliness. *Interactive Learning Environments*, 30(10), 1794–1808. <https://doi.org/10.1080/10494820.2020.1749670>
- Kayali, M., & Alaaraj, S. (2020). Adoption of cloud based E-learning in developing countries: a combination a of DOI, TAM and UTAUT. *Int. J. Contemp. Manag. Inf. Technol*, 1(1), 1–7. <https://ijcmit.com/2020/11/24/adoption-of-cloud-based-e-learning-in-developing-countries-a-combination-of-doi-tam-and-utaut/>
- Kezar, A. J., & Holcombe, E. M. (2017). Shared leadership in higher education. *Washington, DC: American Council on Education*, 1–36. <https://www.acenet.edu/Documents/Shared-Leadership-in-Higher-Education.pdf>

- Kezar, A., Fries-Britt, S., Kurban, E., McGuire, D., & Wheaton, M. M. (2019). Speaking truth and acting with integrity: Confronting challenges of campus racial climate. *American Council on Education*. <https://www.acenet.edu/Documents/Speaking-Truth-and-Acting-with-Integrity.pdf>
- Khan, N. (2017). Adaptive or transactional leadership in current higher education: A brief comparison. *International review of research in open and distributed learning*, 18(3), 178–183. <https://doi.org/10.19173/irrodl.v18i3.3294>
- Khayer, A., Jahan, N., Hossain, M. N., & Hossain, M. Y. (2020). The adoption of cloud computing in small and medium enterprises: a developing country perspective. *VINE Journal of Information and Knowledge Management Systems*. <https://doi.org/10.1108/VJIKMS-05-2019-0064>
- Kheang, T., O'Donoghue, T., Clarke, S., Kheang, T., O'Donoghue, T., & Clarke, S. (2018). Educational leadership in developing countries and in post-new war countries. *Primary School Leadership in Cambodia: Context-Bound Teaching and Leading*, 43–84. [https://doi.org/10.1007/978-3-319-76324-8\\_3](https://doi.org/10.1007/978-3-319-76324-8_3)
- Khechine, H., Lakhal, S., & Ndjambou, P. (2016). A meta-analysis of the UTAUT model: Eleven years later. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 33(2), 138–152. <https://doi.org/10.1002/cjas.1381>
- Khlaif, Z. N., Salha, S., & Kouraichi, B. (2021). Emergency remote learning during COVID-19 crisis: Students' engagement. *Education and information technologies*, 26(6), 7033–7055. <https://doi.org/10.1007/s10639-021-10566-4>
- Kibbe, M. R. (2019). Leadership theories and styles. *Leadership in Surgery*, 27–36. [https://doi.org/10.1007/978-3-030-19854-1\\_3](https://doi.org/10.1007/978-3-030-19854-1_3)

- Kiernan, M. D. (2016). Legal ethics and concerns with security in a bring your down device program. *Issues in Information Systems*, 17(4). [https://iacis.org/iis/2016/4\\_iis\\_2016\\_254-259.pdf](https://iacis.org/iis/2016/4_iis_2016_254-259.pdf)
- Kiersch, C., & Peters, J. (2017). Leadership from the inside out: student leadership development within authentic leadership and servant leadership frameworks. *Journal of leadership education*, 16(1). <https://doi.org/10.12806/V16/I1/T4>
- Killian, C. D. (2020). *Online Learning in Higher Education: Perceptions of Academic Administrators and Faculty Regarding Online Education in Community Colleges in Arkansas*. Arkansas State University.
- Kim, J. K., & Lee, K. S. (2023). The effect of UTAUT, dynamic capabilities, utilization of smart factory on the intention to continue using: Technology perception moderating effect. *The Journal of Economics, Marketing and Management*, 11(6), 43–55. <https://doi.org/10.20482/jemm.2023.11.6.43>
- Kim, K. J., & Frick, T. W. (2011). Changes in student motivation during online learning. *Journal of Educational Computing Research*, 44(1), 1–23. <https://doi.org/10.2190/EC.50.1.a>
- Kim, S., Lee, K. H., Hwang, H., & Yoo, S. (2015). Analysis of the factors influencing healthcare professionals' adoption of mobile electronic medical record (EMR) using the unified theory of acceptance and use of technology (UTAUT) in a tertiary hospital. *BMC Medical Informatics and Decision Making*, 16(1), 1–12. <https://doi.org/10.1186/s12911-016-0249-8>
- King, W. K. (2009). Universal secondary education in the OECS: Some views on the curriculum. *Journal of Eastern Caribbean Studies*, 34(2), 19. <https://www.jecsonline.com/wp-content/uploads/2019/09/JECS-Vol-34-No.-2-June-2009.pdf>

- Kiraly, D. (2014). *A social constructivist approach to translator education: Empowerment from theory to practice*. Routledge. <https://doi.org/10.4324/9781315760186>
- Kirton-Roberts, W. (2022). Black People, White God: Moravianism and the “Cultural Purification” of the Afro-Caribbean in Antigua and Tobago. In *Moravian Americans and their Neighbors, 1772-1822* (pp. 90-119). Brill. [https://doi.org/10.1163/9789004517868\\_005](https://doi.org/10.1163/9789004517868_005)
- Kistow, B. (2011). Blended learning in higher education: A study of a graduate school of business, Trinidad and Tobago. *The Caribbean Teaching Scholar*, 1(2). <https://journals.sta.uwi.edu/ojs/index.php/cts/article/view/12>
- Kivunja, C. (2018). Distinguishing between theory, theoretical framework, and conceptual framework: A systematic review of lessons from the field. *International Journal of Higher Education*, 7(6), 44–53. <https://doi.org/10.5430/ijhe.v7n6p44>
- Knight, J. (2003). GATS, trade and higher education perspective 2003-where are we?. *The Observatory on Borderless Higher Education*, London.
- Kocaleva, M., Stojanovic, I., & Zdravev, Z. (2014). Research on UTAUT application in higher education institutions.
- Koduah, S. T., Popovsky, B. E., & Tsetse, A. (2014). Barriers to government cloud adoption. *International Journal of Managing Information Technology*, 6(3), 1–16. <https://doi.org/10.5121/ijmit.2014.6301>
- Konst, T., & Scheinin, M. (2018). The changing world has implications on the higher education and the teaching profession. *On the Horizon*, 26(1), 1–8. <https://doi.org/10.1108/OTH-02-2017-0008>

- Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, 24(1), 120–124. <https://doi.org/10.1080/13814788.2017.1375092>
- Kováts, G. (2018). The change of organisational structure of higher education institutions in Hungary: a contingency theory analysis. *International Review of Social Research*, 8(1), 74–86. <https://doi.org/10.2478/irsr-2018-0009>
- Kratochwil, F., & Peltonen, H. (2017). Constructivism. In *Oxford Research Encyclopedia of Politics*. <https://doi.org/10.1093/acrefore/9780190228637.013.120>
- Krieglstein, F., Beege, M., Rey, G. D., Ginns, P., Krell, M., & Schneider, S. (2022). A systematic meta-analysis of the reliability and validity of subjective cognitive load questionnaires in experimental multimedia learning research. *Educational Psychology Review*, 34(4), 2485–2541. <https://doi.org/10.1007/s10648-022-09683-4>
- Kristiansen, T. M., & Grønkjær, M. (2018). Focus groups as social arenas for the negotiation of normativity. *Qualitative Inquiry*, 24(3), 163–172. <https://doi.org/10.1177/1077800417747393>
- Krosnick, J. A. (2018). Improving question design to maximize reliability and validity. *The Palgrave Handbook of Survey Research*, 95–101. [https://doi.org/10.1007/978-3-319-54395-6\\_13](https://doi.org/10.1007/978-3-319-54395-6_13)
- Kumar, K. L., & Wideman, M. (2014). Accessible by design: Applying UDL principles in a first year undergraduate course. *Canadian Journal of Higher Education*, 44(1), 125–147. <https://doi.org/10.47678/cjhe.v44i1.183704>

- Kundu, A. (2020). Toward a framework for strengthening participants' self-efficacy in online education. *Asian Association of Open Universities Journal*, 15(3), 351–370.  
<https://doi.org/10.1108/AAOUJ-06-2020-0039>
- Kuo, Y. C., Walker, A. E., Schroder, K. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *The Internet and Higher Education*, 20, 35–50.  
<https://doi.org/10.1016/j.iheduc.2013.10.001>
- Kyei-Blankson, L., Ntuli, E., & Donnelly, H. (2019). Establishing the importance of interaction and presence to student learning in online environments. *Journal of Interactive Learning Research*, 30(4), 539–560. <https://eric.ed.gov/?id=EJ1260061>
- Kyngäs, H., Kääriäinen, M., & Elo, S. (2020). The trustworthiness of content analysis. *The Application of Content Analysis in Nursing Science Research*, 41–48.  
[https://doi.org/10.1007/978-3-030-30199-6\\_5](https://doi.org/10.1007/978-3-030-30199-6_5)
- LaCaille, L. (2020). Theory of reasoned action. *Encyclopedia of Behavioral Medicine*, 2231–2234. [https://doi.org/10.1007/978-3-030-39903-0\\_1619](https://doi.org/10.1007/978-3-030-39903-0_1619)
- Laguardia Martinez, J., Chami, G., Montoute, A., & Mohammed, D. A. (2020). Regional Integration in the Caribbean. In *Changing Cuba-US Relations* (pp. 19–35). Palgrave Macmillan, Cham. [https://doi.org/10.1007/978-3-030-20366-5\\_3](https://doi.org/10.1007/978-3-030-20366-5_3)
- Lambert, S. R. (2020). Do MOOCs contribute to student equity and social inclusion? A systematic review 2014–18. *Computers & Education*, 145, 103693.  
<https://doi.org/10.1016/j.compedu.2019.103693>

- Lancaster, A. M. S. (2021). Reimagining the Routes to Resilience & Renewables in the CARICOM & OECS Caribbean. *Global Energy Law and Sustainability*, 2(2), 121–135. <https://doi.org/10.3366/gels.2021.0052>
- Landrum, B. (2020). Examining Students' Confidence to Learn Online, Self-Regulation Skills and Perceptions of Satisfaction and Usefulness of Online Classes. *Online Learning*, 24(3), 128–146. <https://doi.org/10.24059/olj.v24i3.2066>
- Lau, Y. Y., Tang, Y. M., Yiu, N. S. N., Ho, C. S. W., Kwok, W. Y. Y., & Cheung, K. (2022). Perceptions and challenges of engineering and science transfer students from community college to university in a Chinese educational context. *Frontiers in Psychology*, 12, 797888. <https://doi.org/10.3389/fpsyg.2021.797888>
- Laville, C. (2016). Teaching machines: learning from the intersection of education and technology by bill ferster. *Configurations*, 24(1), 109–111. <https://doi.org/10.1353/con.2016.0002>
- Lawrence, P. R., & Lorsh, J. W. (1967). *Organisation and Environment: Managing Differentiation and Integration* (Homewood: Richard D. Irwin)
- Lederman D., (2021). The number of colleges continues to shrink. *Inside Higher Education*. Retrieved from <https://www.insidehighered.com/news/2021/08/02/number-colleges-shrinks-again-including-publics-and-private-nonprofits>
- Lederman, D. (2019). Professors' slow, steady acceptance of online learning: A survey. *Inside Higher Ed*. <https://www.insidehighered.com/news/survey/professors-slow-steady-acceptance-online-learning-survey>
- Lee, J., & Lee, K. (2021). Is the fourth industrial revolution a continuation of the third industrial revolution or something new under the sun? Analyzing technological regimes using US

- patent data. *Industrial and Corporate Change*, 30(1), 137–159.  
<https://doi.org/10.1093/icc/dtaa059>
- Lee, K. (2017). Rethinking the accessibility of online higher education: A historical review. *The Internet and Higher Education*, 33, 15–23. <https://doi.org/10.1016/j.iheduc.2017.01.001>
- Lee, K. (2021). Openness and innovation in online higher education: A historical review of the two discourses. *Open Learning: The Journal of Open, Distance and e-Learning*, 36(2), 112–132. <https://doi.org/10.1080/02680513.2020.1713737>
- Lemke, R. A. (1992). Advancing distance education programs with ordinary technologies.  
<https://www.learntechlib.org/p/145245/>
- Leo-Rhynie, E. (2007). Creating a culture of quality: The role of the University of the West Indies in Caribbean education. In *Conference on the Caribbean, Washington, DC*.  
<https://uwispace.sta.uwi.edu/items/ae08c6f3-755b-4580-9776-112feb1d7b3d>
- Levine, B. B. (2019). Geopolitical and cultural competition in the Caribbean—an introduction: Cuba versus the United States. In *The New Cuban Presence in the Caribbean* (pp. 1–18). Routledge. <https://doi.org/10.4324/9780429313073-1>
- Levitt, H. M., Motulsky, S. L., Wertz, F. J., Morrow, S. L., & Ponterotto, J. G. (2017). Recommendations for designing and reviewing qualitative research in psychology: Promoting methodological integrity. *Qualitative psychology*, 4(1), 2.  
<https://doi.org/10.1037/qup0000082>
- Lewis, V. A. (2009). What Purposes for Caricom Integration Today? *Journal of Eastern Caribbean Studies*, 34(4), 123–155.  
[https://sta.uwi.edu/nlc/2008/documents/Lewis\\_Lecture\\_full.pdf](https://sta.uwi.edu/nlc/2008/documents/Lewis_Lecture_full.pdf)

- Lewis-Cameron, A. (2015). Rethinking Caribbean tourism education. In *Tourism education: Global issues and trends* (Vol. 21, pp. 81-97). Emerald Group Publishing Limited.  
<https://doi.org/10.1108/S1571-504320150000021004>
- Li, M., & Yu, Z. (2022). Teachers' satisfaction, role, and digital literacy during the COVID-19 pandemic. *Sustainability*, 14(3), 1121. <https://doi.org/10.3390/su14031121>
- Lim, W. M., Lim, A. L., & Phang, C. S. C. (2019). Toward a conceptual framework for social media adoption by non-urban communities for non-profit activities: Insights from an integration of grand theories of technology acceptance. *Australasian Journal of Information Systems*, 23. <https://doi.org/10.3127/ajis.v23i0.1835>
- Limna, P., Siripipatthanakul, S., Siripipattanakul, S., Auttawechasakoon, P., Limna, P., Siripipatthanakul, S., ... & Auttawechasakoon, P. (2023). The UTAUT Model Explaining Intentions to Use Telemedicine Among Thai People During the COVID-19 Pandemic: A Qualitative Study in Krabi, Thailand. *International Journal of Computing Sciences Research*, 7, 1468–1486. <https://doi.org/10.25147/ijcsr.2017.001.1.111>
- Lin, C. (2019). Applying the UTAUT Model to understand factors affecting the use of e-books in Fujian, China.
- Lin, X., & Gao, L. (2020). Students' sense of community and perspectives of taking synchronous and asynchronous online courses. *Asian Journal of Distance Education*, 15(1), 169–179.  
<http://www.asianjde.com/ojs/index.php/AsianJDE/article/view/448>
- Lin, Y., & Yu, Z. (2023). Extending Technology Acceptance Model to higher-education students' use of digital academic reading tools on computers. *International Journal of Educational Technology in Higher Education*, 20(1), 34. <https://doi.org/10.1186/s41239-023-00403-8>

- Lin, Z., & Theingi, H. (2019). Extended utaut2 model on factors influencing of mobile commerce acceptance in Yangon, Myanmar. *AU-GSB e-journal*, 12(2), 3–18.  
<http://www.assumptionjournal.au.edu/index.php/AU-GSB/article/view/4495>
- Lind, N. (2019). A development of the human development index. *Social Indicators Research*, 146(3), 409–423. <https://doi.org/10.1007/s11205-019-02133-9>
- Ling, Q., Liu, F., & Wu, X. (2017). Servant versus authentic leadership: Assessing effectiveness in China's hospitality industry. *Cornell Hospitality Quarterly*, 58(1), 53–68.  
<https://doi.org/10.1177/1938965516641515>
- Liu, Y. (2021). *The Relationship Between Peer Learning and Social Integration in an Online Classroom: Perceptions of Faculty at PCC* [Doctoral dissertation, Lancaster Bible College].
- Liu, Z. Y., Shaikh, Z., & Gazizova, F. (2020). Using the concept of game-based learning in education. *International Journal of Emerging Technologies in Learning (iJET)*, 15(14), 53–64. <https://doi.org/10.3991/ijet.v16i14.24151>
- Liyanagunawardena, T. R., Adams, A. A., & Williams, S. A. (2013). MOOCs: A systematic study of the published literature 2008-2012. *International Review of Research in Open and Distributed Learning*, 14(3), 202–227. <https://doi.org/10.19173/irrodl.v14i3.1455>
- Lizier, A., Brooks, F., & Bizo, L. (2022). Importance of clarity, hierarchy, and trust in implementing distributed leadership in higher education. *Educational Management Administration & Leadership*, 17411432221105154.  
<https://doi.org/10.1177/17411432221105154>

- Louisy, D. P. (2004). Whose context for what quality? Informing education strategies for the Caribbean. *Compare: A Journal of Comparative and International Education*, 34(3), 285–292. <https://doi.org/10.1080/0305792042000257121>
- Maatuk, A. M., Elberkawi, E. K., Aljawarneh, S., Rashaideh, H., & Alharbi, H. (2022). The COVID-19 pandemic and E-learning: challenges and opportunities from the perspective of students and instructors. *Journal of Computing in Higher Education*, 34(1), 21–38. <https://doi.org/10.1007/s12528-021-09274-2>
- Madani, R. A. (2019). Analysis of educational quality, a goal of education for all policy. *Higher Education Studies*, 9(1), 100–109. <https://doi.org/10.5539/hes.v9n1p100>
- Maddock, L. C. (2023). Academic middle leaders, middle leading and middle leadership of university learning and teaching: A systematic review of the higher education literature. *Journal of Higher Education Policy and Management*, 1–36. <https://doi.org/10.1080/1360080X.2022.2160888>
- Madigan, R., Louw, T., Dziennus, M., Graindorge, T., Ortega, E., Graindorge, M., & Merat, N. (2016). Acceptance of automated road transport systems (ARTS): an adaptation of the UTAUT model. *Transportation Research Procedia*, 14, 2217–2226. <https://doi.org/10.1016/j.trpro.2016.05.237>
- Madill, A., & Sullivan, P. (2018). Mirrors, portraits, and member checking: Managing difficult moments of knowledge exchange in the social sciences. *Qualitative Psychology*, 5(3), 321. <https://doi.org/10.1037/qup0000089>
- Maduku, D. K. (2015). An empirical investigation of students' behavioural intention to use e-books. *Management Dynamics: Journal of the Southern African Institute for Management Scientists*, 24(3), 3–20. <https://journals.co.za/doi/abs/10.10520/EJC179374>

- Mahmood, S. (2021). Instructional strategies for online teaching in COVID-19 pandemic. *Human behavior and emerging technologies*, 3(1), 199–203.  
<https://doi.org/10.1002/hbe2.218>
- Makoe, M. (2012). Teaching digital natives: Identifying competencies for mobile learning facilitators in DE. *South African Journal of Higher Education*, 26(1), 91–104.  
<https://doi.org/10.20853/26-1-152>
- Makoe, M., & Olcott Jr, D. (2021). Leadership for development: Re-shaping higher education futures and sustainability in Africa. <https://doi.org/10.56059/jl4d.v8i3.569>
- Malanga, A. C. M., Bernardes, R. C., Borini, F. M., Pereira, R. M., & Rossetto, D. E. (2022). Towards integrating quality in theoretical models of acceptance: An extended proposed model applied to e-learning services. *British Journal of Educational Technology*, 53(1), 8–22. <https://doi.org/10.1111/bjet.13091>
- Malcolm, B. (2024). Connected learning: A dual reflexive pedagogical identity. In Lindgren, R., Asino, T. I., Kyza, E. A., Looi, C. K., Keifert, D. T., & Suárez, E. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024* (pp. 2443-2444). *International Society of the Learning Sciences*. <https://doi.org/10.22318/icls2024.488900>
- Malik, M. (2020). A Review of empirical research on Internet & Mobile banking in developing countries using UTAUT Model during the period 2015 to April 2020. *Journal of Internet Banking and Commerce*, 25(2), 1–22. <https://www.icommercecentral.com/open-access/a-review-of-empirical-research-on-internet-mobile-banking-in-developing-countries-using-utaut-model-during-the-period-2015-to-apr.php?aid=88304>

- Marangunić, N., & Granić, A. (2015). Technology acceptance model: a literature review from 1986 to 2013. *Universal access in the information society*, 14, 81–95.  
<https://doi.org/10.1007/s10209-014-0348-1>
- Marczak & Sewell (n.d). Using Focus Groups for Evaluation. University of Arizona. Retrieved from <https://cals.arizona.edu/sfcs/cyfernet/cyfar/focus.htm>
- Marek, M. W., Chew, C. S., & Wu, W. C. V. (2021). Teacher experiences in converting classes to distance learning in the COVID-19 pandemic. *International Journal of DE Technologies (IJDET)*, 19(1), 89–109. <https://doi.org/10.4018/IJDET.20210101.0a3>
- Marikyan, D. & Papagiannidis, S. (2021). *Unified Theory of Acceptance and Use of Technology: A review*. In S. Papagiannidis (Ed), *TheoryHub Book*. <http://open.ncl.ac.uk>
- Marikyan, D. & Papagiannidis, S. (2023) Unified theory of acceptance and use of technology: A review. In S. Papagiannidis (Ed.), *TheoryHub Book*.
- Marikyan, D., Papagiannidis, S., & Stewart, G. (2023). Technology acceptance research: Meta-analysis. *Journal of Information Science*, 01655515231191177.  
<https://doi.org/10.1177/01655515231191177>
- Marinković, V., Đorđević, A., & Kalinić, Z. (2020). The moderating effects of gender on customer satisfaction and continuance intention in mobile commerce: a UTAUT-based perspective. *Technology Analysis & Strategic Management*, 32(3), 306–318.  
<https://doi.org/10.1080/09537325.2019.1655537>
- Marquez, J. (2014). The Caribbean Community. *Handbook of Research on Economic Growth and Technological Change in Latin America*, 129. <https://doi.org/10.4018/978-1-4666-6224-7.ch007>

- Marrett, C., & Marshall, S. (2006). The Caribbean universities project for integrated distance education: Collaborating to overcome the difficulties faced by Small Island Developing States. <https://uwispace.sta.uwi.edu/bitstreams/6981fc99-f6a1-4c81-9117-12fa4410fe90/download>
- Marshall, E. A., Oates, J. C., Shoaibi, A., Obeid, J. S., Habrat, M. L., Warren, R. W., ... & Lenert, L. A. (2017). A population-based approach for implementing change from opt-out to opt-in research permissions. *PLoS One*, 12(4), e0168223. <https://doi.org/10.1371/journal.pone.0168223>
- Marshall, J., Roache, D., & Moody-Marshall, R. (2020). Crisis leadership: A critical examination of educational leadership in higher education in the midst of the COVID-19 pandemic. *International Studies in Educational Administration*, 48(3), 30–37. [https://www.researchgate.net/publication/377590349\\_Crisis\\_Leadership\\_A\\_Critical\\_Examination\\_of\\_Educational\\_Leadership\\_in\\_Higher\\_Education\\_in\\_the\\_Midst\\_of\\_the\\_COVID-19\\_Pandemic](https://www.researchgate.net/publication/377590349_Crisis_Leadership_A_Critical_Examination_of_Educational_Leadership_in_Higher_Education_in_the_Midst_of_the_COVID-19_Pandemic)
- Martin, F., Stamper, B., & Flowers, C. (2020). Examining Student Perception of Readiness for Online Learning: Importance and Confidence. *Online Learning*, 24(2), 38–58. <https://doi.org/10.24059/olj.v24i2.2053>
- Martínez-Mesa, J., González-Chica, D. A., Duquia, R. P., Bonamigo, R. R., & Bastos, J. L. (2016). Sampling: how to select participants in my research study?. *Anais brasileiros de dermatologia*, 91, 326–330. <https://doi.org/10.1590/abd1806-4841.20165254>
- Martinho, M., & da Silva, J. M. F. (2008). Open plan schools in Portugal: failure or innovation?
- Masimba, F., & Zuva, T. (2021). Individual acceptance of technology: A critical review of technology adoption models and theories. *Indiana Journal of Humanities and Social*

- Sciences*, 2(9), 37–48. [https://indianapublications.com/articles/IJHSS\\_2\(9\)\\_37-48\\_615754ee6b7b89.14148531.pdf](https://indianapublications.com/articles/IJHSS_2(9)_37-48_615754ee6b7b89.14148531.pdf)
- Masino, M. (2013). The use of information and communications technology in teaching and e-learning in the Caribbean. *Journal of Instructional Pedagogies*, 12. <https://files.eric.ed.gov/fulltext/EJ1097115.pdf>
- Masmali, A., & Alghamdi, F. (2021). Factors influencing teachers' continuation of online learning in elementary schools. *International Education Studies*, 14(12), 31–39. <https://doi.org/10.5539/ies.v14n12p31>
- Matheson, C., & Matheson, D. (2009). Access and accessibility in e-learning. In *Applied e-learning and e-teaching in higher education* (pp. 132–153). IGI Global. <https://doi.org/10.4018/978-1-59904-814-7.ch007>
- Mayer, R. E. (2019). Thirty years of research on online learning. *Applied Cognitive Psychology*, 33(2), 152–159. <https://doi.org/10.1002/acp.3482>
- Mazur Yuliia, V. (2022). Influence of education on the economy and welfare of the state population. *Advancing in Research, Practice and Education*, 9, 44.
- McAndrew, P. (2010). Defining openness: updating the concept of “open” for a connected world. *Journal of interactive Media in Education*, 2010(10), 1–13. <https://doi.org/10.5334/2010-10>
- McCaskie, A. (2020). Caribbean region quarterly bulletin the pandemic saga continues. *Inter-American Development Bank*. <https://flagships.iadb.org/en/caribbean-region-quarterly-bulletin-2020-q2/the-pandemic-saga-continues>

- McDonald, J. K. (2020). The Skinnerian teaching machine (1953–1968). In *Historical Instructional Design Cases* (pp. 85–103). Routledge.  
<https://doi.org/10.4324/9780429330995-7>
- McGrath, C., Palmgren, P. J., & Liljedahl, M. (2019). Twelve tips for conducting qualitative research interviews. *Medical teacher*, 41(9), 1002–1006.  
<https://doi.org/10.1080/0142159X.2018.1497149>
- McKeachie, W. J. (1990). Research on college teaching: The historical background. *Journal of educational psychology*, 82(2), 189. <https://doi.org/10.1037/0022-0663.82.2.189>
- Meet, R. K., & Kala, D. (2021). Trends and future prospects in MOOC researches: A systematic literature review 2013-2020. *Contemporary Educational Technology*, 13(3).  
<https://doi.org/10.30935/cedtech/10986>
- Menary, J., Stetkiewicz, S., Nair, A., Jorasch, P., Nanda, A. K., Guichaoua, A., ... & Davies, J. A. (2021). Going virtual: Adapting in-person interactive focus groups to the online environment. *Emerald Open Research*, 3(6), 6. <https://doi.org/10.1108/EOR-06-2023-0008>
- Mergel, I., Edelmann, N., & Haug, N. (2019). Defining digital transformation: Results from expert interviews. *Government information quarterly*, 36(4), 101385.  
<https://doi.org/10.1016/j.giq.2019.06.002>
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.
- Mertens, D. M. (2018). Ethics of qualitative data collection. *The SAGE handbook of qualitative data collection*, 33–48. <https://doi.org/10.4135/9781526416070.n3>

- Meyer, K., & Willis, R. (2019). Looking back to move forward: The value of reflexive journaling for novice researchers. *Journal of gerontological social work*, 62(5), 578–585. <https://doi.org/10.1080/01634372.2018.1559906>
- Miles, D. A. (2017). Achieving Alignment: How to Achieve Research Alignment In A Study. *Research Methods and Strategies: Achieving Alignment: How to Develop Research Alignment in A Dissertation Study*.
- Miles, D. A. (2019). Achieving alignment: How to achieve research alignment in a study. In *Doctoral Student Workshop: Achieving Research Alignment* (pp. 1–12).
- Miller, C. E. (2019). Leading Digital Transformation in Higher Education: a toolkit for technology leaders. In *Technology leadership for innovation in higher education* (pp. 1–25). IGI Global. <https://doi.org/10.4018/978-1-5225-7769-0.ch001>
- Miller, E. (2007). Keynote Address Research and higher education policies for transforming societies: perspectives from the Anglophone Caribbean. *Research and Higher Education policies for transforming societies: Perspectives from Latin America and the Caribbean*, 59.
- Miller, E. L. (2002). Quality assurance in higher education in the Commonwealth Caribbean.
- Mirza, Z. (2021). What Can Pakistan Learn from John Dewey? *International Forum of Teaching and Studies*, 17(1).
- Mitchell, M., Leachman, M., & Masterson, K. (2016). Funding down, tuition up: State cuts to higher education threaten quality and affordability at public colleges.
- Moghavvemi, S., Paramanathan, T., Rahin, N. M., & Sharabati, M. (2017). Student's perceptions towards using e-learning via Facebook. *Behaviour & Information Technology*, 36(10), 1081–1100. <https://doi.org/10.1080/0144929X.2017.1347201>

Mohamed Zabri, S., Mohammad Abakar, Y., & Ahmad, K. (2023). Exploring the acceptance of online learning among students in technical and non-technical programmes at a higher education institution. *Cogent Education*, 10(2), 2284552.

<https://doi.org/10.1080/2331186X.2023.2284552>

Mohamed Zabri, S., Mohammad Abakar, Y., & Ahmad, K. (2023). Exploring the acceptance of online learning among students in technical and non-technical programmes at a higher education institution. *Cogent Education*, 10(2), 2284552.

<https://doi.org/10.1080/2331186X.2023.2284552>

Molefi, C., & Hoque, M. (2021). The importance of corporate entrepreneurship: A case analysis of South African Social Service Agency (SASSA).

Moodly, A. L. (2015). Gender equity in South African higher education leadership: Where are we twenty years after democracy?. *Journal of Social Sciences*, 42(3), 229–238.

<https://doi.org/10.1080/09718923.2015.11893410>

Moon, H., Cheon, J., Lee, J., Banda, D. R., Griffin-Shirley, N., & Ajuwon, P. M. (2022). Factors influencing the intention of persons with visual impairment to adopt mobile applications based on the UTAUT model. *Universal Access in the Information Society*, 1–15.

<https://doi.org/10.1007/s10209-020-00757-0>

Moon, M. D. (2019). Triangulation: A method to increase validity, reliability, and legitimization in clinical research. *Journal of emergency nursing*, 45(1), 103–105.

<https://doi.org/10.1016/j.jen.2018.11.004>

Morais, P., & Lopes, V. (2015). Framework for Openness in Education in the Caribbean. *ASTEC Global ICT Consortium*.

- Moreno-Marcos, P. M., Alario-Hoyos, C., Muñoz-Merino, P. J., & Kloos, C. D. (2018). Prediction in MOOCs: A review and future research directions. *IEEE transactions on Learning Technologies*, 12(3), 384–401. <https://doi.org/10.1109/TLT.2018.2856808>
- Morrisson, C., & Murtin, F. (2013). The Kuznets curve of human capital inequality: 1870–2010. *The Journal of Economic Inequality*, 11, 283–301. <https://doi.org/10.1007/s10888-012-9227-2>
- Morse, J. M. (2010). Simultaneous and sequential qualitative mixed method designs. *Qualitative inquiry*, 16(6), 483–491. <https://doi.org/10.1177/1077800410364741>
- Morse, J. M. (2010). Simultaneous and sequential qualitative mixed method designs. *Qualitative inquiry*, 16(6), 483–491.
- Motulsky, S. L. (2021). Is member checking the gold standard of quality in qualitative research?. *Qualitative Psychology*, 8(3), 389. <https://doi.org/10.1177/1077800410364741>
- Muhammad, G., Albejaidi, F. M., & Akhtar, R. (2017). Challenges in development of eLearning systems in higher education of the developing countries. *London Journal of Research in Humanities and Social Sciences*, 17(2), 13–32.
- Mujere, N. (2016). Sampling in research. In *Mixed methods research for improved scientific study* (pp. 107–121). IGI Global. <https://doi.org/10.4018/978-1-5225-0007-0.ch006>
- Mujica, O. J., & Victora, C. G. (2019). Obesity inequality among adults in Latin America and the Caribbean. *The Lancet Global Health*, 7(12), e1589–e1590. [https://doi.org/10.1016/S2214-109X\(19\)30460-7](https://doi.org/10.1016/S2214-109X(19)30460-7)
- Muldoon, J. (2020). Kurt Lewin: Organisational change. *The Palgrave Handbook of Management History*, 615–632. [https://doi.org/10.1007/978-3-319-62114-2\\_32](https://doi.org/10.1007/978-3-319-62114-2_32)

- Müller, C., & Mildenerger, T. (2021). Facilitating flexible learning by replacing classroom time with an online learning environment: A systematic review of blended learning in higher education. *Educational Research Review*, 34, 100394.  
<https://doi.org/10.1016/j.edurev.2021.100394>
- Mupinga, D. M., & Maughan, G. R. (2008). Web-based instruction and community college faculty workload. *College Teaching*, 56(1), 17–21.  
<https://doi.org/10.3200/CTCH.56.1.17-22>
- Murphy, C. A., Coover, D., & Owen, S. V. (1989). Development and validation of the computer self-efficacy scale. *Educational and Psychological measurement*, 49(4), 893–899.  
<https://doi.org/10.1177/001316448904900412>
- Musaji, S., Schulze, W. S., & De Castro, J. O. (2020). How long does it take to get to the learning curve?. *Academy of Management Journal*, 63(1), 205–223.  
<https://doi.org/10.5465/amj.2017.1145>
- Namatovu, H. K., Oyana, T. J., & Sol, H. G. (2021). Barriers to eHealth adoption in routine antenatal care practices: Perspectives of expectant mothers in Uganda—A qualitative study using the unified theory of acceptance and use of technology model. *Digital Health*, 7, 20552076211064406. <https://doi.org/10.1177/20552076211064406>
- Nassaji, H. (2020). Good qualitative research. *Language Teaching Research*, 24(4), 427–431.  
<https://doi.org/10.1177/1362168820941288>
- Nassuora, A. B. (2012). Students acceptance of mobile learning for higher education in Saudi Arabia. *American Academic & Scholarly Research Journal*, 4(2), 24–30.  
<http://aasrc.org/aasrj/index.php/aasrj/article/view/248>

- Natow, R. S. (2020). The use of triangulation in qualitative studies employing elite interviews. *Qualitative research*, 20(2), 160–173. <https://doi.org/10.1177/1468794119830077>
- Natow, R. S. (2020). The use of triangulation in qualitative studies employing elite interviews. *Qualitative research*, 20(2), 160–173. <https://doi.org/10.1177/1468794119830077>
- Ndibalema, P. (2021). Online assessment in the era of digital natives in higher education institutions. *International Journal of Technology in Education*, 4(3), 443–463. <https://doi.org/10.46328/ijte.89>
- Nelson, G. S. (2015). Practical implications of sharing data: a primer on data privacy, anonymization, and de-identification. In *SAS global forum proceedings* (pp. 1–23).
- Neuwirth, L. S., Jović, S., & Mukherji, B. R. (2021). Reimagining higher education during and post-COVID-19: Challenges and opportunities. *Journal of Adult and Continuing Education*, 27(2), 141–156. <https://doi.org/10.1177/1477971420947738>
- Nichols, D. R. (2020). Study of the perceptions and attitudes regarding online student services (Order No. 27998478). Available from ProQuest One Academic. (2420060235).
- Noble, H., & Heale, R. (2019). Triangulation in research, with examples. *Evidence-based nursing*, 22(3), 67–68. <https://doi.org/10.1136/ebnurs-2012-100804>
- Novak, A. (2014). Anonymity, confidentiality, privacy, and identity: The ties that bind and break in communication research. *Review of Communication*, 14(1), 36–48. <https://doi.org/10.1080/15358593.2014.942351>
- Nsamba, A., & Makoe, M. (2017). Evaluating quality of students' support services in open distance learning. *Turkish Online Journal of Distance Education*, 18(4), 91–103. <https://doi.org/10.17718/tojde.340391>

- Nworie, J. (2012). Applying leadership theories to distance education leadership. *Online Journal of Distance Learning Administration*, 15(5), 1–16. <https://eric.ed.gov/?id=EJ990676>
- O. Nyumba, T., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods in Ecology and Evolution*, 9(1), 20–32. <https://doi.org/10.1111/2041-210X.12860>
- O'Donovan, R., & McAuliffe, E. (2020). A systematic review exploring the content and outcomes of interventions to improve psychological safety, speaking up and voice behaviour. *BMC Health Services Research*, 20(1), 1–11. <https://doi.org/10.1186/s12913-020-4931-2>
- Ogunyemi, D., Clare, C., Astudillo, Y. M., Marseille, M., Manu, E., & Kim, S. (2020). Microaggressions in the learning environment: A systematic review. *Journal of Diversity in Higher Education*, 13(2), 97. <https://doi.org/10.1037/dhe0000107>
- Omer, M., Klomsri, T., Tedre, M., Popova, I., Klingberg-Allvin, M., & Osman, F. (2015). E-learning opens the door to the global community. Novice users experiences of e-learning in a Somali University. *Journal of Online Learning and Teaching*, 11(2). [https://jolt.merlot.org/Vol11no2/Omer\\_0615.pdf](https://jolt.merlot.org/Vol11no2/Omer_0615.pdf)
- Onaolapo, S., & Oyewole, O. (2018). Performance expectancy, effort expectancy, and facilitating conditions as factors influencing smart phones use for mobile learning by postgraduate students of the University of Ibadan, Nigeria. *Interdisciplinary Journal of e-Skills and Lifelong Learning*, 14(1), 95–115. <https://doi.org/10.28945/4085>

- Oreg, S., & Berson, Y. (2018). The impact of top leaders' personalities: The processes through which organisations become reflections of their leaders. *Current Directions in Psychological Science*, 27(4), 241–248. <https://doi.org/10.1177/0963721417748397>
- Organisation of the Eastern Caribbean States. (2021). OECS education sector strategy. [https://www.globalpartnership.org/sites/default/files/2012-2021-oecs-education-sector-strategy\\_0.pdf](https://www.globalpartnership.org/sites/default/files/2012-2021-oecs-education-sector-strategy_0.pdf)
- Organisation of the Eastern Caribbean States. (n.d.). Macroeconomic challenges. <https://www.oecs.org/en/component/sppagebuilder/page/39>
- Oseland, N., Campbell, C., & Cryer, S. (2018). Open plan classrooms, noise & teacher personality.
- Ostler, J. O. (2013). *Essays on Strategic Risk Taking Under Competition* [Doctoral dissertation, UCLA].
- Owens, T. (2015). Practising what they preach? An investigation into the pedagogical beliefs and online teaching practices of National Teaching Fellows. *International Journal for Academic Development*, 20(1), 76–92. <https://doi.org/10.1080/1360144X.2014.983112>
- Padilla-Carmona, M. T., Martínez-García, I., & Herrera-Pastor, D. (2020). Just facilitating access or dealing with diversity? Non-traditional students' demands at a Spanish university. *European journal for Research on the Education and Learning of Adults*, 11(2), 219–233. <https://doi.org/10.3384/rela.2000-7426.ojs850>
- Palinkas, L. A., Mendon, S. J., & Hamilton, A. B. (2019). Innovations in mixed methods evaluations. *Annual review of Public Health*, 40, 423–442. <https://doi.org/10.1146/annurev-publhealth-040218-044215>

Paloque-Bergès, C., & Schafer, V. (2019). Arpanet (1969–2019). *Internet Histories*, 3(1), 1–14.

<https://doi.org/10.1080/24701475.2018.1560921>

Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018).

Online education: Worldwide status, challenges, trends, and implications. *Journal of Global Information Technology Management*, 21(4), 233–241.

<https://doi.org/10.1080/1097198X.2018.1542262>

Panitz, T. (1999). The case for student centered instruction via collaborative learning paradigms.

<https://eric.ed.gov/?id=ED448444>

Park, E. L., & Choi, B. K. (2014). Transformation of classroom spaces: Traditional versus active learning classroom in colleges. *Higher Education*, 68, 749–771.

<https://doi.org/10.1007/s10734-014-9742-0>

Park, K. O. (2020). A study on sustainable usage intention of blockchain in the big data era:

Logistics and supply chain management companies. *Sustainability*, 12(24), 10670.

<https://doi.org/10.3390/su122410670>

Parker, L. (2017). Counseling faculty perceptions of challenges and benefits of online college success courses in california community colleges (Order No. 10689198). Available from ProQuest One Academic. (1983962100).

Parker, P. (2015). The historical role of women in higher education. *Administrative Issues Journal*, 5(1), 3. <https://doi.org/10.5929/2015.5.1.1>

Parnes, M. F., Suárez-Orozco, C., Osei-Twumasi, O., & Schwartz, S. E. (2020). Academic outcomes among diverse community college students: What is the role of instructor relationships?. *Community College Review*, 48(3), 277–302.

<https://doi.org/10.1177/0091552120909908>

- Pasqualini, J. C., Martins, F. R., & Euzébios Filho, A. (2021). Kurt Lewin's group dynamics: propositions, context and critique. *Estudos de Psicologia (Natal)*, 26(2), 161–173.  
[http://pepsic.bvsalud.org/scielo.php?pid=S1413-294X2021000200005&script=sci\\_abstract&tlng=en](http://pepsic.bvsalud.org/scielo.php?pid=S1413-294X2021000200005&script=sci_abstract&tlng=en)
- Patel, M. A. (2014). Person of the issue: -Burrhus Frederick Skinner (1904-1990). *The International Journal of Indian Psychology*, 1(2). <https://ijip.in/articles/person-of-issue-b-f-skinner-1904-1990/>
- Pearson, M. L., Albon, S. P., & Hubball, H. (2015). Case study methodology: Flexibility, rigour, and ethical considerations for the scholarship of teaching and learning. *Canadian Journal for the Scholarship of Teaching and Learning*, 6(3), 12. <https://doi.org/10.5206/cjsotl-rcacea.2015.3.12>
- Peart, T. (2019). Cross-Cultural Communication Differences in Online Learning. In *Handbook of Research on Cross-Cultural Online Learning in Higher Education* (pp. 159-171). IGI Global. <https://doi.org/10.4018/978-1-5225-8286-1.ch009>
- Peck E., (2011). Hierarchy in universities – what it is with leadership, power and authority? The Guardian. Retrieved from <https://www.theguardian.com/higher-education-network/blog/2011/dec/01/university-hierachies-academic-leadership>
- Peechapol, C., Na-Songkhla, J., Sujiva, S., & Luangsodsai, A. (2018). An exploration of factors influencing self-efficacy in online learning: A systematic review. *International Journal of Emerging Technologies in Learning (Online)*, 13(9), 64.  
<https://doi.org/10.3991/ijet.v13i09.8351>

- Peimani, N., & Kamalipour, H. (2021). Online education and the COVID-19 outbreak: A case study of online teaching during lockdown. *Education Sciences*, 11(2), 72.  
<https://doi.org/10.3390/educsci11020072>
- Peus, C., Wesche, J. S., Streicher, B., Braun, S., & Frey, D. (2012). Authentic leadership: An empirical test of its antecedents, consequences, and mediating mechanisms. *Journal of business ethics*, 107, 331–348. <https://doi.org/10.1007/s10551-011-1042-3>
- Pham, H. H., & Ho, T. T. H. (2020). Toward a ‘new normal’ with e-learning in Vietnamese higher education during the post COVID-19 pandemic. *Higher Education Research & Development*, 39(7), 1327–1331. <https://doi.org/10.1080/07294360.2020.1823945>
- Phillippi, J., & Lauderdale, J. (2018). A guide to field notes for qualitative research: Context and conversation. *Qualitative health research*, 28(3), 381–388.  
<https://doi.org/10.1177/1049732317697102>
- Phirangee, K., & Malec, A. (2017). Othering in online learning: An examination of social presence, identity, and sense of community. *Distance Education*, 38(2), 160–172.  
<https://doi.org/10.1080/01587919.2017.1322457>
- Picciano, A. G. (2018). *Online education: Foundations, planning, and pedagogy*. Routledge.
- Pisano, G. P. (2019). The hard truth about innovative. *Harvard Business Review*, 97(1), 62–71.  
<https://hbr.org/2019/01/the-hard-truth-about-innovative-cultures>
- Pityana, N. B. (2007). The history of distance education.
- Pöllinger, A. L. (2021). Open systems for open plans: Jean Prouvé's contribution to school building systems in the 1960s and 1970s. In *History of Construction Cultures* (pp. 751–757). CRC Press. <https://doi.org/10.1201/9781003173434-210>

- Pope Zinsser, K. L. (2017). Adjunct Faculty: Perception of Leadership Styles, Leadership Outcomes, and Organisational Commitment in Online and Faith-Based Education Settings. *ProQuest LLC*.
- Prasser, F., Kohlmayer, F., & Kuhn, K. A. (2016). The importance of context: Risk-based de-identification of biomedical data. *Methods of Information in Medicine*, 55(04), 347–355. <https://doi.org/10.3414/ME16-01-0012>
- Pratolo, B. W. (2019). Integrating body language into classroom interaction: The key to achieving effective English language teaching. *Humanities & Social Sciences Reviews*, 7(3), 121–129. <https://doi.org/10.18510/hssr.2019.7319>
- Prestiadi, D., Arifin, I., & Bhayangkara, A. N. (2020). Meta-Analysis of Online Learning Implementation in Learning Effectiveness. In *2020 6th International Conference on Education and Technology (ICET)* (pp. 109–114). IEEE. <https://doi.org/10.1109/ICET51153.2020.9276557>
- Prosek, E. A., & Gibson, D. M. (2021). Promoting rigorous research by examining lived experiences: A review of four qualitative traditions. *Journal of Counseling & Development*, 99(2), 167–177. <https://doi.org/10.1002/jcad.12364>
- Protopsaltis, S., & Baum, S. (2019). Does online education live up to its promise? A look at the evidence and implications for federal policy. *Center for Educational Policy Evaluation*, 1–50. <https://jesperbalslev.dk/wp-content/uploads/2020/09/OnlineEd.pdf>
- Quddus, A., Nugroho, B. S., Hakim, L., Ritaudin, M. S., Nurhasanah, E., Suarsa, A., ... & Sudargini, Y. (2020). Effect of ecological, servant dan digital leadership style influence university performance? evidence from Indonesian universities. *Systematic Reviews in Pharmacy*, 11(10), 408–417. <https://www.sysrevpharm.org/abstract/effect-of-ecological->

servant-dan-digital-leadership-style-influence-university-performance-evidence-from-indonesian-univ-66302.html

Quintão, C., Andrade, P., & Almeida, F. (2020). How to improve the validity and reliability of a case study approach? *Journal of Interdisciplinary Studies in Education*, 9(2), 264–275.  
<https://doi.org/10.32674/jise.v9i2.2026>

Rachmawati, I. K., Bukhori, M., Majidah, Y., & Hidayatullah, S. (2020). Analysis of use of mobile banking with acceptance and use of technology (UTAUT). *International Journal of Scientific and Technology Research*, 9(8), 534–540.  
<https://www.semanticscholar.org/paper/2b6d623b712ccf3270c8446a827dface75a76f88>

Radovan, M., & Kristl, N. (2017). Acceptance of Technology and Its Impact on Teachers' Activities in Virtual Classroom: Integrating UTAUT and CoI into a Combined Model. *Turkish Online Journal of Educational Technology-TOJET*, 16(3), 11–22.  
<https://eric.ed.gov/?id=EJ1152624>

Råheim, M., Magnussen, L. H., Sekse, R. J. T., Lunde, Å., Jacobsen, T., & Blystad, A. (2016). Researcher–researched relationship in qualitative research: Shifts in positions and researcher vulnerability. *International journal of qualitative studies on health and well-being*, 11(1), 30996. <https://doi.org/10.3402/qhw.v11.30996>

Rahiem, M. D. (2020). The emergency remote learning experience of university students in Indonesia amidst the COVID-19 crisis. *International Journal of Learning, Teaching and Educational Research*, 19(6), 1–26. <https://doi.org/10.26803/ijlter.19.6.1>

Rahman, M. M. (2023). Sample size determination for survey research and non-probability sampling techniques: A review and set of recommendations. *Journal of*

*Entrepreneurship, Business and Economics*, 11(1), 42–62.

<http://scientifica.com/index.php/JEBE/article/view/201>

Rahman, M. M., Lesch, M. F., Horrey, W. J., & Strawderman, L. (2017). Assessing the utility of TAM, TPB, and UTAUT for advanced driver assistance systems. *Accident Analysis & Prevention*, 108, 361–373. <https://doi.org/10.1016/j.aap.2017.09.011>

Rahman, S. (2020). Improving the power of lecture method in higher education. *Teaching Learning and New Technologies in Higher Education*, 135–147. [https://doi.org/10.1007/978-981-15-4847-5\\_10](https://doi.org/10.1007/978-981-15-4847-5_10)

Rahmawati, A., & Sujono, F. K. (2021). Digital communication through online learning in Indonesia: Challenges and opportunities. *Jurnal ASPIKOM*, 6(1), 61–76. <https://doi.org/10.24329/aspikom.v6i1.815>

Rampha, S. (2012). Vision and leadership: The infinite unity of Caribbean needs. *Regional Integration: Key to Caribbean Survival and Prosperity*, 3.

Rashid, Y., Rashid, A., Warraich, M. A., Sabir, S. S., & Waseem, A. (2019). Case study method: A step-by-step guide for business researchers. *International Journal of Qualitative Methods*, 18, 1609406919862424. <https://doi.org/10.1177/1609406919862424>

Rathmell, W. K., Brown, N. J., & Kilburg, R. R. (2019). Transformation to academic leadership: The role of mentorship and executive coaching. *Consulting Psychology Journal: Practice and Research*, 71(3), 141. <https://doi.org/10.1037/cpb0000124>

Redmond, P., Gutke, H., Galligan, L., Howard, A., & Newman, T. (2017). Becoming a female leader in higher education: investigations from a regional university. *Gender and Education*, 29(3), 332–351. <https://doi.org/10.1080/09540253.2016.1156063>

- Reid, L. (2019). Learning management systems: The game changer for traditional teaching and learning at adult and higher education institutions. *Global Journal of Human-Social Science*, 19(G6), 1–14. <https://doi.org/10.34257/GJHSSGVOL19IS6PG1>
- Reid-Martinez, K., & Grooms, L. D. (2018). Online learning propelled by constructivism. In *Encyclopedia of Information Science and Technology, Fourth Edition* (pp. 2588–2598). IGI Global. <https://doi.org/10.4018/978-1-5225-2255-3.ch226>
- Rempel, H. G., & Mellinger, M. (2015). Bibliographic management tool adoption and use: A qualitative research study using the UTAUT model. *Reference & User Services Quarterly*, 54(4). <https://doi.org/10.5860/rusq.54n4.43>
- Ren, X. (2023). Investigating the Experiences of Online Instructors while engaging and empowering non-traditional learners in eCampus. *Education and Information Technologies*, 28(1), 237–253. <https://doi.org/10.1007/s10639-022-11153-x>
- Richardson Rose, R. N. (2019). The role of secondary education in promoting sustainable development in the Caribbean and Latin America.
- Rickards, L. (2017). The rise of women leaders in the Caribbean.  
<https://lisandrarickards.com/the-rise-of-women-leaders-in-the-caribbean/>
- Rinks, J. W. (2002). Higher education in radio 1922-1934. *J. Radio Stud.*, 9, 303.
- Roberts, B., & Hooper, B. (2020). Localizing strategies for situating a new OT Master’s program in the local culture & context of the Caribbean. *The American Journal of Occupational Therapy*, 74(4). <https://doi.org/10.5014/ajot.2020.74S1-PO2030>
- Roberts, J. (2014). The ‘better sort’ and the ‘poorer sort’: Wealth inequalities, family formation and the economy of energy on British Caribbean sugar plantations, 1750–1800. *Slavery & Abolition*, 35(3), 458–473. <https://doi.org/10.1080/0144039X.2014.944032>

- Roberts, R. E. (2020). Qualitative interview questions: Guidance for novice researchers. *Qualitative Report*, 25(9). <https://doi.org/10.46743/2160-3715/2020.4640>
- Roberts, V. (2005). Accreditation and evaluation systems in the English-Speaking Caribbean: Current trends and prospects.
- Robinson, O. I. (2020). Migration and Attachments to CARICOM. In *Migration, Social Identities and Regionalism within the Caribbean Community* (pp. 145–161). Palgrave Macmillan, Cham. <https://doi.org/10.1007/978-3-030-47745-5>
- Rodriguez-Hernandez, C. F., Cascallar, E., & Kyndt, E. (2020). Socio-economic status and academic performance in higher education: A systematic review. *Educational Research Review*, 29, 100305. <https://doi.org/10.1016/j.edurev.2019.100305>
- Rogers, E.M. (1962). *Diffusion of Innovations*. New York: Free Press of Glencoe.
- Roncesvalles, M., Celia, T., & Gaerlan, A. A. (2021). The role of authentic leadership and teachers' organisational commitment on organisational citizenship behavior in higher education. *International Journal of Educational Leadership and Management*, 9(2), 92–121. <https://eric.ed.gov/?id=EJ1310299>
- Roofe, C. (2022). Caribbean orality as a method for teacher involvement in curriculum making in Jamaica. *The Curriculum Journal*, 33(2), 297–313. <https://doi.org/10.1002/curj.152>
- Rose, C. D. (2017). Ethical conduct of research in children: pediatricians and their IRB (Part 1 of 2). *Pediatrics*, 139(5). <https://doi.org/10.1542/peds.2016-3650>
- Rose, J., & Johnson, C. W. (2020). Contextualizing reliability and validity in qualitative research: Toward more rigorous and trustworthy qualitative social science in leisure research. *Journal of Leisure Research*, 51(4), 432–451. <https://doi.org/10.1080/00222216.2020.1722042>

- Rosenthal, M. (2016). Qualitative research methods: Why, when, and how to conduct interviews and focus groups in pharmacy research. *Currents in Pharmacy Teaching and Learning*, 8(4), 509–516. <https://doi.org/10.1016/j.cptl.2016.03.021>
- Rosli, K., Yeow, P. H., & Siew, E. G. (2012). Factors influencing audit technology acceptance by audit firms: A new I-TOE adoption framework. *Journal of Accounting and Auditing*, 2012, 1. <https://doi.org/10.5171/2012.876814>
- Ross, P., & Maynard, K. (2021). Towards a 4th industrial revolution. *Intelligent Buildings International*, 13(3), 159–161. <https://doi.org/10.1080/17508975.2021.1873625>
- Rouyre, A., & Fernandez, A. S. (2019). Managing knowledge sharing-protecting tensions in coupled innovation projects among several competitors. *California Management Review*, 62(1), 95–120. <https://doi.org/10.1177/0008125619885151>
- Rowley, D. J., & Sherman, H. (2003). The special challenges of academic leadership. *Management Decision*, 41(10), 1058–1063. <https://doi.org/10.1108/00251740310509580>
- Rowntree, D. (1995). Teaching and learning online: a correspondence education for the 21st century? *British Journal of Educational Technology*, 26(3), 205–215. <https://doi.org/10.1111/j.1467-8535.1995.tb00342.x>
- Rozvadská, K., & Novotný, P. (2019). The Structure of non-traditional students' motives for entering higher education. *Form@ re-Open Journal per la formazione in rete*, 19(2), 133–148.
- Ruslin, R., Mashuri, S., Rasak, M. S. A., Alhabsyi, F., & Syam, H. (2022). Semi-structured Interview: A methodological reflection on the development of a qualitative research instrument in educational studies. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 12(1), 22–29.

- Russell, J. A., Gonzales, L. D., & Barkhoff, H. (2021). Demonstrating equitable and inclusive crisis leadership in higher education. *Kinesiology Review*, 10(4), 383–389.  
<https://doi.org/10.1123/kr.2021-0051>
- Saglik, A. P. D. M., & Ozturk, A. P. D. S. (2001). Television as an educational technology: Using television at Open Education Faculty, Anadolu Universty. *Turkish online journal of Distance Education*, 2(1).
- Saha, M., Choudhary, K., Chakrabarty, M., & Mukherjee, D. (2018). The advantages of distance education for working professionals: An Indian perspective. *International Journal of English Learning & Teaching Skills*, 1(2), 202–205. <https://doi.org/10.15864/ijelts.1215>
- Saiyad, S., Virk, A., Mahajan, R., & Singh, T. (2020). Online teaching in medical training: Establishing good online teaching practices from cumulative experience. *International Journal of Applied and Basic Medical Research*, 10(3), 149–155.  
[https://doi.org/10.4103/ijabmr.IJABMR\\_358\\_20](https://doi.org/10.4103/ijabmr.IJABMR_358_20)
- Salmon, G., Gregory, J., Lokuge Dona, K., & Ross, B. (2015). Experiential online development for educators: The example of the Carpe Diem MOOC. *British Journal of Educational Technology*, 46(3), 542–556. <https://doi.org/10.1111/bjet.12256>
- Sanchez-Gordon, S., & Luján-Mora, S. (2018). Research challenges in accessible MOOCs: A systematic literature review 2008–2016. *Universal Access in the Information Society*, 17(4), 775–789. <https://doi.org/10.1007/s10209-017-0531-2>
- Sánchez-Guardiola Paredes, C., Aguaded Ramírez, E. M., & Rodríguez-Sabiote, C. (2021). Content validation of a semi-structured interview to analyze the management of suffering. *International Journal of Environmental Research and Public Health*, 18(21), 11393. <https://doi.org/10.3390/ijerph182111393>

- Sangeeta, & Tandon, U. (2021). Factors influencing adoption of online teaching by school teachers: A study during COVID-19 pandemic. *Journal of Public Affairs*, 21(4), e2503. <https://doi.org/10.1002/pa.2503>
- Santos, K. D. S., Ribeiro, M. C., Queiroga, D. E. U. D., Silva, I. A. P. D., & Ferreira, S. M. S. (2020). The use of multiple triangulations as a validation strategy in a qualitative study. *Ciencia & saude coletiva*, 25, 655–664. <https://doi.org/10.1590/1413-81232020252.12302018>
- Sarwar, S., Alsaggaf, M. I., & Tingqiu, C. (2019). Nexus among economic growth, education, health, and environment: dynamic analysis of world-level data. *Frontiers in public health*, 7, 307. <https://doi.org/10.3389/fpubh.2019.00307>
- Savela, T. (2018). The advantages and disadvantages of quantitative methods in schoolscape research. *Linguistics and Education*, 44, 31–44. <https://doi.org/10.1016/j.linged.2017.09.004>
- Scandurra, G., Romano, A. A., Ronghi, M., & Carfora, A. (2018). On the vulnerability of Small Island Developing States: A dynamic analysis. *Ecological Indicators*, 84, 382–392. <https://doi.org/10.1016/j.ecolind.2017.09.016>
- Schomakers, E. M., Lidynia, C., Vervier, L. S., Calero Valdez, A., & Ziefle, M. (2022). Applying an extended UTAUT2 model to explain user acceptance of lifestyle and therapy mobile health apps: survey study. *JMIR mHealth and uHealth*, 10(1), e27095. <https://doi.org/10.2196/27095>
- Schunk, D. H., & DiBenedetto, M. K. (2020). Motivation and social cognitive theory. *Contemporary Educational Psychology*, 60, 101832. <https://doi.org/10.1016/j.cedpsych.2019.101832>

- Scott, M., & Turrise, S. L. (2021). Student Perspectives: Discussion Boards as Learning Strategies in Online Accelerated Nursing Courses. *Journal of Nursing Education*, 60(7), 419–421. <https://doi.org/10.3928/01484834-20210616-12>
- Sealy, P. G., & Zong, G. (2019). Perceptions of globalization: a case study of preservice teachers from the Caribbean. *Journal of the world federation of associations for teacher education*, 3(2b), 19.
- Sealy, P. G., & Zong, G. (2019). Perceptions of globalization: a case study of preservice teachers from the Caribbean. *Journal of the world federation of associations for teacher education*, 3(2b), 19.
- Seaman & Seaman (2019). *DE State Almanac*. Bayview Analytics.  
[https://www.bayviewanalytics.com/reports/almanac/national\\_almanac2019.pdf](https://www.bayviewanalytics.com/reports/almanac/national_almanac2019.pdf)
- Seaman, J., & Seaman, J. (2022). Planning for a Smaller Future: Dealing with Declining Enrollments. Digital Learning Pulse Survey. *Bay View Analytics*.
- Seely Brown, J., & Adler, R. P. (2008). Open education, the long tail, and learning 2.0. *Educause review*, 43(1), 16-20.
- Seely Brown, J., & Adler, R. P. (2008). Open education, the long tail, and learning 2.0. *Educause review*, 43(1), 16-20.
- Selvakumar, M. V., & Maran, K. (2019). Role of e-learning practices for teaching faculty on enhancing institutional climate at self-finance engineering colleges at Chennai City. *The Online Journal of Distance Education and e-Learning*, 7(1), 51.
- Serrano Corkin, D., Coleman, S. L., & Ekmekci, A. (2019). Navigating the challenges of student-centered mathematics teaching in an urban context. *The Urban Review*, 51, 370–403. <https://doi.org/10.1007/s11256-018-0485-6>

- Sgier, L. (2012). Qualitative data analysis. *An Initiat. Gebert Ruf Stift, 19*, 19–21.
- Shachak, A., Kuziemy, C., & Petersen, C. (2019). Beyond TAM and UTAUT: Future directions for HIT implementation research. *Journal of biomedical informatics, 100*, 103315. <https://doi.org/10.1016/j.jbi.2019.103315>
- Shafiee, N. S., & Ghani, M. A. (2022). The Influence of Teacher Efficacy on 21st Century Pedagogy. *International Journal of Learning, Teaching and Educational Research, 21*(1). <https://doi.org/10.26803/ijlter.21.1.13>
- Shah, J. (2023). Canadian education: Factors influencing the adaption of the E-learning at higher education.
- Sharma, R., & Mishra, R. (2014). A review of evolution of theories and models of technology adoption. *Indore Management Journal, 6*(2), 17–29.
- Shefer, N., Carmeli, A., & Cohen-Meitar, R. (2018). Bringing Carl Rogers back in: Exploring the power of positive regard at work. *British Journal of Management, 29*(1), 63–81. <https://doi.org/10.1111/1467-8551.12247>
- Shepherd, S. (2017). Why are there so few female leaders in higher education: A case of structure or agency? *Management in Education, 31*(2), 82–87. <https://doi.org/10.1177/0892020617696631>
- Shirky, C. (2012). Napster, Udacity, and the academy [Web log post]. Retrieved from 36TU <http://www.shirky.com/weblog/2012/11/napster-udacity-and-the-academy/> U36T.
- Sim, J., & Waterfield, J. (2019). Focus group methodology: some ethical challenges. *Quality & Quantity, 53*(6), 3003–3022. <https://doi.org/10.1007/s11135-019-00914-5>

- Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education*, 33(4), 289–306. <https://doi.org/10.1080/08923647.2019.1663082>
- Singhal, N. (2021). Leading in a VUCA World: Lessons from Covid-19. *IUP Journal of Business Strategy*, 18(2).
- Singleton, R., Cosignani, D. R., Kam, M., Clune, M., Charlton, A., & Jowsey, T. (2023). Faculty development for strengthening online teaching capability: a mixed-methods study of what staff want, evaluated with Kirkpatrick's model of teaching effectiveness. *MedEdPublish*, 13.
- Skoumpopoulou, D., Wong, A., Ng, P., & Lo, M. (2018). Factors that affect the acceptance of new technologies in the workplace: a cross case analysis between two universities. *International Journal of Education and Development using ICT*, 14(3).
- Slater, R. B. (1994). The blacks who first entered the world of white higher education. *The Journal of Blacks in Higher Education*, (4), 47–56. <https://doi.org/10.2307/2963372>
- Smith, R., & Smith, L. (2018). Qualitative methods. In *Research methods in human rights* (pp. 70-93). Routledge. <https://doi.org/10.4324/9781315672632-5>
- Smith, W. (2011, July 7-9). The paradigm shift in higher education: A call for action. Paper presented at the Paradigm Shift in Higher Education: A Call for Action, Cave Hill, Barbados.
- Solís, M. V. (2022). *Caribbean Faculty Perceptions of Online Education in Kinesiology Field: A Case Study*. The University of North Carolina at Greensboro.
- Songo, S., & Zirima, H. (2022). Psychology student reactions and perceptions on the effectiveness of online teaching and learning at Manicaland State University of Applied

- Sciences in Mutare, Zimbabwe. *African Journal of Sociological and Psychological Studies*, 2(1), 87. <https://doi.org/10.31920/2752-6585/2022/v2n1a5>
- Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of developmental education*, 44(1), 26–28.
- Stake, R. E. (1995). *The art of case study research*. sage.
- Starr-Glass, D. (2019). Culturally responsive pedagogy, national culture, and online instruction: Leading to learning. In *Care and Culturally Responsive Pedagogy in Online Settings* (pp. 89-108). IGI Global. <https://doi.org/10.4018/978-1-5225-7802-4.ch005>
- Statistica Search Department (2021). *Mobile internet penetration rate in Latin America and the Caribbean as of January 2021, by region*. [Infographic]. Statista. Retrieved from <https://www.statista.com/statistics/934766/penetration-rate-mobile-internet-latin-america-region/>
- Stewart, D. W., & Shamdasani, P. (2017). Online focus groups. *Journal of Advertising*, 46(1), 48–60. <https://doi.org/10.1080/00913367.2016.1252288>
- Steyn, C., & Gunter, A. (2023). When an international student stays at home: defining an international student in DE. *Journal of Geography in Higher Education*, 47(1), 56–70. <https://doi.org/10.1080/03098265.2021.1991289>
- Stracke, C. M., & Trisolini, G. (2021). A systematic literature review on the quality of MOOCs. *Sustainability*, 13(11), 5817. <https://doi.org/10.3390/su13115817>
- Strom, K. J., & Viesca, K. M. (2021). Towards a complex framework of teacher learning-practice. *Professional development in education*, 47(2-3), 209–224. <https://doi.org/10.1080/19415257.2020.1827449>

- Stuart, G. L. (2020). Ernest W. McFarland and the GI Bill of Rights. *W. Legal Hist.*, 31, 11.
- Sümer, M. (2021). Online learning communities in teachers' professional development: A systematic review. *Anadolu Journal of Educational Sciences International*, 11(2), 572-587.
- Surma, T., & Kirschner, P. A. (2020). Technology enhanced distance learning should not forget how learning happens. *Computers in human behavior*, 110, 106390.  
<https://doi.org/10.1016/j.chb.2020.106390>
- Swain, S. (2016). A motherly concern for children: Invocations of Queen Victoria in Imperial child rescue literature. *Children, Childhood and Youth in the British World*, 27–40.  
[https://doi.org/10.1007/978-1-137-48941-8\\_2](https://doi.org/10.1007/978-1-137-48941-8_2)
- Swidler, A. (2013). Organisation without authority. In *Organisation without Authority*. Harvard University Press.
- Taherdoost, H. (2021). Data collection methods and tools for research; A step-by-step guide to choose data collection technique for academic and business research projects. *International Journal of Academic Research in Management (IJARM)*, 10(1), 10–38.
- Takahashi, A. R. W., & Araujo, L. (2020). Case study research: opening up research opportunities. *RAUSP Management Journal*, 55, 100–111.  
<https://doi.org/10.1108/RAUSP-05-2019-0109>
- Tamilmani, K., Rana, N. P., Wamba, S. F., & Dwivedi, R. (2021). The extended Unified Theory of Acceptance and Use of Technology (UTAUT2): A systematic literature review and theory evaluation. *International Journal of Information Management*, 57, 102269.  
<https://doi.org/10.1016/j.ijinfomgt.2020.102269>

- Tang, Y. M., Lau, Y. Y., & Chau, K. Y. (2022). Towards a sustainable online peer learning model based on student's perspectives. *Education and Information Technologies*, 1–20. <https://doi.org/10.1007/s10639-022-11136-y>
- Tarhini, A., Hone, K., Liu, X., & Tarhini, T. (2017). Examining the moderating effect of individual-level cultural values on users' acceptance of E-learning in developing countries: a structural equation modeling of an extended technology acceptance model. *Interactive Learning Environments*, 25(3), 306–328. <https://doi.org/10.1080/10494820.2015.1122635>
- Tarrant, S. P., & Thiele, L. P. (2016). Practice makes pedagogy—John Dewey and skills-based sustainability education. *International Journal of Sustainability in Higher Education*. <https://doi.org/10.1108/IJSHE-09-2014-0127>
- Taylor S, Todd PA (1995). Understanding information technology usage: a Test of competing models. *Inf. Syst. Res.*, 6(2), 144–176. <https://doi.org/10.1287/isre.6.2.144>
- Terosky, A. L., & Heasley, C. (2015). Supporting online faculty through a sense of community and collegiality. *Online Learning*, 19(3), 147–161. <https://doi.org/10.24059/olj.v19i3.473>
- Tewarie, B. (2009). Concept paper for the development of a CARICOM strategic plan for tertiary education services in the CARICOM Single Market and Economy (CSME). In *CARICOM Regional Symposium on Services, Antigua* (pp. 15-17).
- Tewarie, B. (2011). The University of the West Indies: Regional tertiary education in the English-speaking Caribbean. *Tertiary education in small states: Planning in the context of globalization*, pp. 121–132.

- Tezcan, F. (2022). Andragogy or pedagogy: Views of young adults on the learning environment. *International Education Studies*, 15(1), 136–147.  
<https://doi.org/10.5539/ies.v15n1p136>
- Thiede, R. (2018). Student Perceptions of Online Courses for School Administrators. *School Leadership Review*, 7(2), 8.
- Thomas, A., Baptiste, A., Martyr-Koller, R., Pringle, P., & Rhiney, K. (2020). Climate change and small island developing states. *Annual Review of Environment and Resources*, 45, 1–27. <https://doi.org/10.1146/annurev-environ-012320-083355>
- Thomas, T., Singh, L., Gaffar, K., Thakur, D., Jackman, G. A., Thomas, M., ... & Tooma, K. (2014). Measurement invariance of the UTAUT constructs in the Caribbean. *International Journal of Education and Development Using ICT*, 10(4).
- Thompson, K. D. (2015). *Transnational higher education in the Anglophone Caribbean: Analyzing Barbados' regulatory approaches to quality*. State University of New York at Albany.
- Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: Toward a conceptual model of utilization. *MIS quarterly*, 125–143. <https://doi.org/10.2307/249443>
- Thong, J. Y. (1999). An integrated model of information systems adoption in small businesses. *Journal of management information systems*, 15(4), 187–214.  
<https://doi.org/10.1080/07421222.1999.11518227>
- Thongsri, N., Shen, L., & Bao, Y. (2019). Investigating factors affecting learner's perception toward online learning: evidence from ClassStart application in Thailand. *Behaviour & Information Technology*, 38(12), 1243–1258.  
<https://doi.org/10.1080/0144929X.2019.1581259>

- Thongsri, N., Shen, L., Bao, Y., & Alharbi, I. M. (2018). Integrating UTAUT and UGT to explain behavioural intention to use M-learning: A developing country's perspective. *Journal of Systems and Information Technology*, 20(3), 278–297. <https://doi.org/10.1108/JSIT-11-2017-0107>
- Thorndike, E. L. (1920). *Education, a first book*. Macmillan.
- Thornton, K., Walton, J., Wilson, M., & Jones, L. (2018). Middle leadership roles in universities: Holy Grail or poisoned chalice. *Journal of Higher Education Policy and Management*, 40(3), 208–223. <https://doi.org/10.1080/1360080X.2018.1462435>
- Thurab-Nkhosi, D. (2018). Implementing a blended/online learning policy on a face-to-face campus: Perspectives of administrators and implications for change. *Journal of Learning for Development*, 5(2), 133–147. <https://doi.org/10.56059/jl4d.v5i2.273>
- Tian, M., Risku, M., & Collin, K. (2016). A meta-analysis of distributed leadership from 2002 to 2013: Theory development, empirical evidence and future research focus. *Educational Management Administration & Leadership*, 44(1), 146–164. <https://doi.org/10.1177/1741143214558576>
- Tight, M. (2020). Student retention and engagement in higher education. *Journal of further and Higher Education*, 44(5), 689–704. <https://doi.org/10.1080/0309877X.2019.1576860>
- Tirmizi, S. A., Williams, K., & Tirmizi, S. N. (2019). Leading responsibly: Relevance of the major leadership theories in the Caribbean context. *Journal of Leadership, Accountability and Ethics*, 16(4). <https://doi.org/10.33423/jlae.v16i4.2373>
- Tiwari, O. P. (2019). Moocs in developing countries: Opportunities and challenges. *Research and Reflections on Education*, 17(3).

- Tobin, G. A., & Begley, C. M. (2010). Triangulation as a method of inquiry. *Storied inquiries in international landscapes: An anthology of educational research*, 423-428.
- Tomaszewski, L. E., Zarestky, J., & Gonzalez, E. (2020). Planning qualitative research: Design and decision making for new researchers. *International Journal of Qualitative Methods*, 19, 1609406920967174. <https://doi.org/10.1177/1609406920967174>
- Tomić, N., Kalinić, Z., & Todorović, V. (2022). Using the UTAUT model to analyze user intention to accept electronic payment systems in Serbia. *Portuguese Economic Journal*, 1–20. <https://doi.org/10.1007/s10258-022-00210-5>
- Tomsic, N., Markic, M., & Bojnec, S. (2016). The Influence of Leadership Factors on the Implementation of iso 14001 in Organisations. *Managing Global Transitions*, 14(2), 175.
- Tornatzky, L.G. & Fleischer, M. (1990). The Process of Technology Innovation. *Lexington Books*, Lexington, MA.
- Tran, T., Ho, M. T., Pham, T. H., Nguyen, M. H., Nguyen, K. L. P., Vuong, T. T., ... & Vuong, Q. H. (2020). How digital natives learn and thrive in the digital age: Evidence from an emerging economy. *Sustainability*, 12(9), 3819. <https://doi.org/10.3390/su12093819>
- Trow, M. A. (2005). Reflections on the transition from elite to mass to universal access: *Forms and phases of higher education in modern societies since WWII*.
- Tseng, T. H., Lin, S., Wang, Y. S., & Liu, H. X. (2022). Investigating teachers' adoption of MOOCs: the perspective of UTAUT2. *Interactive Learning Environments*, 30(4), 635–650. <https://doi.org/10.1080/10494820.2019.1674888>
- Tseng, T. H., Lin, S., Wang, Y. S., & Liu, H. X. (2022). Investigating teachers' adoption of MOOCs: the perspective of UTAUT2. *Interactive Learning Environments*, 30(4), 635–650.

- Tulaskar, R., & Turunen, M. (2022). What students want? Experiences, challenges, and engagement during Emergency Remote Learning amidst COVID-19 crisis. *Education and information technologies*, 27(1), 551–587.  
<https://doi.org/10.1080/10494820.2019.1674888>
- Turley, C., & Graham, C. (2019). Interaction, student satisfaction, and teacher time investment in online high school courses. *Journal of Online Learning Research*, 5(2), 169–198.
- UN Chronicle (2021) The legacy of slavery in the Caribbean and the journey towards justice.  
<https://www.un.org/en/un-chronicle/legacy-slavery-caribbean-and-journey-towards-justice>
- Underwood, J. J. (2022). *Teachers' Technology Self-Efficacy and Technology Integration in Social Studies Classes in Rural and Non-Rural Schools* (Doctoral dissertation, Grand Canyon University).
- UNESCO Institute for Statistics. (2022). School enrollment, tertiary (% gross) - Latin America & Caribbean. *WorldBank*.  
<https://data.worldbank.org/indicator/SE.TER.ENRR?end=2020&locations=ZJ&start=1970>
- United Nations. (2015). About Small Island Developing States.  
<https://www.un.org/ohrls/content/about-small-island-developing-states>
- United Nations' International Telecommunication Union. (2020). Mobile cellular subscriptions (per 100 people). <https://data.worldbank.org/indicator/IT.CEL.SETS.P2>
- Uroкова, S. B. (2020). Advantages and disadvantages of online education. *ISJ Theoretical & Applied Science*, 9(89), 34–37. <https://doi.org/10.15863/TAS.2020.09.89.9>

- Ursavaş, Ö. F. (2022). Motivational Model (MM). In *Conducting Technology Acceptance Research in Education* (pp. 93-110). Springer, Cham. <https://doi.org/10.1007/978-3-031-10846-4>
- Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & health sciences*, 15(3), 398-405.
- Valencia-Arias, A., Chalela-Naffah, S., & Bermúdez-Hernández, J. (2019). A proposed model of e-learning tools acceptance among university students in developing countries. *Education and Information Technologies*, 24, 1057–1071. <https://doi.org/10.1007/s10639-018-9815-2>
- Van Raaij, E. M., & Schepers, J. J. (2008). The acceptance and use of a virtual learning environment in China. *Computers & education*, 50(3), 838–852. <https://doi.org/10.1016/j.compedu.2006.09.001>
- van Rijnsoever, F. J. (2017). (I can't get no) saturation: A simulation and guidelines for sample sizes in qualitative research. *PloS one*, 12(7), e0181689. <https://doi.org/10.1371/journal.pone.0181689>
- Vasconcelos, R. M., Amaral, L., Ciampi, M. M., & Brito, C. R. (2020). Motivation to Choose the Night Course in Engineering. In *2020 IEEE World Conference on Engineering Education (EDUNINE)* (pp. 1-4). IEEE. <https://doi.org/10.1109/EDUNINE48860.2020.9149517>
- Vass, A. (2002). International trade rules “rigged in favour of the rich,” Oxfam says. *BMJ*, 324(7343), 937. <https://doi.org/10.1136/bmj.324.7343.937/b>
- Vaughter, P., Huang, Y. S. E., & Park, J. (2023). Climate change displacement and the right to education in Small Island Developing States. <https://doi.org/10.53326/LNZK2579>

- Vayre, E., & Vonthron, A. M. (2017). Psychological engagement of students in distance and online learning: Effects of self-efficacy and psychosocial processes. *Journal of Educational Computing Research*, 55(2), 197–218.  
<https://doi.org/10.1177/0735633116656849>
- Venkatesh, V. (2022). Adoption and use of AI tools: a research agenda grounded in UTAUT. *Annals of Operations Research*, 308(1), 641–652. <https://doi.org/10.1007/s10479-020-03918-9>
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186–204.  
<https://doi.org/10.1287/mnsc.46.2.186.11926>
- Venkatesh, V., Davis, F., & Morris, M. G. (2007). Dead or alive? The development, trajectory and future of technology adoption research. *Journal of the Association for Information Systems*, 8(4), 267–286. <https://doi.org/10.17705/1jais.00120>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425–478.  
<https://doi.org/10.2307/30036540>
- Venkatesh, V., Sykes, T. A., Aljafari, R., & Poole, M. S. (2021). The future is now: calling for a focus on temporal issues in information system research. *Industrial Management & Data Systems*. <https://doi.org/10.1108/IMDS-08-2020-0506>
- Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 157–178. <https://doi.org/10.2307/41410412>

- Verger, A. (2010). *WTO/GATS and the global politics of higher education*. Routledge.  
<https://doi.org/10.4324/9780203866672>
- Vété-Congolo, H. (Ed.). (2016). *The Caribbean oral tradition: Literature, performance, and practice*. Springer. <https://doi.org/10.1007/978-3-319-32088-5>
- Vinuesa, R., Azizpour, H., Leite, I., Balaam, M., Dignum, V., Domisch, S., ... & Fuso Nerini, F. (2020). The role of artificial intelligence in achieving the Sustainable Development Goals. *Nature Communications*, 11(1), 1–10. <https://doi.org/10.1038/s41467-019-14108-y>
- Voskoglou, M. G. (2022). Connectivism vs traditional theories of learning. *American Journal of Educational Research*, 10(4), 257–261. <https://doi.org/10.12691/education-10-4-15>
- Vululleh, P. (2018). Determinants of students' e-learning acceptance in developing countries: An approach based on Structural Equation Modeling (SEM). *International Journal of Education and Development using ICT*, 14(1).
- Vuori, J. (2019). Distributed leadership in the construction of a new higher education campus and community. *Educational Management Administration & Leadership*, 47(2), 224–240. <https://doi.org/10.1177/1741143217725322>
- Walker, C., & Baxter, J. (2019). Method sequence and dominance in mixed methods research: A case study of the social acceptance of wind energy literature. *International Journal of Qualitative Methods*, 18, 1609406919834379.  
<https://doi.org/10.1177/1609406919834379>
- Walker, D., & Malcolm, B. (2022). Synthesis of literature on effective educator practices in the online setting: Perspectives from a Caribbean higher education context through university

- pedagogy. *Journal of Research Initiatives*, 6(3), 10.  
<https://digitalcommons.uncfsu.edu/jri/vol6/iss3/10>
- Wallace, S., Schuler, M. S., Kaulback, M., Hunt, K., & Baker, M. (2021, July). Nursing student experiences of remote learning during the COVID-19 pandemic. In *Nursing Forum*, 56(3), 612–618. <https://doi.org/10.1111/nuf.12568>
- Wang, Y. S., Li, H. T., Li, C. R., & Zhang, D. Z. (2016). Factors affecting hotels' adoption of mobile reservation systems: A technology-organisation-environment framework. *Tourism Management*, 53, 163–172. <https://doi.org/10.1016/j.tourman.2015.09.021>
- Warrican, S., Leacock, C. J., Thompson, B. P., & Alleyne, M. L. (2014). Predictors of student success in an online learning environment in the English-speaking Caribbean: Evidence from the University of the West Indies Open Campus. *Open Praxis*, 6(4), 331–346. <https://doi.org/10.5944/openpraxis.6.4.158>
- Weiner, J., Francois, C., Stone-Johnson, C., & Childs, J. (2021, January). Keep safe, keep learning: principals' role in creating psychological safety and organisational learning during the COVID-19 pandemic. In *Frontiers in Education* (Vol. 5, p. 618483). Frontiers Media SA.
- White, K., Bagilhole, B., & Riordan, S. (2012). The gendered shaping of university leadership in Australia, South Africa and the United Kingdom. *Higher Education Quarterly*, 66(3), 293–307. <https://doi.org/10.3389/feduc.2020.618483>
- Wieser, D., & Seeler, J. M. (2018). Online, not DE: The merits of collaborative learning in online education. In *The disruptive power of online education*. Emerald Publishing Limited. <https://doi.org/10.1108/978-1-78754-325-620181008>

- Wiley, D., & Green, C. (2016). Why openness in education?. *Interdisciplinary Studies: A Connected Learning Approach*.
- Willey, R. D. V., & Young, H. A. (1948). *Radio in elementary education*. DC Heath.
- Williams, L., Hadder, K., & Pack, A. (2021). *Online Learning in a Time of Crisis: A Look at Student and Faculty Perceptions of University Responses to Covid-19 and How It Has Impacted Student and Faculty Satisfaction* (Doctoral dissertation, Lipscomb University)
- Williams, V. (2014). Determining the attitudes, barriers, and perceptions of faculty and administrators to DE at a community college in Jamaica [PowerPoint presentation]. University of the West Indies. Retrieved from <http://uwispace.sta.uwi.edu/dspace/handle/2139/15717>
- Wolhuter, C., Van der Walt, H., & Steyn, H. (2016). A strategy to support educational leaders in developing countries to manage contextual challenges. *South African Journal of Education*, 36(4), 1–9. <https://doi.org/10.15700/saje.v39n4editorial>
- Wong, J., Baars, M., Davis, D., Van Der Zee, T., Houben, G. J., & Paas, F. (2019). Supporting self-regulated learning in online learning environments and MOOCs: A systematic review. *International Journal of Human–Computer Interaction*, 35(4-5), 356–373. <https://doi.org/10.46743/2160-3715/2020.4240>
- Wood, L. M., Sebar, B., & Vecchio, N. (2020). Application of rigour and credibility in qualitative document analysis: Lessons learnt from a case study. *The qualitative report*, 25(2), 456–470. <https://doi.org/10.46743/2160-3715/2020.4240>
- Woodall, L. (2010). Transitioning to online education in the Caribbean: The open campus, University of the West Indies.

- Woodley, A., & McIntosh, N. (2022). *The door stood open: An evaluation of the Open University younger students pilot scheme*. Taylor & Francis.  
<https://doi.org/10.4324/9781003325895>
- Woodward, L. (2020). Carl Rogers. The Wiley encyclopedia of personality and individual differences: Models and theories, 95–99. <https://doi.org/10.1002/9781118970843.ch17>
- World Bank (2016). Nicaragua – Caribbean Regional Communications Infrastructure Program (CARCIP).
- World Bank (2022a). The World Bank - Organisation of Eastern Caribbean States. Factsheet.
- World Bank (2022b). Building the Caribbean Digital Economy, Bit by Bit. World Bank.  
<https://www.worldbank.org/en/results/2022/05/11/building-the-caribbean-digital-economy-bit-by-bit>
- World Bank (2023). SE.TER.ENRR: Gross enrollment ratio, tertiary (%). [Data file].  
<https://data.worldbank.org/indicator/SE.TER.ENRR?locations=S3>
- World Bank Group (n.d.). Topics & sectors. Latin America & the Caribbean.  
<https://web.worldbank.org/archive/website00878/WEB/OTHER/328636-3.HTM>
- Wray, C. C., & Montgomery, R. C. (2019). Bridging the skill gap: Helping non-traditional students develop research skills when they need it most. *Adult Higher Education Alliance*.
- Wrighting, D. M., de Barroso, E. T., Campbell, D., Perry, S., Kenney, K., Nawaz, S., ... & Franko, D. L. (2022). The research leadership development initiative (ReDI): Fostering potential in mid-career faculty. *The Journal of Faculty Development*, 36(3), 11–24.

- Wu, B., Yu, X., & Gu, X. (2020). Effectiveness of immersive virtual reality using head-mounted displays on learning performance: A meta-analysis. *British Journal of Educational Technology*, 51(6), 1991–2005. <https://doi.org/10.1111/bjet.13023>
- Wu, S. J., Chang, D. F., & Hu, H. (2021). Detecting the issue of higher education over-expanded under declining enrollment times. *Higher Education Policy*, 34, 747–770. <https://doi.org/10.1057/s41307-019-00163-z>
- Wulff, A. (2020). *Grading goal four: Tensions, threats, and opportunities in the Sustainable Development Goal on quality education* (p. 498). Brill. <https://doi.org/10.1163/9789004430365>
- Xu, M., David, J. M., & Kim, S. H. (2018). The fourth industrial revolution: Opportunities and challenges. *International journal of financial research*, 9(2), 90–95. <https://doi.org/10.5430/ijfr.v9n2p90>
- Yazan, B. (2015). Three approaches to case study methods in education: Yin, Merriam, and Stake. *The Qualitative Report*, 20(2), 134–152. <https://doi.org/10.46743/2160-3715/2015.2102>
- Yeong, M. L., Ismail, R., Ismail, N. H., & Hamzah, M. I. (2018). Interview protocol refinement: Fine-tuning qualitative research interview questions for multi-racial populations in Malaysia. *The Qualitative Report*, 23(11), 2700–2713. <https://doi.org/10.46743/2160-3715/2018.3412>
- Yin, R. K. (2014). *Case study research: Design and methods (applied social research methods)* (p. 312). Thousand Oaks, CA: Sage publications. <https://doi.org/10.4135/9781473915480.n38>

- Yoon, T. E., & George, J. F. (2013). Why aren't organisations adopting virtual worlds?  
*Computers in Human Behavior*, 29(3), 772–790.  
<https://doi.org/10.1016/j.chb.2012.12.003>
- Young, A., & Norgard, C. (2006). Assessing the quality of online courses from the students' perspective. *The Internet and Higher Education*, 9(2), 107–115.  
<https://doi.org/10.1016/j.iheduc.2006.03.001>
- Yue, X., Ye, Y., Zheng, X., & Yang, Y. (2021). Principal investigator' perceptions of effective academic leadership in Chinese research institutions and universities. *Journal of Education and Learning*, 10(5), 122–132. <https://doi.org/10.5539/jel.v10n5p122>
- Yun, J. J., Zhao, X., Jung, K., & Yigitcanlar, T. (2020). The culture for open innovation dynamics. *Sustainability*, 12(12), 5076. <https://doi.org/10.3390/su12125076>
- Yunus, M., Ang, W. S., & Hashim, H. (2021). Factors affecting teaching English as a Second Language (TESL) postgraduate students' behavioural intention for online learning during the COVID-19 pandemic. *Sustainability*, 13(6), 3524.  
<https://doi.org/10.3390/su13063524>
- Yurtseven Avci, Z., O'Dwyer, L. M., & Lawson, J. (2020). Designing effective professional development for technology integration in schools. *Journal of Computer Assisted Learning*, 36(2), 160–177. <https://doi.org/10.1111/jcal.12394>
- Yuzer, T. V., & Kurubacak, G. (2004). Producing Interactive Educational Radio Programs for DE. In *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (pp. 1587-1601). Association for the Advancement of Computing in Education (AACE).

- Zalat, M. M., Hamed, M. S., & Bolbol, S. A. (2021). The experiences, challenges, and acceptance of e-learning as a tool for teaching during the COVID-19 pandemic among university medical staff. *PloS one*, *16*(3), e0248758.
- Zawacki-Richter, O., Bozkurt, A., Alturki, U., & Aldraiweesh, A. (2018). What research says about MOOCs—An explorative content analysis. *The International Review of Research in Open and Distributed Learning*, *19*(1). <https://doi.org/10.19173/irrodl.v19i1.3356>
- Zemsky, R., & Massy, W. F. (1995). Expanding perimeters, melting cores, and sticky functions toward an understanding of our current predicaments. *Change: The Magazine of Higher Learning*, *27*(6), 40–49. <https://doi.org/10.1080/00091383.1995.10544675>
- Zhang, S., & Feng, J. (2019). A Step Forward? Exploring the diffusion of data journalism as journalistic innovations in China. *Journalism Studies*, *20*(9), 1281–1300. <https://doi.org/10.1080/1461670X.2018.1513814>
- Zhang, X., Zhang, B., & Zhang, F. (2023). Student-centered case-based teaching and online–offline case discussion in postgraduate courses of computer science. *International Journal of Educational Technology in Higher Education*, *20*(1), 6.
- Zichichi, M., Ferretti, S., D'Angelo, G., & Rodríguez-Doncel, V. (2020, November). Personal data access control through distributed authorization. In *2020 IEEE 19th International symposium on network computing and applications (NCA)* (pp. 1–4). IEEE. <https://doi.org/10.1109/NCA51143.2020.9306721>
- Zigerell, J. (1984). *DE: An information age approach to adult education* (No. 283). ERIC Clearinghouse on Adult, Career, and Vocational Education, National Center for Research in Vocational Education, Ohio State University.



## Appendix A: UREC Provisional Approval



UREC Decision, Version 2.0



### Unicaf University Research Ethics Committee Decision

**Student's Name:** Donna Karen Walker

**Student's ID #:** R2101D11789463

**Supervisor's Name:** Dr Joyce Wangui Gitau

**Program of Study:** UUM: EdD - Doctorate of Education



**Offer ID /Group ID:** O39209G39880

**Dissertation Stage:** 1

**Research Project Title:** Higher Education Leader 's Perspectives towards Online Learning: A Case Study in the Caribbean

**Comments:** The student should make sure that saturation is achieved. The data collection should stop only at the point when saturation is achieved.

**Decision\*:** A. Provisionally approved without revision or comments

**Date:** 05-Oct-2022

\*Provisional approval provided at the Dissertation Stage 1, whereas the final approval is provided at the Dissertation stage 3. The student is allowed to proceed to data collection following the final approval.

## Appendix B: UREC Data Collection Approval



UREC Decision, Version 2.0



### Unicaf University Research Ethics Committee Decision

**Student's Name:** Donna Karen Walker

**Student's ID #:** R2101D11789463

**Supervisor's Name:** Dr Joyce Wangui Gitau

**Program of Study:** UUM: EdD - Doctorate of Education

**Offer ID /Group ID:** O58961G60385

**Dissertation Stage:** 3

**Research Project Title:** Higher Education Leader's Perspectives toward Online Learning: A Case Study in the Caribbean

**Comments:** No comments.

**Decision\*:** A. Approved without revision or comments

**Date:** 10-Oct-2023

\*Provisional approval provided at the Dissertation Stage 1, whereas the final approval is provided at the Dissertation stage 3. The student is allowed to proceed to data collection following the final approval.

### **Appendix C: Institutional Review Board Approval**

As the institution had its own IRB, permission was sought prior to data collection. In this study, a pseudonym was used for the university to protect participants' privacy. As the IRB form contains the institution's logo, repeated references to the name and other key contact information, it cannot be made publicly available.

### **Appendix D: Gatekeeper Approval**

Prior to data collection, the gatekeeper approval was sought as well as permission from another committee within the university. In this study, a pseudonym was used for the university to protect participants' privacy. As the gatekeeper letter and internal approval forms contain the institution's logo, repeated references to the name and other key contact information, it cannot be made publicly available.

## Appendix E: Consent Form (blank)



UU\_IC - Version 2.1



### Informed Consent Form

#### Part 1: Debriefing of Participants

Student's Name: Donna Walker

Student's E-mail Address: donnawalker100@gmail.com

Student ID #: I2101D11789463

Supervisor's Name: Dr. Joyce Wangui Gitau

University Campus: Unicaf University Malawi (UUM)

Program of Study: EdD Organizational Change and Leadership

Research Project Title: Higher Education Leader's Perspectives towards Online Learning: A Case Study in the Caribbean

Date: 10-Aug-2023

Provide a short description (purpose, aim and significance) of the research project, and explain why and how you have chosen this person to participate in this research (maximum 150 words).

The purpose of this qualitative case study is to explore the perspectives of online education leaders toward online teaching and learning at a graduate school in the Caribbean. Given the wealth of advantages of online education, its underutilization in developing countries is an area of significant concern (Muhammad et al, 2017; Vulleleh, 2018). Researchers believe leader perspectives can provide insight to resolving this problem (William et al., 2021). Thus, the aim is to gain leadership perspectives of a range of constructs (performance expectations, effort expectations, social influences, and facilitating conditions) to determine how these perspectives may impact its use (Venkatesh, 2022).

As an online education leader/teacher (department chair, course director, technology leader, course instructor), you are being recruited for your insight into the constructs, complex decision making, buy-in, and negotiating and support that underpins successful programs.

The above named student is committed to ensuring participant's voluntarily participation in the research project and guaranteeing there are no potential risks and/or harms to the participants.

Participants have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In these cases, data collected will be deleted.

All data and information collected will be coded and will not be accessible to anyone outside this research. Data described and included in dissemination activities will only refer to coded information ensuring beyond the bounds of possibility participant identification.

I, Donna Walker, ensure that all information stated above is true and that all conditions have been met.

Student's Signature: Donna Walker

## Informed Consent Form

### Part 2: Certificate of Consent

**This section is mandatory and should to be signed by the participant(s)**

<b>Student's Name:</b>	<input type="text" value="Donna Walker"/>
<b>Student's E-mail Address:</b>	<input type="text" value="donnawalker100@gmail.com"/>
<b>Student ID #:</b>	<input type="text" value="I2101D11789463"/>
<b>Supervisor's Name:</b>	<input type="text" value="Dr. Joyce Wangui Gitau"/>
<b>University Campus:</b>	<input type="text" value="Unicaf University Malawi (UUM)"/>
<b>Program of Study:</b>	<input type="text" value="EdD Organizational Change and Leadership"/>
<b>Research Project Title:</b>	<input type="text" value="Higher Education Leader's Perspectives towards Online Learning: A Case Study in the Caribbean"/>

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation in this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

Participant's Print name:

Participant's Signature:

Date:

**If the Participant is illiterate:**

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had an opportunity to ask questions. I confirm that the aforementioned individual has given consent freely.

Witness's Print name:

Witness's Signature:

Date:

## **Appendix F: Data Collection Tools – Course Instructor Interviews**

Dear Course Instructor,

Thank you for taking the time to participate in this focus group, which aims to gain a better understanding of the experiences of online education leaders as they transition from face-to-face learning to online learning. The research project is titled Higher Education Leader's Perspectives towards Online Learning: A Case Study in the Caribbean and is supervised by Dr. Joyce Wangui Gitau.

The purpose of this qualitative case study is to explore the perspectives of online education leaders toward online teaching and learning at a graduate school in the Caribbean. Given the wealth of advantages of online education, its underutilization in developing countries is an area of significant concern (Muhammad et al, 2017; Vulleleh, 2018). Researchers believe leader perspectives can provide insight to resolving this problem (William et al., 2021). Thus, the aim is to gain leadership perspectives of a range of constructs (performance expectations, effort expectations, social influences, and facilitating conditions) to determine how these perspectives may impact its use (Venkatesh, 2022).

As a course instructor, you have a unique perspective on the online learning experience. Your insights into your student interactions, lecture delivery, classroom management, learning engagement with the virtual learning environment as well as the supports and barriers that impact your day-to-day online experiences are invaluable.

Please note that all responses will be kept confidential and used for research purposes only. Your participation is voluntary, and you may choose to skip any questions that you do not wish to answer. The focus group should take approximately 90 minutes to complete. I appreciate your time, effort and willingness to participate.

Best regards,

Donna Walker

### Participant Consent

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation in this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

☐ I want to participate      ☐ I do not want to participate

### Demographics

1) *What is your occupation?*

d) *Boomer II: 59 – 68*

e) *Boomer I: 69 – 77*

2) *What is your age range?*

f) *Post War: 78+*

a) *Gen Z: Under 27*

g) *Prefer not to say*

b) *Millennial: 27 – 42*

3) *How many years of experience do you have working in higher education?*

c) *Gen X: 43 – 58*

- |   |   |
|---|---|
| <p>a) <i>What positions or roles have you held during that time?</i></p> <p>4) <i>How many years of experience do you have with designing, delivering or supporting online education?</i></p> | <p>5) <i>What is your gender?</i></p> <p>a) <i>Male</i></p> <p>b) <i>Female</i></p> <p>c) <i>Non-binary</i></p> <p>d) <i>Other</i></p> <p>e) <i>Prefer not to say</i></p> |
|---|---|

**Focus group (90 mins) for course instructors:**

1. *When did you begin teaching online?*
  - a. *What were your reasons for doing so?*
2. *How effective is student engagement online teaching?*
  - a. *In what ways do you perceive online teaching to be different from traditional teaching?*
  - b. *How, if at all, does this impact your willingness to teach online?*
3. *How do your colleagues, students, and leaders influence your acceptance and use of technology in online teaching?*
  - a. *Social influence captures the influence of others' opinions and expectations (directly or through social norms) on an individual's decision to adopt and use a technology. What social influence factors are most important to you?*
4. *How easy is it for you to teach in an online environment?*
  - a. *Describe the learning curve you experienced in transitioning to online teaching*

- b. *What aspects have been challenging?*
  - c. *What aspects have been easy?*
  - d. *What strategies have been helpful for you?*
- 4. *How does the university support you in using technology effectively in your online teaching?*
  - a. *What kind of training programs, resources and assistance is provided?*
  - b. *Does your institution/department incentivize teaching online? (if yes, how significantly do you think they weigh its merits? If not, should they? why?)*
  - c. *How, if at all, does the support impact your willingness to teach online?*
- 5. *Do you have a preference for online education? why/why not?*
  - a. *What specific reasons influence your preference?*

## **Appendix G: Data Collection Tools – Program Leader Interviews**

Dear Department/Program Leader,

Thank you for taking the time to participate in this interview, which aims to gain a better understanding of the experiences of online education leaders as they transition from face-to-face learning to online learning. The research project is titled Higher Education Leader's Perspectives towards Online Learning: A Case Study in the Caribbean and is supervised by Dr. Joyce Wangui Gitau.

The purpose of this qualitative case study is to explore the perspectives of online education leaders toward online teaching and learning at a graduate school in the Caribbean. Given the wealth of advantages of online education, its underutilization in developing countries is an area of significant concern (Muhammad et al, 2017; Vulleleh, 2018). Researchers believe leader perspectives can provide insight to resolving this problem (William et al., 2021). Thus, the aim is to gain leadership perspectives of a range of constructs (performance expectations, effort expectations, social influences, and facilitating conditions) to determine how these perspectives may impact its use (Venkatesh, 2022).

As a department or program leader, you play a significant leadership role in your organisation. While being involved in teaching, administration and leadership are the most critical functions of your role. Course directors and support faculty look to you for vision and guidance with your online programs. Your insights into the complex decision making, buy-in, and negotiating that underpins successful programs are essential.

Please note that all responses will be kept confidential and used for research purposes only. Your participation is voluntary, and you may choose to skip any questions that you do not wish to answer. The interview should take approximately 30 – 45 minutes to complete. I appreciate your time, effort and willingness to participate.

Best regards,

Donna Walker

#### Participant Consent

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation in this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

☐ I want to participate      ☐ I do not want to participate

#### Demographics

6) *What is your occupation?*

7) *What is your age range?*

a) *Gen Z: Under 27*

- b) *Millennial: 27 – 42*
  - c) *Gen X: 43 – 58*
  - d) *Boomer II: 59 – 68*
  - e) *Boomer I: 69 – 77*
  - f) *Post War: 78+*
  - g) *Prefer not to say*
- 8) *How many years of experience do you have working in higher education?*
- a) *What positions or roles have you held during that time?*
- 9) *How many years of experience do you have with designing, delivering or supporting online education?*
- 10) *What is your gender?*
- a) *Male*
  - b) *Female*
  - c) *Non-binary*
  - d) *Other*
  - e) *Prefer not to say*

## **Interview Guide**

- 1) *How would you describe yourself as a leader?*
- a) *Can you share a specific example or scenario where you embodied this description?*
- 2) *Which specific leadership characteristics do you believe are most important for leading successful online education?*
- a) *How do you apply these characteristics in your leadership approach?*
- 3) *When and why did you begin offering online programs?*

## **Effort**

- 4) *What specific factors or skills play a role in your effectiveness as an online course instructor?*
- 5) *Describe the initial steps of transitioning your department to online teaching*

- a) *What challenges arose?*
- b) *How did you manage these challenges?*
- c) *Describe the process of normalizing online teaching for your faculty*
- 6) *How did you get buy-in from your team?*
  - a) *Did you have to get buy-in from other stakeholders? If yes, who and how?*
- 7) *When it comes to teaching online, what tasks are you responsible for?*
  - a) *What are the main categories of tasks?*
- 8) *What kind of changes were required to your department's culture in switching to online teaching?*
- 9) *How do the costs associated with online education compare with traditional education?*
  - a) *What benefits offset the costs?*
- 10) *Did the efforts associated with the transition impact your willingness to teach online?*

#### *Support*

- 11) *How, if at all, do you identify areas for development for your faculty related to online education?*
- 12) *Describe your experience with institutional training and support provided for online education*
  - a) *How satisfied are you with the support? (very satisfied, satisfied, neutral, dissatisfied, very dissatisfied)*
  - b) *How else do you think your department can be supported?*
- 13) *Do you incentivize faculty to teach online? (if yes, how, why, how effective is it in motivating faculty to teach online? If not, why, are there any barriers to incentivizing teaching online?)*

14) *Did the support you were provided or able to provide impact your decision towards teaching online?*

*Performance*

15) *How has online education impacted student enrollment and retention?*

16) *What factors impact student satisfaction in your program?*

a) *How, if at all, does this impact program-level changes?*

*Social Influence*

17) *How much do you think your students expect you to teach via online mediums?*

a) *How much do you think your colleagues expect you to teach via online mediums?*

18) *How prevalent is online education in your discipline?*

19) *Do you find regional standards and regulations supportive as it relates to your online program? Why? Why not?*

20) *Do you have a preference for online education? why/why not?*

## **Appendix H: Data Collection Tools – Course Director Interviews**

Dear Course Director,

Thank you for taking the time to participate in this interview, which aims to gain a better understanding of the experiences of online education leaders as they transition from face-to-face learning to online learning. The research project is titled Higher Education Leader's Perspectives towards Online Learning: A Case Study in the Caribbean and is supervised by Dr. Joyce Wangui Gitau.

The purpose of this qualitative case study is to explore the perspectives of online education leaders toward online teaching and learning at a graduate school in the Caribbean. Given the wealth of advantages of online education, its underutilization in developing countries is an area of significant concern (Muhammad et al, 2017; Vulleleh, 2018). Researchers believe leader perspectives can provide insight to resolving this problem (William et al., 2021). Thus, the aim is to gain leadership perspectives of a range of constructs (performance expectations, effort expectations, social influences, and facilitating conditions) to determine how these perspectives may impact its use (Venkatesh, 2022).

As a course director, you have a unique perspective on the online learning experience. Your insights into your team's interactions with online students, instructional strategies, and the support and barriers that impact their day-to-day online experiences are invaluable.

Please note that all responses will be kept confidential and used for research purposes only. Your participation is voluntary, and you may choose to skip any questions that you do not wish to answer. The interview should take approximately 30 – 45 minutes to complete. I appreciate your time, effort and willingness to participate.

Best regards,

Donna Walker

### Participant Consent

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation in this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

☐ I want to participate      ☐ I do not want to participate

### Interview Guide (30 - 45 mins) for course directors:

#### Demographics

- |                             |                                    |
|-----------------------------|------------------------------------|
| 1) What is your occupation? | e. Boomer I: 69 – 77               |
| 2) What is your age range?  | f. Post War: 78+                   |
| a. Gen Z: Under 27          | g. Prefer not to say               |
| b. Millennial: 27 – 42      | 3) How many years of experience do |
| c. Gen X: 43 – 58           | you have in higher education?      |
| d. Boomer II: 59 – 68       |                                    |

- 4) *How many years of experience do you have with online education?*
  - b. *Female*
  - c. *Other*
- 5) *What is your gender?*
  - a. *Male*
  - d. *Prefer not to say*

## **Interview Guide**

- 6) *When and why did you begin teaching online?*
- 7) *How would you describe yourself generally as a teacher?*
  - a. *What are two ways online education enhances your teaching practice?*
  - b. *What are two ways online education limits your teaching practice?*
- 8) *How, if at all, do these impact your willingness to teach online?*
- 9) *Does your institution/department incentivize (i.e. motivate you by providing rewards for) teaching online? (if yes, how significantly do you think they weigh its merits? If not, should they? why?)*
- 10) *What courses have you taught online?*
- 11) *Describe the impact of online education on your ability to interact/engage with students*
  - a. *What strategies have been helpful for you?*
- 12) *How effectively can you deliver and measure your learning outcomes (i.e. specific knowledge, skills or expertise that the learner will get from the learning activity)?*
  - a. *How does this compare with traditional in person face to face teaching?*
  - b. *What are the similarities and differences between online teaching and traditional in-person teaching?*

- c. *Are there any highlights or challenges?*
- 13) *What factors (such as communication, feedback, course structure, interaction, accessibility etc.) impact student satisfaction in your online courses?*
  - a. *How do you incorporate these factors in your teaching?*
- 14) *How, if at all, does the effectiveness of your online teaching impact your willingness to teach online*
- 15) *Describe your experience with training and support (both technical and instructional) provided for online education?*
  - a. *How else can you be supported?*
- 16) *How, if at all, does the support impact your willingness to teach online?*
- 17) *How much do you think your students expect you to teach via online mediums?*
- 18) *How much do you think your colleagues expect you to teach via online mediums?*
  - a. *How do they influence your teaching online?*
- 19) *How prevalent is online education in your discipline?*
  - a. *Does your department offer online courses in your discipline?*
  - b. *Are other similar universities teaching this type of course online?*
- 20) *Do you find regional standards and regulations supportive (for example, accreditation requirements) as it relates to teaching online? Why? Why not?*
- 21) *How, if at all, do these environmental factors impact your willingness to teach online?*
- 22) *Describe the learning curve you experienced in transitioning from traditional teaching to online teaching*
  - a. *How does it compare to the learning curve you experienced when you first began teaching in traditional classrooms*

23) *How much does online education require changes to your materials, teaching methods and assessments?*

- a. *Can you provide some specific examples of these changes?*
- b. *Once an online class is set up, how easy is it to maintain?*

24) *How much administration and logistics (requesting software/hardware, creating the course in the LMS) is involved in teaching online?*

25) *Do you have a preference for online education? why/why not?*

- a. *Which advantages or challenges impact your decision?*

## **Appendix I: Data Collection Tools – Technology Leader Interviews**

Dear Technology Leader,

Thank you for taking the time to participate in this interview, which aims to gain a better understanding of the experiences of online education leaders as they transition from face-to-face learning to online learning. The research project is titled Higher Education Leader's Perspectives towards Online Learning: A Case Study in the Caribbean and is supervised by Dr. Joyce Wangui Gitau.

The purpose of this qualitative case study is to explore the perspectives of online education leaders toward online teaching and learning at a graduate school in the Caribbean. Given the wealth of advantages of online education, its underutilization in developing countries is an area of significant concern (Muhammad et al, 2017; Vulleleh, 2018). Researchers believe leader perspectives can provide insight to resolving this problem (William et al., 2021). Thus, the aim is to gain leadership perspectives of a range of constructs (performance expectations, effort expectations, social influences, and facilitating conditions) to determine how these perspectives may impact its use (Venkatesh, 2022).

As a technology leader on campus, you provide relevant and deep insight into the decision making and support required to successfully run online programs. Your decision-making shapes the direction of online education on campus, and you often assist course directors in finding the best technologies to improve their courses as well as providing training on how to integrate those technologies.

Please note that all responses will be kept confidential and used for research purposes only. Your participation is voluntary, and you may choose to skip any questions that you do not wish to answer. The interview should take approximately 30 – 45 minutes to complete. Please

use the checkbox below to indicate your consent. I appreciate your time, effort and willingness to participate.

Best regards,

Donna Walker

### Participant Consent

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation in this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

☐ I want to participate      ☐ I do not want to participate

### Demographics

11) What is your occupation?

c) Gen X: 43 – 58

12) What is your age range?

d) Boomer II: 59 – 68

a) Gen Z: Under 27

e) Boomer I: 69 – 77

b) Millennial: 27 – 42

f) Post War: 78+

- g) *Prefer not to say*
- 13) *How many years of experience do you have working in higher education?*
- a) *What positions or roles have you held during that time?*
- 14) *How many years of experience do you have with designing, delivering or supporting online education?*
- 15) *What is your gender?*
- a) *Male*
- b) *Female*
- c) *Non-binary*
- d) *Other*
- e) *Prefer not to say*

## **Interview Guide**

- 16) *Briefly describe your role as a support faculty/staff*
- 17) *What types of support do you provide for online education on campus?*
- a) *What are the methods of offering support (for eg. In person, chat, email)?*
- 18) *How is this kind of support most commonly accessed by faculty members?*
- 19) *Do you believe that faculty members maximize use of this support? (why/why not?)*
- 20) *How and when do you offer support?*
- 21) *What methods are used to assess the faculty's technical knowledge determined?*
- 22) *What specific metrics do you use to assess the effectiveness of the support provided?*
- 23) *What resource constraints, institutional policies or other factors that impact the support offered?*
- 24) *What factors influence faculty satisfaction with the support?*
- a) *What factors influence their dissatisfaction?*

*b) What influences their faculty perception of support?*

*25) Describe the channels or process through which faculty can request support*

*26) How are technologies that support teaching online selected?*

*a) What are the key considerations in selecting one over another?*

*27) How do you determine best practices for using selected technologies?*

*a) How is this information communicated to teaching faculty and course directors?*

*28) Describe the role of industry standards and trends in the selection of technology*

*a) Are any specific trends or standards prioritized?*

*29) What specific criteria are considered when assessing the user friendliness of technologies?*

*a) How do these factors influence the selection process?*

**Appendix J: Organisational Chart of the Units under Investigation at Case Site**