Institutional and Learner Readiness for eLearning in the Maldives

A thesis submitted for the degree of Doctor of Philosophy

by

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Abstract

For Maldives, an island nation consisting of over 1190 islands, eLearning is the ideal form of delivery for higher education students on the 200 inhabited islands. This study explores Maldivian college students' and their institutes' eLearning readiness. Mixed methods research has been conducted using two questionnaires (one for the students and one for the lecturers) and semi-structured interviews. One hundred and eleven students from two private higher education institutes completed the questionnaires, 10 students were selected for interviews out of which 9 completed the interview. Students' technological skills, access to technology and learning abilities, as well as their level of eLearning efficacy, are measured and further explored through interviews. Their lifestyle and family and workplace environments' conduciveness for eLearning is explored. Similarly, 45 lecturers completed the questionnaire to obtain lecturers' and institutes' readiness for online teaching. The responses from the questionnaires allow exploration of Maldivian higher education students and institutes' readiness for eLearning. Lecturers' readiness is assessed by their skills and abilities to support eLearning students. Readiness of institutes are explored using semi-structured interviews with 2 senior staff from each college. The role of the three elements of the Community of Inquiry Framework: Cognitive Presence, Teaching Presence and Social Presence, in eLearning, is also explored through questionnaires and interviews. The research study's findings are significant as it is the first research in the Maldives to provide such a case in support of eLearning readiness in higher education. The research study supports the transferability of the findings to comparable colleges and student populations in the Maldives.

In the Name of Allāh, the Most Gracious, the Most Merciful

To my beloved father, AbdulRahman Adam

for instilling the importance of education in his children.

To my beloved sons, Abdurrahman Shougee and Adam Shougee

in whom I want to instil the same values.

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Chapter One

Introduction

"Online learning is not the next big thing;
it is the now big thing".
Donna J. Abernathy, Training and Development Editor

Information, Communication and Technology (ICT) has transformed higher education over the past two decades. In particular, use of digital learning technologies, smart phones, broadband connectivity to internet and social media have brought substantial changes to the way universities and colleges provide learning opportunities for students, the responsibilities of the institutions and the lecturers changed accordingly. Online or eEducation first began with a similar strategy as distance education whereby learning materials and textbooks were delivered and made retrievable on server-based networks (Harasim, 2000). The technical ability to interact online quickly emerged into collaborative learning activities, such as online forum discussions, which remained an essential feature of online education (Harasim, 2000). As interactive technology became more affordable and user friendly, technology has driven pedagogical change and has begun a process of transforming of teaching and learning in higher education. This transformation is shifting higher education from instructor-centred (traditional) to student-centred (modern) pedagogy where students have more responsibility for their learning (Koch, 2014).

Today, institutions around the world are investing in online technologies because of the promise of positive changes arising from the use of technology in education. In today's environment, any attempt that envisions higher education without incorporating technological change is impractical. In keeping up with the changing nature of higher education, and for responding to the needs of the current generation of

learners, universities and colleges around the world are investing in technology, and trying new pedagogical approaches, including blended learning and eLearning. Expansion of eLearning in higher education is also driven by its flexibility, alleviation of overcrowded classrooms, increased enrolment, reduced cost, and increased profit (Clardy, 2009).

The generation that higher education serves today, at least in the developed world, are 'digital natives' (Prensky, 2001) - the generation of learners that has grown up with digital connectivity and its associated gadgets such as the desktop computers, laptops, tablets and smart phones. Digital technologies have made significant changes in the way young people of today (digital natives) communicate, socialise, and learn. Such changes have profound implications for higher education (Prensky, 2001; Gibbons, 2007). Given these realities, further development and research on eLearning has become increasingly important for higher education institutions.

Defining eLearning

While there is a consensus on the importance of online and eLearning, finding a common definition of eLearning is challenging. According to Harasim (2000) online learning began in the 1980s, whereas as eLearning lacks a clearly identifiable origin. Some authors attempt to define eLearning in explicit terms, others express eLearning by its defining characteristics. Selim (2007) considers eEducation as involving eTeaching and eLearning along with administrative measures to support teaching and learning in an internet environment, and further defines eTeaching as the delivery of education by electronic means. According to Odunaike, Olugbara, & Ojo (2013) the definition of eLearning includes features such as live chats between students and lecturers, online assignments, discussion boards, and email support, providing the

opportunity for students to study at their own pace and time with access to a vast body of knowledge over the internet. Furthermore, some advocates of eLearning, as noted by Oblinger and Hawkins (2005), argue that a defining characteristic of eLearning is that all learning, all or at least most interactions between faculty and students, occurring online. Dublin (2003) holds a similar view that eLearning is computer-based learning over intranets and the internet in which the predominant medium of learning is online.

Defining eLearning as most, or all learning occurring online, seems problematic for others who believe eLearning is any level of the use of an electronic medium for learning, even when combined with traditional classroom teaching. For example, The Online Learning Consortium (OLC), a leading professional organisation devoted to advancing online learning in the United States, attempts to define eLearning in terms of three key parameters: instructional delivery mode, time and flexibility (http://onlinelearningconsortium.org). It is an attempt to understand and discuss eLearning from a practical point of view, based on its uses. OLC considers five types of uses of eLearning, chronologically illustrating the development of eLearning over time.

According to OLC, the simplest, and the earliest, use of eLearning is in classroom-based teaching in which computers and web-based technology are used to provide activities such as simulations. The second type of eLearning use, as OLC noted is the use of eLearning to offer synchronous course delivery in remote learning sites in real time. This approach to eLearning is limiting in terms of flexibility of time, but provides flexibility of place. The third, type of eLearning is the use of web-enhanced courses in which the internet is used to complement class sessions; in such cases

internet access is a requirement because certain components of the teaching are conducted online (OLC). The fourth use of eLearning is in blended learning where online activities are predominantly used for teaching with a component of classroom sessions. Finally, eLearning is used for teaching entirely online without a requirement for face-to-face sessions, eliminating the geographical and time limitations. In blended and online learning, the physical connection that had traditionally defined the relationship between the student and the institution has blurred, removing geography as a defining element in the student-institution relationship. ELearning is also redefining curriculum and how and where to obtain knowledge.

Tavangarian, Leypold, Nölting, Röser and Voigt (2004) argue that the condition of technology being used is insufficient as a description of eLearning. They included the constructivist nature of eLearning by affirming that it is not only procedural but also transformational for learners. They believe that eLearning should include an interactive component that facilitates the process of constructing knowledge via collaboration. Similarly, Ellis (2004) believes that certain level of interactivity has to be a defining characteristic of eLearning.

For the purpose of this study, eLearning is considered as learning that occurs mostly (if not fully) online and provides for asynchronous (anywhere, anytime) learning, with interactive discussion online between stakeholders. ELearning is conceived as constructivist, in which learners make meaning by connecting to nodes and networks, and through interactive discussions. This conceptualisation of eLearning includes blended and hybrid (Garrison, 2011) learning that combines online with face-to-face components. The type of online learning, or eLearning, proposed in this study is transformative, changing higher education from teacher-centred (traditional learning)

to student-centred (modern) learning. It is a form of learning in which students take responsibility and leadership for their own learning (Koch, 2014). This is a form of learning in which self-directedness is necessary to succeed. Furthermore, due to lack of common time and place for learning, teaching through eLearning changes the role of instructor/facilitator in this new digital environment (Koch, 2014). Online and eLearning are used synonymously in this study.

Research on eLearning to eLearning Readiness

This new form of learning needs a research plan to ensure that institutions move in the right direction in implementing eLearning initiatives. Research is also important to ensure that students succeed and thrive on online platforms, i.e. in eLearning. Considerable research has been undertaken regarding the effectiveness of online/eLearning in terms of student achievement or success. Most such studies are quantitative in nature and have attempted to compare effectiveness of eLearning to traditional classroom-based learning (Grandzol & Grandzol, 2006; Ross, Morrison, & Lowther, 2010). Some researchers have explored student satisfaction with eLearning to determine effectiveness from the perspective of students (Du et al., 2013). The common theme that has emerged from these studies is that online learning is as effective as face-to-face learning.

A second key theme in eLearning research has been about understanding the pedagogical aspects of teaching online that are effective for student success. For example, studies have been conducted to understand the effectiveness of student-student, student-teacher, student-content interactions (Borokhovski et al., 2012). Studies have also looked at how to enhance collaboration among learners (Darabi et al., 2013; Thomas, 2013). The role of self-directedness in eLearning students has also

been explored (Peterson, 2008). The key findings from such studies are that structured discussions, with timely feedback, are important for student success in eLearning (Darabi et al., 2013). These studies also show that collaborative support from other students, and continuous instructor engagement online is important for student success and eliminates isolation felt by learners.

Two key aspects become apparent from existing eLearning research. First, most research on effectiveness that compares traditional learning to eLearning, and pedagogical strategies related to student success, are carried out in developed-world contexts, and a natural assumption in these studies is that students, instructors, and institutions are ready for eLearning. But, are students, teachers and institutions really ready for eLearning? A careful review of global literature on eLearning shows that in the context of developing nations, the question of readiness to engage in eLearning is beginning to emerge as a relevant issue. It is important because, before investing scarce resources and time into eLearning infrastructure, it is important to ensure that students and the systems are ready for it. For example, Azimi (2013) conducted a study on readiness for implementation of eLearning in Colleges of Education in Mysore. Oketch (2013) conducted a study on eLearning readiness assessment of a case study of the University of Kenya. Mafenya, (2013) conducted a study of first-year students' pedagogical readiness to eLearning and assessment in open and distance learning at the University of South Africa. Similarly, Saekow & Samson (2011) explored eLearning readiness of Thailand's universities; Akaslan & Law (2011) conducted a study to measure teachers' readiness for eLearning in higher education institutions associated with the subject of electricity in Turkey, and Sadik (2007) conducted a study on readiness of faculty members to develop and implement eLearning in Egypt.

Furthermore, there is also evidence to show that eLearner dropout rate is high, when compared to traditional students, providing further drive to consider research in eLearning readiness. Levy (2007) reported that dropout rate of eLearners was around 25%-40% when compared to 10%-20% in on-campus courses. From a study conducted in The Open University of UK by Smith (2006) reported 35% of dropout rate. Yukselturk & Inan (2006) in their study reported that eLearner dropout rate in Turkey was 36%.

The Focus, Aims and objectives of the Study

Focus. Within the emerging agenda of understanding eLearning readiness, the focus of this study is on eLearning readiness in the Maldives. Given the geography, and the population growth and need for higher education, it is critical to understand eLearning readiness in the Maldivian context at this stage. Universities and colleges in the Maldives are just beginning the provision of eLearning, and the time is right to ensure that institutions, faculty members and students are ready for it. More importantly, it is essential that steps are taken to enhance the readiness of students, institutions and faculty members to achieve the benefits of eLearning. Further details of the context of Maldives is provided below (see p 11).

Aims. While this study is nested in the Maldives, it aims to contribute to research by developing an understanding of eLearning readiness beyond the boundaries of the Maldivian context. It aims to provide a holistic and comprehensive understanding of eLearning readiness by using both quantitative and qualitative data; most current studies on the topic are conducted using survey instruments and are narrowly focused on student readiness. This study attempts not only to understand the factors that relate

to eLearning readiness, but also attempts to qualitatively understand how such factors relate to eLearning readiness.

The study aims to broadly consider readiness of students and institutions; faculty members (facilitators) readiness is considered within the domain of institutions. Regarding student readiness, this research aims to build upon earlier studies that show access and technological skills, and self-efficacy and self-directedness as important factors for eLearning.

Regarding lecturers, this study is guided by research that shows when lecturers participate in online learning, create meaningful interaction with students, facilitate student-student collaboration and provide timely feedback, then eLearning becomes a successful approach for learning (Koch, 2014). Regarding institutional readiness research is limited: however, in this regard this study is informed by Singh and Hardaker's (2014) work that indicates the following as important elements of institutional readiness: strategic communication with all stakeholders; policymakers' awareness of the culture of the organisation and steps taken to overcome resistance to change; the role of institutional leadership in creating a culture that promotes eLearning. Furthermore, this study will conceptualise eLearning readiness within the emerging learning theory of connectivism (Siemens, 2005). The review of literature has not revealed a study that has considered eLearning readiness in such broad terms, using both qualitative and quantitative data, and conceptualised under the theoretical framework of Connectivism.

Objectives. The first specific objective of the study is to assess the level of eLearning readiness among Maldivian higher education students in two institutions. In this

assessment, the following eLearning readiness domains will be assessed: (1) access (2) technological skills, (3) study habits and skills and (4) lifestyle factors.

The second objective is to assess higher education lecturers' readiness to engage in facilitating eLearning. This will be explored using the domains of: (1) access, (2) technological skills, (3) teaching styles and (4) time management.

The third objective of this study is to explore the level of readiness of the institutes with respect to: (1) infrastructure, (2) human resources and (3) access and connectivity.

Research Questions

The following are the two key research questions of this study:

1. What are the personal, institutional and societal factors that relate to developing eLearning readiness in students and institutions in the Maldives?
2. At what level of eLearning readiness are Maldivian higher education students and institutions in terms of access and connectivity to technology, technological skills, and cognitive and social abilities?

The subordinate questions raised to explore the above two main questions are:

1. At what level of eLearning readiness are Maldivian students and institutions in terms of access and connectivity to technology?
2. At what level of eLearning readiness are Maldivian students in terms of technological skills and cognitive and social abilities?
3. In what ways do students' learning habits and styles affect eLearning readiness?

4. What ways do pedagogical cultures of institutions relate to students' readiness for eLearning?

Significance of the Study

The significance of the study arises from the need to understand eLearning readiness comprehensively. As discussed above, most studies on the topic focus on limited aspects of eLearning readiness. A comprehensive study that considers students' readiness, lecturer or faculty readiness, institutional readiness is considered useful to enhance our understanding of the issues related to eLearning overall. Furthermore, the mixed methods research employed in the study provides the opportunity to further explain quantitative findings, and develop a deeper understanding of pedagogical, cultural and personal aspects that relate to eLearning readiness. In that respect, this study is meant to provide a significant contribution to research on the topic.

Furthermore, limited knowledge about eLearning readiness is available within the context of the developing world. This study makes a contribution to theory: I am using the connectivistic approach to discuss eLearning through the perspective of structured university distance courses, within the cultural context of the Maldives. It is important to note that connectivism is working here within a 'constrained cultural context' and not 'world-wide' or even within a very widespread cultural context such as the USA. Hence, this study is significant in that it attempts to gather a deeper understanding of eLearning readiness within the context of a developing nation. It also helps to develop a better understanding of how geographical context, culture and societal factors could impact eLearning readiness. Geographical context of Maldives is discussed under the

heading ‘Context of Higher Education in the Maldives’ (p 11). For administrative purposes Maldives is divided into 20 atolls, each atoll has a council that oversees the administrative tasks of the atolls and each island has its own administrative office. The cultural factors that impact eLearning readiness comes from the fact that Maldives has a culture that conforms to authority and the society, in general, are accustomed to a hierarchical, authority-led society.

The practical significance of the study is based on its usefulness in developing a comprehensive instrument or method to evaluate institutional eLearning readiness. Based on the results of the study, an instrument that incorporates quantitative and qualitative data for future evaluation of eLearning readiness could be developed. The study will point to pedagogical changes that are required at institutional level to enhance eLearning readiness. The findings will be of practical value to design and deliver professional development training for facilitators of eLearning. The findings will also support existing efforts to understand eLearning readiness of students prior to beginning eLearning programmes of study. Interventions to enhance student readiness is expected to improve the student outcomes of eLearning and reduce the drop-out-rate of students participating in eLearning.

At institutional level policy-makers may find the results and findings of the study useful in strategic planning to implement and enhance eLearning. Furthermore, at national levels the findings of the study would contribute to further develop and bring changes to education policy with respect to eLearning. In particular, it is hoped that the findings of the study will inform education policy and practice in the Maldives.

Context of Higher Education in Maldives

As a mixed methods study, qualitative understanding of institutional and learner readiness are integral aspects of this research. As Creswell (2011), states qualitative research takes into consideration the natural setting of the study. Participants' behaviours, interactions and beliefs are assumed to relate to the historical, economic and cultural context of the study, which forms the natural setting of this study. Therefore, it is important to shed some light on the national characteristics in Maldives and its education system and the prevailing pedagogy in schools and colleges.

The context of the study is also important since culture has been construed as an important element that shapes technological readiness of students. As Elliot, Hall and Meng (2008) argue, an individual's desire or willingness to use technology for learning is influenced by culture among other factors. This aspect of cultural impact of technological readiness and usage will be further discussed in Chapter Two.

In considering the context, the Maldives is an archipelago of nearly 1,190 islands and a population of approximately 400,000 inhabitants (Census Maldives, 2014). More than 25 percent of the population live in Male', the capital, while the rest are distributed among just under 200 other inhabited islands (Census Maldives, 2014). The Figure 1 below is a map of Maldives, illustrating the distribution of its islands. As it can be seen clearly on the map, Maldivian population is widely dispersed onto tiny islands. This geographical reality of the country makes eLearning essential if higher education is to be made available to those living on all islands.

The main form of transportation between islands is by sea vessels (engine boats, ships and speed launches). There are two international airports and 10 domestic airports. Even with these facilities, commuting within a country consisting of over 1000 islands is challenging. Apart from the capital island, Male', the population size of the

remaining islands is too small to sustain institutes of higher education. Thus, the only possibility for providing access to those living in most parts of Maldives is to develop blended and eLearning opportunities.

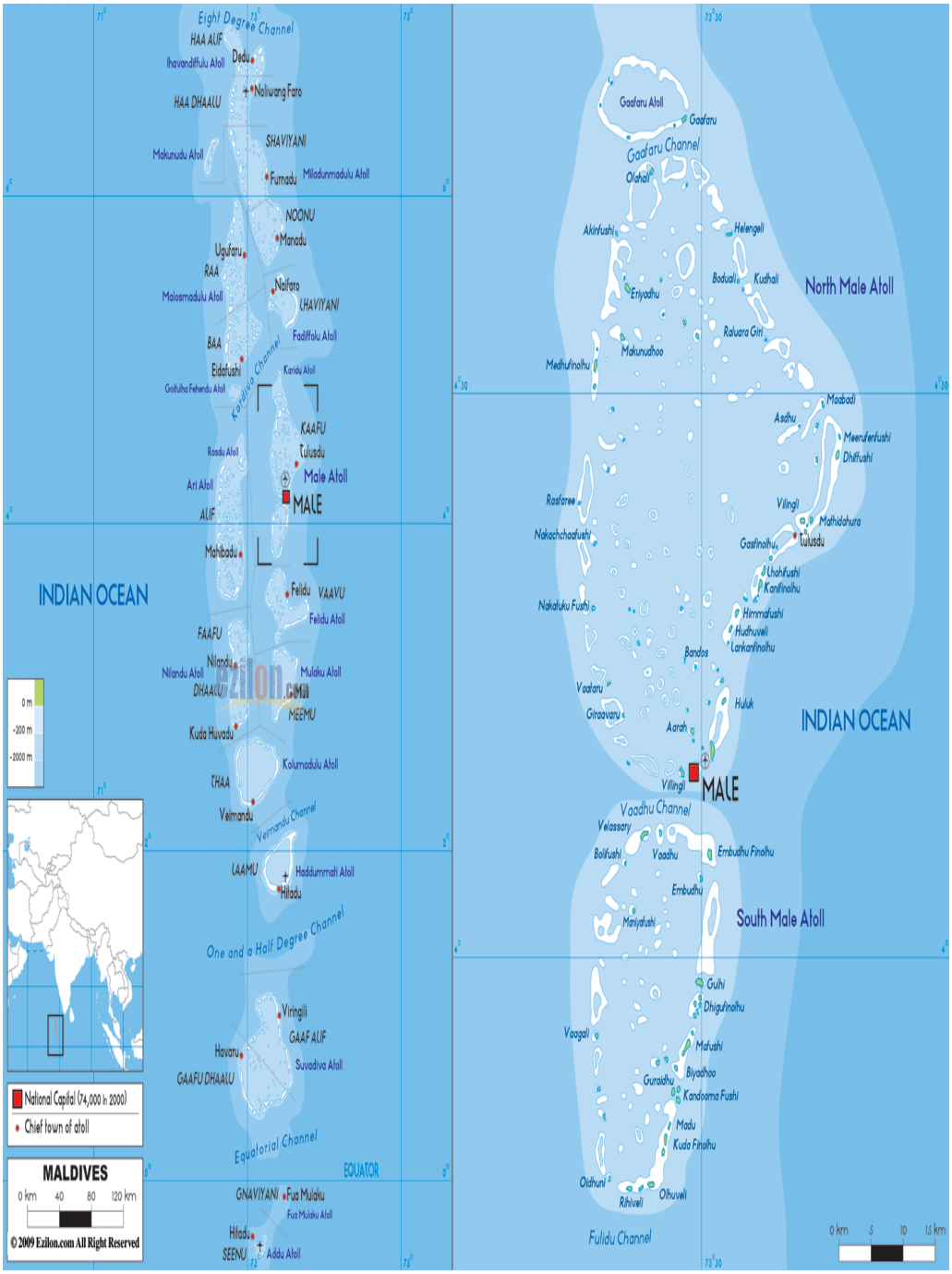

Figure 1. Map of Maldives

In the national development front, Maldives has done well when compared to other similar island nations. According to World Bank (2011), in Maldives the gross national income per capita is USD 5,790 in 2010, which is highest among countries in the South Asia region. In particular, developments in the education sector are significant. Maldives has the highest literacy rate in the region and has achieved universal primary and secondary education with gender parity. Maldivian students undertake both primary and secondary schooling with English as the medium of instruction. The terminal examinations used at the end of secondary and higher education are the British GCSE O-levels and A-levels examinations. While the official language is Dhivehi, and while Maldives has the capacity to implement its own curriculum, the purpose of relying on English as a medium of instruction with an international examination is due to high level of interest in keeping all doors open for Maldivian students to seek higher education, even if it is from abroad.

The higher education system is young. Today there are seven (7) colleges and 2 universities approved by Maldives Qualification authority to provide degree level qualifications in Maldives (http://www.mqa.gov.mv/local.html). The current total enrolment in these institutions in 2015 was estimated at 11542 students.

There are four main phases of schooling outlined in the National Curriculum Framework (NCF) of Maldives. The Foundation phase consists of LKG (Lower Kindergarten) and UKG (Upper Kindergarten) starting at the age of 4. The second phase the Primary phase consists of Key Stage 1 and Key stage 2 (grade 1-6). Lower secondary phase which is the third phase consists of Key Stage 3 and 4 (grade 7-10) and the fourth phase the higher secondary or key stage 5 phase includes grade 9 and 10 (NIE, 2015). At the end of the third phase (after completion of grade 10) students sit

the Cambridge GCSE exams and at the end of the fourth phase the exit exams are the UK Edexcel (London) A 'Level exams. Government as well as parents and the society place a strong emphasis educating their children and education is compulsory for all children until the age of 18.

According to World Bank (2011), the Gross Enrolment Ratio in higher education in Maldives is low when compared to other countries in the region: limited access to Higher Education opportunities is considered the main reason for the low enrolment. World Bank (2011) reports that Maldives is in the process of developing a policy on diversification of Higher Education, which also includes enhancing the geographical balance of opportunities available in the country. World Bank (2011) estimates that higher education student population, in Maldives, will increase to 20,000 by the year 2020.

ELearning and the Maldives Education System

ELearning is considered essential for enhancing the geographical spread and balance of higher education opportunities in Maldives. In terms of cost, and with regards to obtaining a critical mass of students to offer academic programmes, operating traditional type of classroom-based higher education in Maldives is unsustainable. However, significant and long-term initiatives are not evident in terms of developing eLearning in the Maldives.

As in most countries, distance education can be seen as the stepping stone for online and eLearning in the Maldives. The earliest record of using technology for open and distance education started with the establishment of Education Technology Unit (ETU) which was founded with UNICEF supplied equipment in the 1970s with the first

educational programme produced by ETU being broadcast by the Voice of Maldives in 1978. ETU produces audio, video and other multimedia programmes which support the National curriculum and distributes these to schools.

The fourth National Development Plan (1994-1996) initiated certain innovative programs which included offering of English language courses for teachers through distance education. And this initiative included production of audio and video materials for the purpose of enhancing the skills of English language teachers through distance education (UNESCO-IBE, 2006/07).

Realising the need for eLearning, in 2007 the Centre for Open Learning at the Maldives National University started a project to implement eLearning, an initiative that delivered materials to the students in the islands within the country. Apart from this initiative, while ICT and online platforms are used to support face-to-face learning in higher education, focused initiatives to offer eLearning programmes of study are limited in the Maldives.

Internet connectivity in the Maldives

The table below (Table 1) provides an insight to the history of internet users in the Maldives (Internet World Stats, 2016). It also provides statistics about the population of Maldives from 2000 to 2016, GDP per capita, as well as the percentage of internet users in the Maldivian population. In 2002 there were roughly 6000 internet users which is 2.1% of the population. In 2010, 22.2% of the population were internet users and in 2016, 68.7% of the population are internet users. This significant increase in users could be attributed to the fact a single company (Cable & Wireless now known as Dhiraagu) had a monopoly in providing internet services up until the recent past 5

years. Now there is competition between the internet providers and the cost and availability is better and people could afford it. Also the availability of Wi-Fi and data packages has made it more cost efficient and user friendly for the population. Now all the inhabited islands in the Maldives have access to the internet.

Table: 1 Internet Usage and Population statistics

YEAR	Users	Population	% Pen.	GDP p.c.*	Usage Source
2000	6,000	298,841	2.1 %	N/A	ITU
2005	19,000	298,841	6.4 %	US$ 2,390	ITU
2007	20,100	303,732	6.6 %	US$ 3,056	ITU
2009	71,700	396,334	18.1 %	US$ 3,932	ITU
2010	87,900	395,650	22.2 %	US$ 4,230	ITU
2016	270,000	392,960	68.7 %	US$ 7,290	ITU

Note: Per Capita GDP in US dollars, source: International Monetary Fund.

(Source: http://www.internetworldstats.com/asia/mv.htm)

Two colleges

College 1 started as a small computer training centre in 1993 with just 6 students. Today it is a full-fledged college that is accredited by the MQA (Maldives Qualification Authority) with over 3000 students and 60 plus academic and support staff. Their facilities include two campuses in Male' with computer training labs and a library. The courses offered range from certificates, diplomas and advanced diplomas to master's degrees. Currently, the college offers courses with international partnership with some universities and colleges in Australia, Malaysia and India.

College 2 was established in the beginning of 2007 with just one institute and by the end of the year they were registered at the Higher Education Department of Maldives.

They started with 20 students and today they have over 3000 students enrolled in their courses. Currently the college consists of 7 faculties, 3 institutes and 5 Centres. The main campus is located on the capital, Male' with 6 campuses on other islands and one campus in Colombo, Sri Lanka. Courses offered range from certificate to Master's degree level. Currently the college has international partnerships with universities in Malaysia, United Kingdom, Italy, Germany and Thailand.

Conceptual framework

The conceptual framework of this study is built upon the theoretical foundation of connectivism, a theoretical perspective to explain the process of learning in the current digitally-networked age (Siemens, 2005; Downes; 2012). The ontological position of connectivism is that knowledge exists in the form of distributed knowledge; such knowledge is created collaboratively, stored, and disseminated across a network of connections (Downes, 2012). In a university or college setting there are some possibilities for students and lecturers to create knowledge, but the bulk of the knowledge will be stored and disseminated centrally through the university or college system. The epistemological position of connectivism is that acquiring the knowledge or learning occurs across and within the networks of connections, and learners make connections, construct and navigate the networks in the process of learning (Downes, 2012). The formation of the theoretical framework through the principles of connectivism is detailed in Chapter Two.

The conceptual framework of the study draws on the ontological and epistemological assumptions of connectivism. The construct or conceptual framework of the Community of Inquiry (COI) is utilised to develop the conceptual framework of the study. This is a framework developed by Garrison, Anderson, & Archer (2000), in

which they explain the COI as a group of individuals (learners and facilitators) who collaboratively engage in constructing meaning and mutual understanding. This is a process of engagement or learning as mediated through three domains – social presence, cognitive presence and teaching presence (Garrison, Anderson & Archer, 2000). In this study, eLearning is conceptualised as a process that occurs through social presence, cognitive presence and teaching presence. The two 'frameworks' are applied in a particular system and context (i.e. the Maldives) and therefore, what emerges is a modified 'contextually-based' theoretical framework. The conceptual frameworks have been explained in detail in Chapter Two.

Research methodology

The choice of research methodology for this study is mixed methods. Mixed methods research is a methodology for conducting research that involves collecting, analysing and integrating quantitative (survey questionnaires were administered in this study) and qualitative (semi-structured interviews were conducted in this study) research. According to Creswell (2003, p. 16) "the concept of mixing different methods probably originated in 1959, when Campbell and Fiske used multiple methods to study validity of psychological traits". As Creswell (2003, p.16) argued, one of the reasons for choosing mixed methods is the recognition by the researcher that all methods have limitations, and an attempt to triangulate data sources for "seeking convergence across qualitative and quantitative data". Furthermore, Creswell (2003) claims that mixed methods provide the opportunity to utilise data from one method (e.g., quantitative) to inform the data from the second method (e.g. qualitative).

I have arrived at the decision to conduct this study using mixed methodology after having felt a compelling need to use both forms of data (quantitative and qualitative

data) to understand readiness for eLearning. One reason for this is that the reviewed literature revealed that studies on eLearning readiness have predominantly used survey research using quantitative methodology. Yet, the findings of these studies did show that social constructs such as learning styles, habits, pedagogical preferences and culture impact eLearning readiness. I became convinced that how such social constructs relate to and affect eLearning could not be simply explained by quantitative measures; to understand the impact of such constructs on eLearning readiness data that captures views, opinions, feelings and experiences is needed. Thus, mixed methodology presented the opportunity to complement quantitative indicators of eLearning readiness with qualitative data.

The purpose of utilising mixed methods is to fill qualitative data from interviews within quantitative indicators derived from Likert questionnaires on eLearning readiness to provide insights into various domains of analysis (e.g. access, technological skills, self-directed learning) of this study. This approach to mixed methods studies is promoted by Tashakkori & Teddlie, (2010).

Another compelling reason for selecting mixed methods is the pragmatism that is the theoretical underpinning of the methodology that serves one of my purposes of conducting the study – the purpose of findings a workable/practical approach to evaluating eLearning readiness comprehensively. My hope is that this research will facilitate the development of a pragmatic approach to evaluating eLearning readiness that is inclusive of students' readiness, lecturer/faculty readiness, and institutional readiness. Greene & Caracelli, (2003) say that pragmatism is a practical approach to solving a problem and it is philosophically and theoretically linked to mixed methods research. A similar view on pragmatism is shared by Greene and Hall (2010) in which

they claim that pragmatism results in problem solving; mixed methods research is considered as action-oriented research to achieve progress.

In line with the purpose of selecting mixed methods research, the explanatory sequential design (Creswell, 2011) is selected for the study. As Creswell (2011) explains this is a design in which the researcher begins quantitatively and then moves to a qualitative phase that incorporates multiple perspectives and in-depth descriptions. In terms of research philosophy, this amounts to beginning with post-positivism and then shifting to constructivism (Creswell, 2011). Further details of the procedures used in data collection are provided in Chapter Three.

Scope and Limitations of Research

Simon & Goes (2013) explain scope as the parameters within which the study would be operating. The scope of this study incorporates personal, pedagogical and institutional factors or aspects related to eLearning readiness. Access to technology, connectivity, and technical skills that are required for eLearning by students and faculty members of institutions fall within the scope of this study. The institutional factors such as leadership, structure and resource availability that impacts eLearning also fall within the scope of the study. These institutional readiness factors are explored while collecting qualitative data through staff interviews. Societal issues such as culture, pedagogical practices, and education policy that relate to eLearning in the context of Maldives also fall within the scope of the study. Simply said, the scope of the study within eLearning readiness is conceptualised broadly to include all the above aspects.

The scope of the study is limited to a geographical and cultural context of Maldives. In particular, the findings of the study are limited to two colleges of higher education on the capital, Male'. In that sense, no claim is made that the findings can be fully used to prove or predict eLearning readiness in other institutions in Maldives or elsewhere. However, the quantitative findings are indicative of eLearning readiness in other institutions in Maldives. The findings generated from qualitative data could be instrumentally used in understanding eLearning readiness in institutions in Maldives and other countries with similar resources and educational background.

Reflexivity: Self and the Topic

At the time I completed my A-levels there was no university or higher education colleges in Maldives, there were some institutes offering specialised certificates and diplomas such as the Institute for Teacher Education (ITE) and Institute for Health Sciences (IHS). All the students who wanted to continue further studies travelled abroad on government scholarships and those who could afford sent their children overseas to study. During my A-levels studies I tutored at a private school, from Grade 2 to Grade 8, teaching English Language. My interest in teaching started at this point in time. While I waited for my chance for a scholarship, I was employed in a government all boys school as a teacher, teaching Mathematics and Social Studies. My first introduction to the computer was while I was teaching at this school where I spent a lot of my free time in the computer lab.

After 2 years as a primary school teacher I joined my husband in Canada with the intention of pursuing a first degree in Biology to become a Biology teacher. However, the challenges some of my friends were facing in their computer classes drove me towards the challenge (some of my friends were repeating the computer modules). I

completed a degree in computer studies. After completion, with the realisation that sitting in front of the computer is not my passion and teaching was what I still preferred, I enrolled and completed the CACE (Certificate in Adult and Continuing Education) programme. The CACE programme is offered by a consortium of Canadian universities for adult educators and trainers.

With the background in computer studies and an adult education certificate (teaching adults) the next logical step was to explore possibilities to use them both in the context of Maldives, which lead me to the subject of Distance Education. While exploring graduate study opportunities I found the perfect option for me. Given my situation at the time (mother to two very young boys - 6yrs and new born) the perfect opportunity arose from Athabasca University, studying for Masters in Distance Education (MDE) by distance mode. I was residing in Toronto while the course was offered in Alberta, Canada.

After completion of the first two modules, circumstances (my husband who was on a commonwealth scholarship completed his doctoral studies and had to return to serve a bond) required that my family and I move back to the Maldives. Challenges of settling in after eleven years in Canada with a young family was not positive for my studies to say the least. I attempted to continue with the online forums and assignments while trying to assist my boys adjusting to a foreign culture and environment. At the same time wanting to make use of the studies I have already completed, I started working at the Centre for Open Learning as an assistant lecturer.

In an attempt to juggle a full workload together with looking after a very young family, my studies suffered. I dropped the programme with only one module and dissertation left for completion. However, the modules I already completed were of immense help

to my work in designing and coordinating a teacher training programme offered to 270 in-service teachers on 103 islands. While coordinating the course, I learned of the many challenges Maldivian students face as distance education learners. The course was designed such that students from each atoll met once a month for face-to-face sessions and exams in one of the 18 centres allocated (there was a centre on each atoll). Since the main form of transportation for these students was by sea, rough seas and lack of available transportation at the allocated times were challenging for the students. Also sending the printed materials to the students on the 103 islands was a challenge – postal services were not very reliable, therefore, I had to make arrangements with captains of the vessels that travel to these islands from the capital to carry the materials to the centres.

The experience I had as an online learner and as a distance education coordinator led me to think of alternative and better ways to offer these services to the many students in the remote islands. While completing a Masters in ICT at Institute of Education, London, I began researching the eLearning readiness of students. Therefore, the experience and insights I bring into this research are two-fold - as an online learner and a distance education coordinator. In collecting and analysing the data of this research study, I bring to it my own reflections in both these aspects together with my background knowledge gained from my studies.

Since this study incorporates a qualitative component, it is important to be reflective and make the researcher's beliefs and assumptions about the phenomenon explicit. According to Curry-Stevens, (n.d.) "qualitative research uses the researcher as tool, drawing from his or her interests, passions, lived experiences and the research process itself". And Curry-Stevens (n.d.) discusses the concept of reflexivity, which is

explained as, serving “to illuminate the ways in which the researcher has influenced the research process”. Exploring of a researcher’s prior beliefs and assumptions about the phenomenon are believed to enhance the credibility and rigour of qualitative research (Curry-Stevens, n.d.).

Based on my personal experience with teaching, being a student of eLearning, and as an instructional designer in distance education, I brought the following assumptions and beliefs about eLearning and research into this study. With my experience as an instructional designer and coordinator in the Maldives, I held the belief that online learning is what is needed for Maldives and that developing countries, such as Maldives, can employ online learning with the limited resources available. I also held the belief that computer access and basic technical skills were adequate for engagement in online learning, and the present-day college aged students (10 - 35) would be ready for online learning with instructional guidance.

With my experience in attempting to get approval for distance education courses in Maldives, I had faced frustration in trying to prove the authenticity and credibility of distance education/online learning. In doing so I was searching for ways to explain and convince the validity of online learning to the critiques and also to create awareness about online learning and its status being no less valid than the traditional face-to-face learning.

In light of my experience and knowledge in research, ontologically I held a belief that there is knowledge outside of human consciousness but how people make meaning of knowledge is based on their lived experiences. My stand is that research would make more meaning if conducted both quantitatively and qualitatively. Quantitative for larger scope and qualitative for more in-depth of the phenomenon explored

Summary

This chapter presented a brief introduction to ICT and higher education followed by definitions of eLearning. Research on eLearning to eLearning readiness is discussed briefly followed by the focus, objectives and aims of the study. Next, the research questions are stated and the significance of the study are detailed. Since the study is based in Maldives, a brief description of Maldives, its education system, the history of eLearning and the two colleges selected for the study are presented. This is followed by the conceptual framework of the study, research methodology in brief and the scope and limitations of the study. The chapter concludes with reflexivity of the self and the topic. The next chapter (Chapter Two) will present a review of the literature on eLearning readiness.

Chapter Two

Review of Literature

"There are two fundamental equalisers in life –
the internet and education".
John Chambers, CEO, CISCO Systems

The primary purpose of this chapter is to review literature related to student and institutional readiness for eLearning. In the process of reviewing literature, this chapter is also designed to provide the theoretical and conceptual framework of the study. Theories, concepts and related research findings are placed within the study's conceptual framework, where possible.

The chapter begins by defining eLearning and by providing a brief overview of the development of eLearning. In this section, the common characteristic of eLearning with other forms of alternative teaching methods (distance education, open learning and online learning) in higher education are explored. Second, the concept of "readiness" in learning theories are explored, leading to the theoretical and conceptual framework of the study.

Third, connectivism (Siemens, 2004) is further explored as the theoretical framework of the study. Together with connectivism and Community of Inquiry (COI) (Garrison, Anderson & Archer, 2000) a composite conceptual model or framework is developed to guide the study. To present this framework, key attributes of connectivism and components of COI (i.e., cognitive presence, teaching presence, and social presence) are discussed.

Fourth, the key components of the conceptual framework are discussed with the use of supporting research findings from past studies. In this regard, access, technological

skills, study habits and skills, and life style factors are considered within the domain of student readiness. Infrastructure and lecture readiness are explored with the help of related research findings regarding the domain of institutional readiness.

The final section of the chapter is devoted to reviewing models and research findings on assessing eLearning readiness. In this section, research on attempting to study eLearning readiness of institutions as a whole are discussed. Specific efforts by institutions to assess leaner readiness in preparation for eLearning are also briefly explored.

ELearning in Higher Education

The Department for Education and Skills, United Kingdom (2003, p. 4), used the following definition of eLearning in its policy document titled "Towards a Unified eLearning Strategy".

> If someone is learning in a way that uses information and communication technologies (ICTs), they are using eLearning. They could be a pre-school child playing an interactive game; they could be a group of pupils collaborating on a history project with pupils in another country via the Internet; they could be geography students watching an animated diagram of a volcanic eruption their lecturer has just downloaded; they could be a nurse taking her driving theory test online with a reading aid to help her dyslexia – it all counts as eLearning.

The concept of eLearning has become what it is today through an evolutionary process, starting with distance or correspondence education and by sharing a common lineage with other alternative forms of learning in higher education. Alternative forms of higher education include distance/correspondence education, open learning, and

more recently online learning. ELearning shares similar characteristics with these forms of alternative learning delivery efforts.

Distance/correspondence education has a history of almost two centuries (Spector, Merril, Merrienbore & Driscoll, 2008). From its inception, distance education is an effort to provide access to learning for learners who are geographically distant from where the learning is offered. The earliest form of distance education was offered as correspondence education, where all the print based course materials are provided to the learner by postal services. The learner then studies and masters the material on her own at her own pace following the guidelines sent by the education provider. And, the defining characteristic of distance education is that it relies on the self-paced learning of the student as it lacks face-to-face interaction. Self-paced learning, in which the learner takes responsibility for spacing one's own learning, is a key characteristic of eLearning as well.

Distance education began as an instructor-centred, one-way communication mode of delivering education (Kim, n.d.) in the United Kingdom, France and United States "to overcome the challenges of access to university education, especially for servicemen, via the improved modern mail delivery system" (Kim,n.d. p.1). From this beginning, distance education has evolved with technological advances delivered instantaneously through online courseware, emails, live chats, and in some cases, through virtual classrooms. In essence, distance education has merged with eLearning concepts to a point where separation of the two is often meaningless.

Open learning is another much-related form of education to eLearning. One of the first institutions to promote the concept of open learning is The Open University of the United Kingdom, established in 1971. Many other open universities have been

established elsewhere over the past 4 decades. During the early years of open universities, they were established with the idea that technologies, such as radio and television (new technologies at that time), could be used to bring education to a wider audience. It is an effort to democratise higher education, and to create open access to higher education for people of various ages, academic backgrounds, and socio-economic status. Today, students in United Kingdom's The Open University access course materials on their smartphones and computers and study at times and places that suits them best (The Open University, n.d). Open learning has in effect moved to Web2 technologies, allowing for interactive multi-mode communication between facilitators and students and among students. Therefore, open learning and online learning is effectively synonymous with eLearning in many aspects.

Distance education, correspondence education, online education, and now eLearning, has undergone revolutionary changes with technological changes. In the 1960s, linked computer terminals allow students to obtain academic content, while they attended regular classrooms (Rosen, 2014). Then came email, internet, online courses, MOOCs, and learning management systems (LMS) that allowed for blended learning. As Edmonds (2015) noted, learning technologies are today accepted, and considered the way forward for education and training by all sectors, after a decade of resistance. Edmonds (2015, p. 1) further says that "current affordable technologies have put communicating, exploring, expressing, creating and networking into the hands of the learner, or more so, the consumer". Today, learning occurs not just in the setting of a classroom, but in the environment of an electronic network consisting of multiple nodes and learners, called eLearning. As evidence of the widespread application of eLearning, Bichsel (2013) noted that all institutions of Educause (an organisation consisting of over 1800 colleges and universities) in 2013 had a major interest in

eLearning, with more than 80% of its institutions offering at least several courses online.

Today, eLearning is no longer an alternative form of learning in the Western world: it is at its early stages of becoming a mainstream method of teaching and learning in higher education. As eLearning evolves it is revolutionising how we conceptualise and act towards teaching and learning. As Rosen (2014) anticipates, the future of higher education will likely be characterised by massive open online courses (MOOCs), mobile learning (mLearning), and virtual reality. However, in the less developed parts of the world, access to eLearning technology, and know-how in relevant pedagogies, and practicing of eLearning remain limited. As thus, this study is an attempt to promote eLearning in such parts of the world, by understanding what is required to get the institutions, particularly students and teachers, ready for eLearning.

Readiness to Learn to eLearning Readiness

In the field of education, the concept of readiness could be explored through paradigms of learning: behaviourism, cognitivism, and constructivism. Each paradigm, or set of perspectives on learning, offers a slightly different view on learning readiness.

The concept of readiness is associated with paradigm of cognitivism, consisting of learning theories that focus on learning as a mental process. Cognitivism addresses how information is received, organised, stored, and retrieved by the mind (Feldman, 2010). The concept of readiness, when viewed as a mental process, require the learner to be mentally active in the learning process. A mental process cannot simply be driven without the willing participation of the learner. In this active mental process, one can argue that knowledge is constructed and reconstructed, which forms the essence of

constructivism. To construct knowledge, the student must act on objects and it is this action that provides knowledge of those objects (Grace, 2013). The learner must actively want to learn; learning is not equivalent to filling an empty vessel with knowledge. This willingness to actively participate (mentally and emotionally) is inclusive of the concept of readiness to learn.

The changing nature of learning, due to technological advances, compels both cognitivists and constructionists to shed new light on how we learn. Teaching and learning today is increasingly depended on technologies. Classroom as a medium of instruction is being replaced with online networks as the medium of learning. This new medium of learning, peer feedback and peer collaboration is greatly enhanced by the use of Web 2.0. Online as the medium of learning brings higher levels of learner engagement, self-regulation, and active learning (Okoro, Hausman & Washington, 2012). Not only students, but lecturers have also created online communities of practice. As Doolan (2013) noted, the social context of learning within the digital world, including social media, has become a central tenet of learning. And, another central tenet of the new realities of learning appears to be students' ability to be self-directed learners. Readiness to learn in this new digitally networked environment, through a web of electronic mediums, brings us to a new form of learning readiness, i.e. eLearning readiness.

Theoretical framework of the study

Given the changing reality of what learning is, connectivism has emerged as a theoretical paradigm or perspective that helps to further explain learning in a digitally connected world. Connectivism brings together aspects of cognitivism and constructivism in suggesting a broader and inclusive framework for learning in today's

‘open’ and ‘connected‘ learning environment, enabled by interactive Web 2.0 technology. As Conradie (2014, p. 254) argues, “with Web 2.0, information is not only accessed, but also created by learners, thus fundamentally changing the way learners interact, function, communicate and learn”.

Ontologically, connectivism assumes the existence of distributed knowledge, which is spread across a network of connections (Downes, 2012); distributed knowledge resides across networks of connections and learning is about constructing and traversing those networks (Downes, 2012). This perspective of connectivism is useful to conceptualise the presence of networked or distributed knowledge on today’s digital networks. Such knowledge plays an increasingly important role in eLearning, but in my view, it does not negate the existence of knowledge in the course content and structure of university programmes. Such distributed knowledge on digital networks become a complementary and important source of knowledge to the course structure and content of learning provided by institutions of higher education. Furthermore, nature of networked knowledge does not negate the role of experiential knowledge of the learner. This study holds the constructivistic view that learning is about creating of meaning by individuals that incorporated one’s past experiences, needs, emotions and experientially gained knowledge. Learners are viewed as interacting and traversing on digital networks and learning is a complex process that integrates course content, personal knowledge and attributes of the learner, and, facilitated by a guide (lecturer/teacher).

In explaining how learning occurs in connectivism, Siemens (2005, p. 4) in his article titled “Connectivism: A Learning Theory for the Digital Age” says learning is a process that occurs within nebulous environments of shifting core elements – which

are not entirely under the control of the individual. This is a view that learning could occur within networks, by developing patterns, even without the control of persons. It is a perspective that relates to artificial intelligence; i.e., digital networks (of course with humans on it as nodes in addition to computer servers and nodes of knowledge) are by themselves able to generate knowledge. From this perspective, various nodes that carry knowledge on networks are people, servers, eBooks, and social media.

This perspective of learning occurring on nebulous networks does empathise with the increasingly important role played by the interaction of multiples nodes or sources of data within digital networks, that are often beyond the control of the learners. While incorporating this perspective, I assume that learners do have certain control of learning in constructing the meanings generated intrinsically within themselves, while interacting and relying on the digital network that is increasingly knowledge creating and dynamic.

Furthermore, connectivism is driven by the understanding that decisions are based on rapidly altering foundations. This means that new information is continually being acquired, and the ability to draw distinctions between important and unimportant information is vital. The ability to recognise when new information alters the landscape based on decisions made yesterday is also critical. In summary, connectivism assumes that knowledge is emergent, chaotic, fragmented, non-sequential, and contextualized (Siemens, 2004). The emergent nature of knowledge refers to speed in which what we know today may no longer be relevant knowledge in a short period of time. In referring to the chaotic nature of knowledge, Siemens (2005) called it the “new reality for knowledge workers” (p. 5). Siemens’ view is that meaning exists within the nodes of the networks and the role of the learner is to

recognise and understand the patterns, i.e., recognise knowledge required for a given situation.

The study has also embraced the idea that some knowledge on digital networks is fragmented and non-sequential. This study accepts that the world of eLearning is an overwhelming place – knowledge is abundant yet fragmented. Yet, students are often used to the organised and structured nature of textbooks, journal articles, or classroom sessions, both face-to-face and online (interaction with formal nodes of knowledge provided within course content and informal nodes of knowledge on networks). Furthermore, curriculum developers are used to organising knowledge according to principles that facilitate learning. And, teachers engage in pedagogical practices such as introducing concepts from simple to complex. But, today's world of eLearning, students are presented with both such structured knowledge and teaching, together with knowledge that is fragmented and non-sequential in nature. This creates a situation in which learners have to be able to organise knowledge on their own, based on their respective needs. Therefore, ELearning readiness does require students' ability to work with, and make meaning from, knowledge that exists in fragmented forms and in a non-linear and non-sequential manner, in addition to absorbing knowledge in linear and sequential forms. ELearning readiness is about the ability to navigate the digital world, including structured course materials provided by universities online, and interact with various nodes of the networks, to seek knowledge, even when it is a chaotic process with fragmented, non-sequential and contextualised knowledge.

Furthermore, Siemens (2004) says that in connectivism decision-making is itself a learning process. Deciding what to learn, how to learn, when to learn, and making

meaning from the information received, is essential. This is a view that is compatible with self-directed learning, which forms an integral part of eLearning readiness.

Openness and tolerance for diversity are considered as important elements of connectivism's perspective on learning. According to Downes (2012), the learning process is influenced by diversity, autonomy, openness, and connectedness. In a networked environment, diversity is a reality in terms of cultural backgrounds, expectations, prior knowledge, and differing ideas. My conceptualisation of eLearning readiness includes students' ability to interact and learn with such diversity. An inclusive attitude towards diversity is essential. However, in a cultural context such as Maldives, students must be able to navigate networks filled with diversity, even though students come from a culture of homogeneity. What is called for is a diverse and pragmatic self; one who is able to function both within an academically and contextually homogeneous environment, and be able to navigate and thrive in diverse and global digital networks. From this perspective, eLearning readiness includes the ability to create a sense of community, while incorporating both elements of diversity and homogeneity; a concept similar to community of inquiry developed by Garrison and Anderson (2003).

Connectivism also incorporates several dimensions of adult learning that are applicable for the concept of readiness in this study. Such dimensions include the ability to be self-directed in learning, ability to practice active learning, ability to independently know and find resources for learning, ability to hold learning dialogues with others within the e-learning environments, ability to assess one's own learning needs, and ability to judge what one has learnt and what one has not learnt. Malcolm Knowles (1975), who first coined the term andragogy in adult education, identified six

assumptions about adult learning: (1) the need to know, (2) learners' self-concept, (3) their prior experience, (4) their readiness to learn, (5) learning orientation, and (6) motivation to learn. Knowles et al., (2005) state that adults become ready to learn things they need to know and do so in order to cope effectively with real-life situations (Knowles et al., 2005). In other words, adults want to learn what they can apply in the present, thus learning offered to adults must be useful for them at any given time.

Furthermore, an equally important aspect of Knowles concept of andragogy is self-directedness in learning, which is also a key aspect of learning readiness when viewed through a connectivistic frame of reference. Knowles (1975, p.18) defines self-directed learning as "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies". As Manning, G (2007) argues, Knowles reasons for incorporating self-directedness in adult learning are as follows: (1) self-directed learning assumes humans to grow in their need to be self-directing as an aspect of maturing, (2) as a human matures one's experiences become an increasingly rich resource for learning, and (3) as an individual matures learning becomes a tool to perform their evolving life task or cope with their life problems.

Thus, eLearning readiness as conceptualised in this study assumes self-directed learning as essential. It is about identifying one's own learning needs, researching and obtaining resources necessary for one's learning needs, implementing required learning strategies, and also, to some extent, having the ability to assess one's own learning. Self-directed learning is the ability for a learner to be able to take the responsibility of learning in to one's own hands. It is also about taking control of one's

own learning, even when today's digital networks of learning are nebulous and outside the realm of an individual learners or nodes.

ELearning readiness discussed thus far related to students. But, the conceptualised eLearning readiness in this study goes beyond students, it includes both institutional and teacher readiness. Downes (2012) discusses the teacher as the facilitator; this study sees the role of the teacher as a facilitator because teacher-led teaching is not compatible with eLearning. Thus, teacher readiness is related to the extent to which the teacher is able to facilitate self-directed learning in students.

Siemens (2010) makes the case that teachers in connectivism should include the following: amplifying (drawing attention to content); curating (providing comments and encourage personal reflections); wayfinding (helping to make sense of complexity, chaos and fragmentation; filtering (guiding towards essential knowledge); and continuous presence online to encourage learning. These attributes of teaching, perhaps more related to guiding, fits with my concept of an eLearning teacher. One who possess such attributes, would be ready to be an eLearning facilitator.

Based on these theoretical perspectives on eLearning, what follows next is an attempt to describe the conceptual model or framework that guided this study. This framework brings together connectivism and the concept of Community of Inquiry (Garrison, Anderson, & Archer, 2000) to form a composite model on eLearning readiness. First, the framework of community of inquiry will be explored. This will then be followed by a detailed discussion of the conceptual model that bring connectivism, Community of Inquiry, and student, teacher and institutional attributes that, together, form eLearning readiness.

Community of Inquiry

The perspective that I bring to this study is that students and institutions (including lecturers) engage in eLearning through the medium of the digital world, which can be explained through Community of Inquiry (COI), a learning framework developed by Garrison, Anderson, & Archer (2000). Figure 2.1 below represents my thinking regarding eLearning readiness as it relates to COI.

Garrison, Anderson, & Archer, (2000) explain that the 'community of inquiry' is a group of individuals who collaboratively engage with each other in constructing meaning and mutual understanding (i.e., learning). Such a group, exchanging and learning from each other, could also be conceptualised as a connectivist node on a digital network. It is collaborative, reflective and constructivistic learning engagement that occurs through digital media. This process of engagement in a meaningful learning experience is through three interdependent elements – social, cognitive and teaching presence (Garrison, Anderson & Archer, 2000). In my view, students engaged in eLearning would form such a group, a community of inquiry. Figure 2.1 below shows these three types of presences, and eLearning readiness is attained when three forms of presence overlaps**.**

The term 'presence' is essential for this study; presence is the ability of people "to project their personal characteristics into the community, thereby presenting themselves to other participants as 'real people'" (Garrison, Anderson, & Archer, 2000, p. 89). Creating presence is remaining engaged with each other. And, research

shows that higher levels of engagement and interaction (presence) leads to better student achievement and satisfaction (Oblinger, 2014).

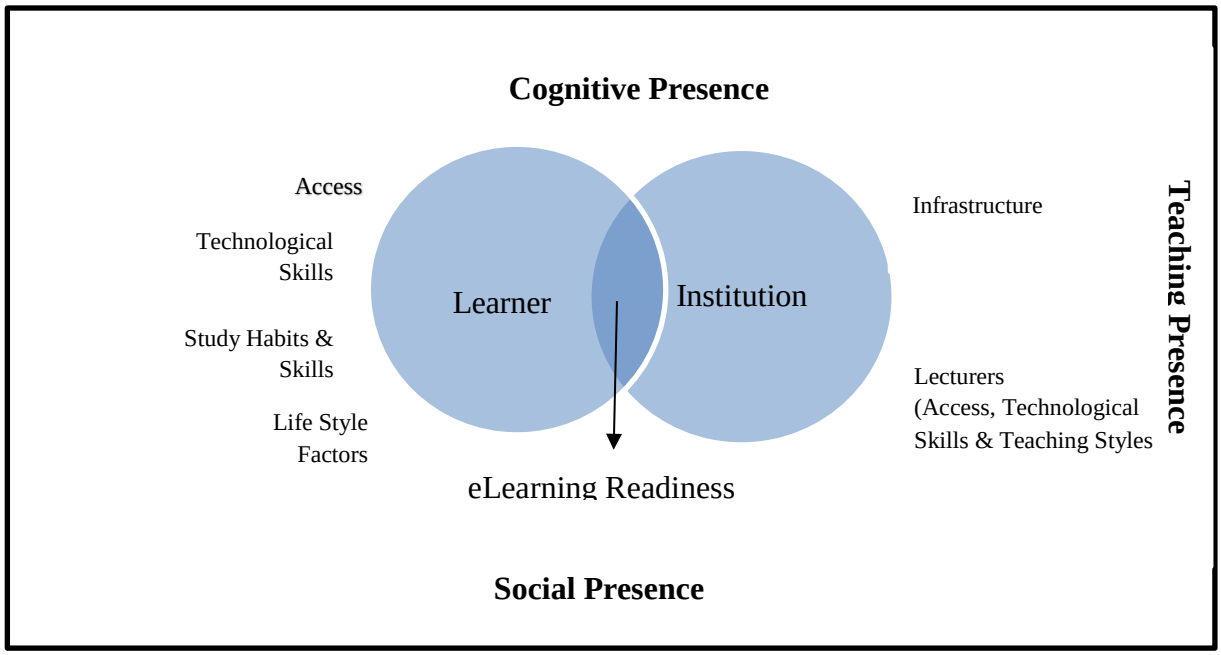

Figure 2.1. Community of Inquiry: The Conceptual Framework

Fig. 2.1 above shows learner attributes of access, technological skills, study habits and learning styles, and life style factors (family support). Besides institution, Fig. 2.1 also includes lecturer attributes of access, technological skills, and pedagogical practices. These attributes will be discussed in detail later under the composite conceptual model proposed for the study (see Fig. 2.2). The key components of cognitive presence, social presence, and teaching presence are discussed next to facilitate the formation of the composite model of the study.

Cognitive Presence. Garrison, Anderson, & Archer (2000, p. 89) described cognitive presence as the "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication". Furthermore, Garrison, Anderson & Archer (2000, p. 93) say that "the extent to which cognitive presence is created and sustained in a community of

inquiry is partly dependent upon how communication is restricted or encouraged by the medium". Garrison, Anderson & Archer (2001) claims that cognitive presence can be assessed through observing the process and the outcomes of learning. The method proposed to assess the cognitive process is content analysis through qualitative methodology.

They also presented the development of cognitive presence in four phases. The first phase is characterised as the triggering event. Garrison, Anderson & Archer (2001, p. 4) described the first phase as:

> Here an issue, dilemma, or problem that emerges from experience is identified or recognised. In an educational context, the lecturer often explicitly communicates learning challenges or tasks that become triggering events. However, in a more democratic and non-hierarchical application of computer conferencing, any group member may purposively or indirectly add a triggering event to the discourse. A critical role of the lecturer (actualizing teacher presence) is to initiate, shape, and, in some cases, discard potentially distracting triggering events so that the focus remains on the attainment of intended educational outcomes.

The second phase of the process is characterised as the exploration. Garrison, Anderson, & Archer (2001) describes that during this phase the student would move between private reflection and sharing of thoughts with others – a stage that includes brainstorming, questioning, and sharing of ideas and information. The third phase is related to integration, and this is the process of constructing meaning from the ideas generated in the previous phase. Garrison, Anderson & Archer (2001) say that this phase requires teachers' input to identify misconceptions and to provide comments/questions; teachers have to ensure that students do not prolong the

exploration mode. The fourth or final phase is about coming to a resolution of the initial problem that triggered the reflection and discussion. An important aspect to note in the cognitive presence is the key role of the lecturer (i.e. teaching presence) to facilitate learning in this digital medium.

Teaching Presence. Garrison, Anderson, & Archer (2000) considers teaching presence as the designing and facilitating of collaborative learning for worthwhile learning outcomes. The lecturer's role is not directing but facilitating, i.e., creating a conducive eLearning environment for critical inquiry. This is particularly true if computer conferencing is the primary means of communication for an educational experience. Garrison, Anderson & Archer (2000) provide evidence of several studies that show the importance of the lecturer's presence in computer mediated learning environments. The synchronous nature of the medium, and the lack of ability for lecturers to make judgments based on facial expression and physical gestures of students, the role of the lecturer in facilitating learning becomes a challenging task. As Garrison, Anderson & Archer (2000) argues, there is no particular recipe for lecturers to create teaching presence; what is required is a pedagogical approach that is reflective, continuous, and thoughtful.

Social Presence. Learning is a social activity – higher cognitive outcomes are achieved with social interaction. Therefore, as Dunlap & Lowenthal (2009, p. 129) states "when we design and teach online, we build in authentic and relevant opportunities for our students to interact and connect not only with the content but also with the instructor and each other". Social presence is a way of thinking about social connectedness for students and lecturers in eLearning environments. As a component of the COI, social presence refers to the "ability of participants in a Community of

Inquiry to project their personal characteristics into the community, thereby presenting themselves to other participants as 'real people'" (Garrison, Anderson, & Archer, 2000, pp. 89). In other words, it is about being there, in the eLearning environment, with others, as part of the community.

Garrison, Anderson, & Archer (2000) argue that cognitive engagement of students is sustained when social presence is established. What they meant is that "socio-emotional interaction and support are important and sometimes essential in realising meaningful and worthwhile educational outcomes" (p. 95). In my own eLearning, I have come to realise that social presence (a kind of comfort and confidence to being there with others and interacting with others) takes time for students to develop. I also have experienced that lecturers need to carefully facilitate social presence of students on digital networks.

The Figure 2.2 below provides a conceptual model that incorporates connectivism, community of Inquiry, and learner and institutional attributes into forming a combined conceptual model of eLearning readiness. Connectivism in the model is depicted with various nodes and applications such as online libraries, email, Facebook and so on. Although not included due to space constraints, such nodes will include other students, lecturers, and communities of inquiry as well. ELearning readiness means to be able to navigate and interact with all such nodes and have the skills to utilise various applications. Cognitive presence, teaching presence, and social presence come together with the institution and the learner in forming eLearning and readiness for eLearning. The institution is also an integral aspect that includes both the infrastructure and lecturers who are expected to have access, technical skills and pedagogical skills that are demanded for eLearning.

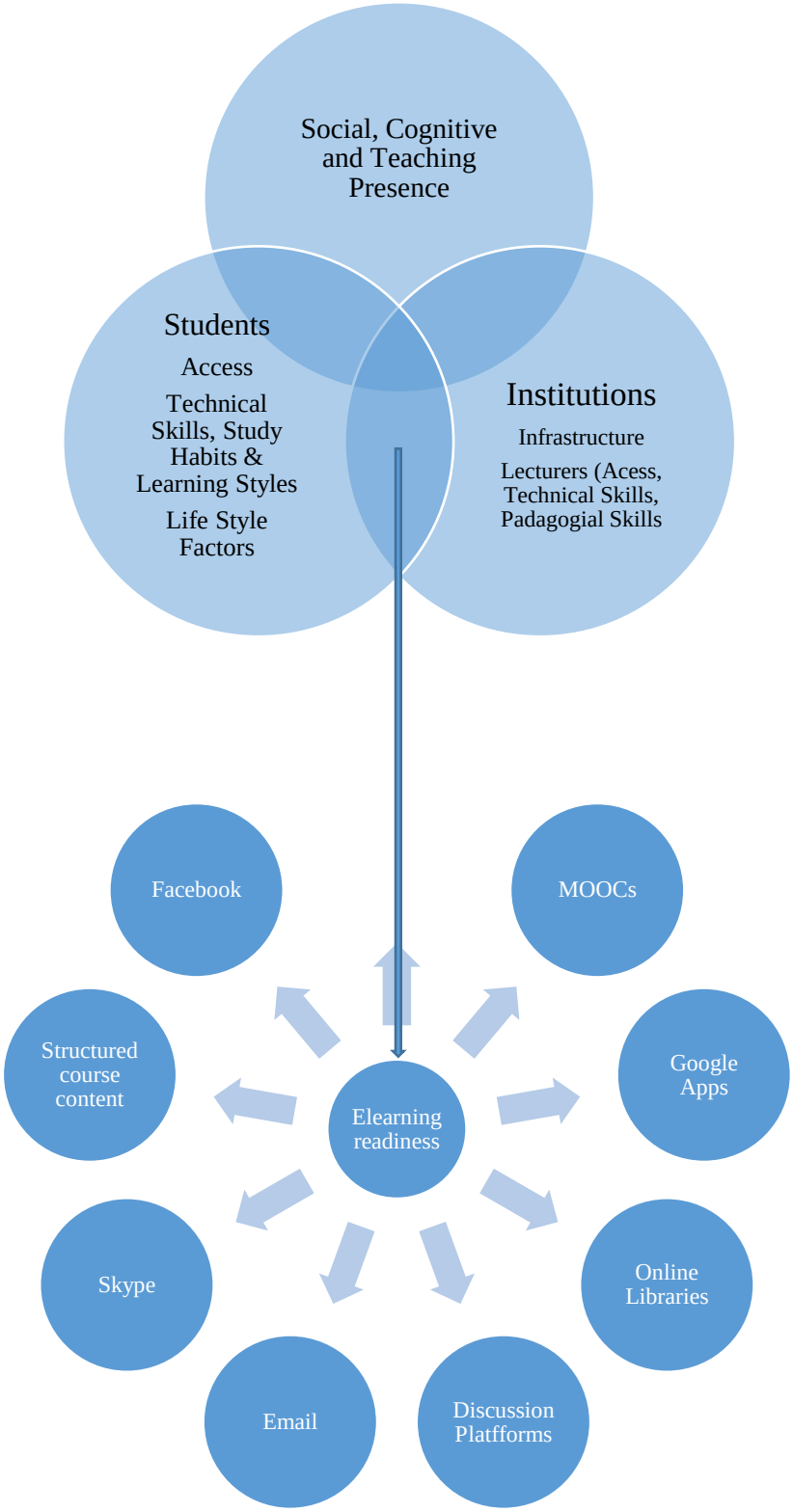

Figure: 2.2 A conceptual model for eLearning readiness

Institutional Readiness

Infrastructure. This section will shed light on the infrastructure needed for eLearning and provide a brief review of a few studies that have attempted to study the institutional infrastructure required for eLearning. The importance of adequate infrastructure for eLearning readiness is unquestionable; it is the backbone of an eLearning system. In North America and in Europe, the establishing of e-infrastructure at institutional level is the norm today. Data regarding the establishment of eLearning infrastructure in other parts of the world is not readily available. Depending on the resources, what researchers consider as necessary infrastructure for eLearning differs. A consistent criteria regarding what constitutes as eLearning infrastructure has not been articulated in literature.

A study conducted by the European University Association (EUA) in late 2013 that included 38 European systems (EU and wider Europe) obtained data from one third of EUA's institutional membership and concluded that the following are basic to eLearning infrastructure (Gaebel et al., 2013): computer networks and servers, provision of students with emails, access to Wi-Fi, computer rooms, online libraries. In addition, this study also noted that digital courseware, curricular and reference materials, management systems for content development, and student portals across all departments and faculties as necessary to enhance and develop eLearning within the institution. In my view, various platforms dedicated for the use of eLearning should also become part of the institutional infrastructure.

EUA study (Gaebel et al., 2013) reported that nearly all institutions provided students with email accounts, access to Wi-Fi, computer rooms and online libraries. It also reported that over 80% of institutions use digital courseware such as textbooks, curricula and reference materials, other online educational material, and management systems for content development. This study further noted that fewer institutions report use of resources such as personalised study portals (50%), electronic student portfolios (29%), and online examinations. Use of interactive technology for learning was not included in this study and, therefore, sufficient information was not available to judge the actual use of the infrastructure for eLearning purposes by students and lecturers.

What constitutes adequate institutional infrastructure for eLearning readiness? The answer to this question varies depending on the researcher. Some have considered basic elements such as official websites and servers as part of infrastructure readiness for eLearning. Others, as discussed above, would consider interactive online learning systems as basic elements of eLearning. Depending on availability of technology and resources, what is considered as the necessary infrastructure may differ.

For example, Azimi (2013), who conducted a study of institutions in Mysore, India, asked if colleges had official websites, considering websites as an important aspect of eLearning infrastructure. The results revealed that 93.5% of the colleges possessed official websites and only 6.5% of them did not have. Azimi also asked if servers were available in colleges, and it was found that 42.5% of the colleges had servers and 54.8 lacked servers. Regarding Learning Management System (LMS), he found that 41.9% of the institutions had LMS and 58.1% lacked LMS. In many parts of this world, such levels of infrastructure would be considered as inadequate or ‘not ready’ for eLearning.

However, in his study, 64.5% of the respondents indicated that they believed that institutions had sufficient infrastructure.

Some researchers have further argued that students and faculty members owning personal laptops are integral to the eLearning readiness infrastructure; it is considered part of the institutional infrastructure, although it can be effectively argued an issue of access. Tubaishat & Lansari (n.d.) who conducted a study at Zayed University in UAE argues that eLearning success depends on ICT infrastructure, and they considered ownership of computers by students and faculty as part of institutional infrastructure. In their study, they asked respondents (students and faculty members) at Zayed University about ownership of computers at home. Tubaishat & Lansari (n.d.) found that all students in their study owned a laptop and/or desktop computer at home - as part of institutional infrastructure it is a requirement that all students carry personal laptops when they come on campus. This study also reported that all faculty member owned laptops as well.

The above conceptual framework takes a context-based view of what must be included among institutional infrastructure. Depending on the development status of the country and the institution, all forms of expensive servers, computer systems and networks may not be always possible. However, students' access to internet, online courseware, and internet facilitated learning platforms are considered as necessary components for readiness. However, no amount of infrastructure would be effective for eLearning, unless the teaching staff could engage students in eLearning.

Lecturer Readiness. Lecturer readiness is an integral aspect of the institutional readiness. Lecturer is referred here as a person who gives lectures as an occupation in a higher education institution such as a college or university. Considerable research

literature is available on the role of lecturers, i.e., facilitators, of eLearning. Facilitator is a lecturer/teacher who facilitates and guides learners and assist them in learning by themselves. Unlike a teacher who does traditional classroom teaching, a facilitator assist students in learning for themselves in forming their own thoughts and ideas from learning materials through self-exploration and dialogue. An obvious characteristic of eLearning facilitators is to have the technical knowledge of using and supporting eLearning platforms and networks (Salmon, 2003). Furthermore, factors such as familiarity with learning management systems, willingness to adopt new technology in teaching, ability and willingness to develop and provide e-content for teaching are considered as aspect of technical readiness of facilitators (Eslaminejad, Masood, & Ngah, 2010). Pedagogical readiness factors listed by Eslaminejad, Masood, & Ngah (2010) are, the willingness to use technology in instruction and material development, the ability to provide feedback electronically and use of multiple approaches in teaching.

Most importantly, research shows that eLearning facilitators need to be focused on the social nature of eLearning, i.e., the human (socio-psychological) aspects of the learners. According to Salmon (2003) the key role of the eLearning facilitator is to generate online interaction, leading to constructing of knowledge by the learners. In this aspect, it is also important that lectures be ready to facilitate learning through modelling (Salmon, 2003). In this role the facilitators need to understand and be able to act as leaders, who generate group interactions. Furthermore, Sutton (2004) argues online facilitators of learning need to be good listeners who provide timely feedback and encourage learners to build relationships, and let learners feel comfortable about participating in online discussions and sharing information.

In order to be ready to provide eLearning, lecturers need to practice teaching through a constructivist view of learning. They also need to understand how learning could occur on networks, collaboratively. Esterhuizen, Blignaut, & Ellis (2013) argue that constructivism is the most preferred and effective way of using online learning technology in order to support students during collaboration, reflection, and dialogue. What is meant by collaboration is shared constructing of meaningful knowledge by adopting a learner-centred pedagogy. According to Esterhuizen et al., (2013) moving to such a learner-centred approach to teaching is a radical shift if faculty members are accustomed to instructivist teaching styles. They argue that changing to a constructivist approach to teaching should therefore be done by carefully planned professional development. As argued by Anderson and Van Weert (2002), the process of transforming from traditional to constructivist pedagogy to facilitate eLearning involves interaction and nurturing facilitators' and their belief in the value of eLearning. Thus, for lecturers to be ready for eLearning, they ought to be ready for teaching in the constructivist paradigm of teaching.

When viewed through the conceptual model presented above, a lecturer ready for eLearning should to be able to do the following: (1) possess the skills to operate easily and confidently with the connections, networks and nodes of eLearning, (2) move purposefully and decidedly between the Social, Cognitive and Teacher presence domains as defined by COI, (3) be culturally and socially aware in order to enable and foster student eLearning from a diversity of cultural backgrounds, and (4) provide both tangible and emotional support to eLearners.

Assessing Institutional ELearning Readiness

What has been discussed above are institutional readiness in terms of infrastructure and lecturer readiness. However, it should also be noted that in higher education, institutions have also begun various efforts to assess the eLearning readiness of students and faculty in order to determine the effectiveness of eLearning. One such approach to assess eLearning readiness at institutional level is provided by Chapnick (2000) who designed a model that considers readiness in terms of psychological, sociological, environmental, human resources, financial, technological skill, equipment, and academic content. In this model, psychological domain refers to faculty members' state of mind regarding the outcome of the eLearning initiative. Sociological readiness is the interpersonal aspects of the institutional environment that either facilitates or hampers eLearning. Environmental readiness refers to the influences internal and external forces, such as funding bodies, that either encourage or discourage eLearning.

Another model for assessing eLearning is provided by Psycharis (2005) who suggested a consideration of resources, education and environment in determining institutional readiness. Technological, financial and lecturer readiness are considered within the category of resources. Education as a category relates to availability of e-content for teaching and learning. Under this model, environment includes the leadership and organisational culture that facilitates eLearning. While this model offers useful insights, what seems to be missing is the lack of connection to student readiness. The overlap between student and institution, as depicted in the model above, is important in conceptualizing institutional readiness. In other words, eLearning readiness could not be thought of in isolation; it must bring students, lecturers and institution together in a holistic manner to create readiness of eLearning.

Furthermore, Lopes (2007) developed a model on eLearning readiness that incorporates business, technology, content, culture, human and financial resources as impacting upon the eLearning readiness. Lopes argues that eLearning is accepted at institutional level only if it is aligned well with the corporate/organisational objectives of the institution. In this model, technology infrastructure should also be aligned with other aspects to support the eLearning. Regarding content, Lopes (2007) states that it should be of acceptable quality for students to engage with it. Lopes also argues that the institution must be financially able for readiness, since initial stages require a high capital expenditure. Lopes also focuses on culture, stating that a culture of encouragement for eLearning is essential for readiness and innovative learning, particularly to encourage pedagogical change. This perspective is useful to highlight the role of financial ability, culture and pedagogy in eLearning readiness; however, it also fails to bring students, lecturers and the institution together in a comprehensive manner to the conceptual readiness for eLearning.

These models help to conceptualise and implement assessment of eLearning readiness at institutional level. However, it should be noted, as Rogers (2003) points out, that every system (organisation, culture, or country) has its own cultural norms that can influence in diffusing an innovation such as eLearning within it. Considering the contextual nature of eLearning readiness, Darab and Montazer (2011) proposed a model for assessing eLearning readiness in Iran. They considered technological factors related to the equipment and communication network. They also considered institutional policy, financial and human resource sources, and culture. Therefore, these models of assessing institutional readiness may not always be effective in some organisations, in certain cultural contexts. In particular, one should keep in mind that eLearning readiness models that are effective in the developed world may not be

necessarily effective in less developed parts with limited resources. One reason for this may be the learning style differences that arise from pedagogical practices in various cultures. In this respect, the findings of this study explore the role of culture in forming students' learning attributes such as self-directedness in learning.

With the objective of focusing on eLearning readiness in developing countries, Akaslan and Law (2011) looked at Turkey's higher education institutions because it provided a setting in which institutions were moving from traditional learning methods to eLearning. Their findings point to a phased model of eLearning readiness that includes people, technology, and content. According to Akaslan and Law (2011) during the initial phase it is important to expect and manage resistance to implement eLearning. Resistance, they claim, will relate to developing the technology and content as well. In their view, in the second phase, users would identify with the benefits of eLearning and accept the eLearning methods and begin to value the use of eLearning. Akaslan and Law (2011) promote the use of a third phase to provide on-going professional development to lecturers, technical staff, and management to ensure long-term adoption of eLearning at the institution.

Furthermore, in the context of another developing country, Omoda & Lubega (2011) conducted a study to identify the factors that affect the eLearning readiness of institutions of higher education in Uganda, that included eight institutions. The study's findings are that awareness, culture, technology, pedagogy and content are important elements of eLearning readiness. Omoda & Lubega (2011) articulate a hierarchy of factors, with awareness and culture having the most influential roles in implementation and readiness, followed by technology, pedagogy and content. They found that the level of awareness about technology and eLearning methods are essential in facilitating

eLearning. Culture, which is considered equally important, is seen as a setting of values, beliefs, norms and behaviours that are followed by the lecturers and learners. Omada & Lubega (2011) say that institutional leadership must play a catalytic role in overcoming cultural resistance to eLearning, where such resistance exits. In addition, they also considered the importance of pedagogical change to ensure that the institutions are ready for eLearning. Furthermore, a seven factors model of institutional readiness was proposed by Alshaher (2013): it included strategy, structure, systems, style/culture, staff, skills and shared values. Alshaher's study consisted of institutions in Iraq. The strategy includes organisation's goals, objectives and strategic plans and the structure which refers to institutional organisational structure that promotes eLearning.

Based on the above findings related to developing countries, the current study would also consider contextual issues such as culture, leadership, dominant pedagogical practices, and organisational structure and leadership in facilitating eLearning readiness. These aspects have been considered under the composite framework developed above.

Learner Readiness

Research has shown that readiness of leaners for eLearning depends on access, technological skills, study habits and skills, and self-directedness in learning. These are attributes of the learner that facilitate learning on digital networks. Without access the networks and the nodes will not be open to the learner. Research also shows positive relationships between technology experience and positive attitudes, aptitudes and ease in using technologies such as computers (Papaioannou & Charalambous, 2011; Paris, 2004); negative relationships between technology experience and computer/technology

anxiety also exist (Busch, 1995; Olatoye, 2011). Thus, access (that determines students' experience of technology), technological skills, and development of self-directed learning are indeed interrelated concepts in developing eLearning readiness, although discussed under separate headings below.

Access. An organisation or an institute that wants to invest in eLearning should have at least the minimum hardware and software requirements. The hardware part of eLearning includes the physical gear that must be able to supply eLearning (such as servers and networks to access the internet) along with equipment and devices (such as computers, laptops, tablets) for users to be able to access the services provided. It would be quite hard to start an eLearning venture without the appropriate equipment and an easy and reliable access (Oliver & Towers, 2000). However, eLearning does not require a vast infrastructure (Broadbent, 2001), a reliable Internet connection and sufficient computers for participants would be adequate for effective eLearning to take place.

Similarly, Fathaigh (2002) states that a basic prerequisite of online learning is the access to a reliable and secure internet connection and a computer or other such device. Greaves (2008) and Globokar (2010) also claims that access to technology, comfort of using the technology, reliability of technology, ability to logon frequently and technological skills are important technological aspects of eLearning readiness. In my view, adequate level of access is essential for eLearning, and provision of such access would also become part of institutional readiness for eLearning.

As stated above, access to technology is an important component that is frequently included in student readiness assessment tools. This can be seen in such studies as, the North-Western State University's self-assessment tool where students are asked if they

could frequently access internet, email and if they had access to a computer multiple times a week (North Western State University, 2010). A similar study conducted by Manchester Metropolitan University also considered access to technology off campus, sharing these resources with members of the family, reliability of technology, students' ability to access learning technologies and ability to log on frequently as important concerns in evaluating student readiness for eLearning (Greaves, 2008). However, it should be noted that these aspects alone are not sufficient for eLearning readiness.

Similarly, Rhema & Miliszewska (2014) in their analysis of student attitudes towards eLearning stated that students' access level to technologies is a fundamental factor that would form their attitudes towards eLearning and also their willingness to engage in technology for learning. Also, the availability and reliability of ICT and the convenience in accessing them reflect students' attitudes to eLearning.

Rhema & Miliszewska (2014) state that in assessing how developing countries have progressed with eLearning, access to convenient and reliable ICT infrastructure is the most important factor that had been noted. In developing nations, the traditional print-based means of learning is still the most common and not the web-based learning methods. The situation in the context of this study, Maldives, is similar. This is due to the fact that for developing nations traditional means of learning are more sustainable and reliable (Gulati, 2008). In a study conducted by Omidinia, Masrom and Selamat (2011), they reported that in Iranian educational institutions the use of ICT technology for learning is widely accepted. They also noted that there were challenges in obtaining content and infrastructure that is required for eLearning.

Tekinarslan (2008) studied two groups of Dutch and Turkish students and assessed computer anxiety and accessibility of personal computers between the two groups. The

results of his study showed that the Turkish students had higher computer anxiety levels and lower levels of technology use when compared with Dutch students in the study. The results were explained by the relatively high level of access and usage of computers by the Dutch participants in the study. The study concluded that, in general, access to technology affect both students and lecturers' attitudes and aptitudes and it correlates with the level of technology use (Agyei & Voogt, 2011). However, in my view, one should be cautious in that, access alone may not be the deciding factor in developing the attitudes and aptitudes towards technology; it could also be related to the dominant pedagogical practices that students are used to from primary, secondary to higher education.

Similarly, Sweeny & Geer (2010) and Hussain (2007) found that limited access to technology constrains students' attitudes and experiences. Hussain (2007) conducted a similar study on eLearning in Pakistan and found that the students in his study faced difficulties in accessing technologies that, in turn, limited their ability to use the technologies. These two studies, and others reviewed above, in my view are too narrow in focussing on access and making the claim that access constrains the formation of the facilitating attitude towards eLearning, since there may be other factors involved. This study approaches eLearning with a much broader perspective that incorporates not only access, but also technical skills and study habits, life style, skills and student attributes such as self-directness.

Technological skills. Technological skills are an essential feature of eLearning readiness and it includes diverse aspects such as students' ability to access and use the internet and other applications required for online communications and learning (Fathaigh, 2002) and technical literacy and skills (Oliver, 2001), For successful

eLearning engagement and completion, students' technical skills related to computer and Internet usage are important factors. An example is seen in the Student Online Readiness Tool (SORT) developed by The Louisiana Board of Regents to measure student online learning readiness (Louisiana Board of Regents, n.d.). It states that students must have comfort and familiarity with using a computer for personal and study or work related activities. It also states that they do not have to be 'techies'. SORT measures students' basic computer skills, hardware and software knowledge, basic functions of modern computer usage, and ability to utilise Internet and modern communication applications. From the perspective of this study, those that are assessed by SORT are relevant, but inadequate to assess eLearning readiness because it does not consider the readiness of the lecture and the institution. And, it also does not consider key relevant personal attributes of the learner.

Another such tool is the Washington Online Learning (WAOL) tool by Washington State Community and Technical Colleges. In this self-assessment tool for online learning readiness they use similar technical skills such as whether students can use email, Internet, word processing, upload and download files and use video and audio online. They also ask whether students are able to solve computer and technology problems without getting too anxious or frustrated. From the perspective of this study, WOAL's assessment tool is also too narrow in assessing readiness.

An increase in the use of computing and technological devices in educational institutes in developing countries in the last few decades has been recognised by some researchers (Deb, 2011; Trucano, Hawkins & Iglesias, 2012). This increase is based on increasing affordability of computers and recognition of the need to utilise ICT in education. Such increasing usage, is beginning to open avenues for eLearning in

developing countries, such as Maldives, which forms the context of this study. Similarly, growing interest among students in the use of the Internet, computer and mobile technological devices for social networking and educational purposes are also reported, indicating that the students are familiar with these technologies and they have the skills needed to use them (Trucano et al., 2012). Such studies do encourage the possibility of using eLearning in the developing world as well.

In the developing world, the development of technological skills seems hampered by lack of access. A study conducted by Hussain (2007), in Pakistan, showed that students' ability to use the technology was significantly hindered by the low level of access. Studies have also shown that there is a significant correlation between students' level of access to technologies and students' attitudes towards technologies, whereby negative attitude contributing as a hindrance in developing technological skills. Literature supports the notion that students' intentions to use technologies, and actual practice of technological skills for learning, are strongly influenced by the level of access and convenience and reliability of technology (Papaioannou & Charalambous, 2011; Sweeney & Geer, 2010; Paris, 2004). Furthermore, a study conducted by Rhema & Miliszewska (2014) concluded that students' skills in using technologies is a strong predictor of their attitudes towards technology and eLearning, and this view is supported by other research findings as well (Liaw & Huang, 2011; Mitra, 1998). In the case of Maldives, it is my assumption, based on experience, that Maldivian students' skills in using technologies would be strong; however, data to support this claim is not available. This current study would shed further light on this issue in its findings.

Study habits and learning styles. Study habits is used here as an all-encompassing term that represent students' psychological attitudes, learning styles and preferences. According to Coole & Watts (2009, p 14) a "learning style relates to the characteristic and habitual ways in which individuals' process and evaluate information, solve problems and make decisions". Different people have different learning styles and ways of interactions. Individuals make meaning of new data according to their own personal and cultural characteristics, their background knowledge and their styles of learning. Vast amounts of work have been done about learning styles and many taxonomies and instruments to measure learning styles have been designed since the 1970s (Entwistle et al., 2000; Schemck, 1998; Sadler-Smith, 1997; Riding & Rayner, 1998). This study does consider learning styles as an important aspect of eLearning readiness. Self-directed learning and independence in learning are learning styles, and characteristics, that this study considers as essential for eLearning readiness. Discussed below are these learning style related characteristics of students.

Self-Directed learning. For learners to be successful in eLearning they have to take initiative and develop their own learning schedules and stay focused and motivated to follow their schedule while receiving limited guidance. Self-directed learning is the ability of the learners to direct and stay focused in their own learning. Knowles (1975), views self-directed learning as a process in which the learner takes the initiative in finding their learning needs, create their own learning goals, find resources to help with the learning, decide the approaches to be used for learning and assess their own learning outcomes. Guglielmino (1978), conducted a study on the characteristics of highly self-directed learners and found that a highly self-directed learner is someone: who shows initiative, independence and persistence in learning; who takes responsibility for their studies and tackles problems as challenges and not as obstacles;

who has a high degree of curiosity and the capability of self-discipline; who is self-confident and has a desire to learn; who is able to use basic study skills and organise time and set appropriate pace for studying and completing assigned work; who is goal oriented and enjoys learning.

The concept of self-directed learning has many dimensions: knowledge, attitudes and skills that are required for self-directed learning. Understanding oneself or self-knowledge is essential for self-directed learning (Guglielmino and Guglielmino, 2003). Greaves (2008) also considers self-awareness, including a good knowledge and understanding of managing one's own learning as a key element for self-directed learning. Regarding attitudes towards learning, Guglielmino and Guglielmino (2003) state that attitudes related to self-directed learning are based on learners' strong desire to learn and to change accordingly. Those who enjoy learning new things and work on improving themselves continuously display a positive attitude that is associated with self-directed learning. Several studies have shown that learners need a certain degree of self-directedness, self-discipline and taking initiative in their own learning to be successful in eLearning (Bach, Haynes and Smith, 2007). Similarly, Greaves (2008) also considers creativity and independence in learning as qualities that contribute to success in eLearning. Studies have also shown that learners with self-directed, autonomous and innovative learning styles are more likely to choose eLearning as a preferred effective approach. Serwatka (2003) and Gollady et al., (2000) also consider self-directedness in learning as a good indicator for eLearning readiness in learners. Furthermore, based on research Valenta, et al., (2002) argue that eLearning requires self-directedness with technological skills. Gollady et al., (2000) claim that self-initiative and motivation are needed for eLearning, including preparedness to work independently. Barnard et al., (2008) have found that online self-regulatory learning

styles facilitate positive perceptions of online course communications and collaborations. Some have discussed self-directedness in terms of learner control, the degree to which the learner can direct his/her own learning and process, making his/her own decisions along the way (Shyu and Brown, 1992). For the purpose of this study, all such attributes related to self-directedness in learning are considered as essential aspects of readiness for eLearning, together with access, technological skills, and lecturer readiness.

It should also be noted that there are studies that illustrate culture as having an influence on self-directed learning. As Ahmad and Majid (2010) reported in their study, culture has the 'capacity to either inhibit or encourage or perhaps promote' self-directed learning. The influence of culture may vary according to the individuals and it can reduce the behaviours of individuals to a point of conformity and obedience while it could also encourage individuals to challenge everything. Communication strategies and styles of adult learners are also potentially affected by their own culture; silence may be viewed as submission, obedience and understanding or the lack of understanding. This issue of culture is relevant for the context of this study. My own experience suggests that Maldivian culture may have an influence on limiting students' ability to take initiate and be self-directed in learning. As mentioned earlier, Maldivian society has an authority-lead culture. The schools have rigid curricula and ways of teaching designed by the departments in the Ministry of Education. Students, in general, do not take initiative in their own studies and rely on a teacher-lead pedagogy ascribed by the Ministry of Education. Thus, the role of culture in either facilitating or limiting self-directedness in learning was explored in this study and will be discussed in the findings and in the discussion (see Chapter Four and Chapter Five).

Life style factors: family support. Social support theory suggests that social influences, both positive and negative, does affect learning (Berkman, Glass, Brisette, & Seeman ,2000). For the purpose of this study, influence from others, in particular influence from one's own family, is considered as essential in setting the life style of learners that relate to eLearning. The conceptual model presented in Fig. 2.2 includes life style factors that include family support, which could be divided into tangible and emotional support. Since such support forms an integral part of the conceptual model, research that support forms of family support are discussed below.

In literature, types of support from others can be divided into several types. Folkman and Lazarus (1985) classify such social support as tangible, informational, and emotional support. Similarly, Jacobson (1986) divided social support into informational, instrumental and emotional. Khan et al., (2009) looked into role of family support in eLearning and divided it into problematic and emotional support (Khan et al., 2009).

For the purpose of this study, the focus is placed on family support and how it affects the learners' learning style. It is an aim of this study to explore in more detail the effects of family support on adult e-learners. Having reviewed the classification of social support from others, I have classified family support into two dimensions for the purpose of this study: tangible and emotional support. Tangible family support is the supportive behaviour related to providing information and facilities for family members, while emotional family support is the extent of emotional sharing with family members. Furthermore, Koloto, Katoanga, and Tatila (2006) conducted a study on critical success factors for effective use of eLearning in Samoa that concluded that the family's tangible support and understanding is important for eLearning success.

This study recommended that family members be provided with a short orientation of what eLearning involves, so that family members can willingly provide the time and support for learners.

Tangible family support for adult learners' computer use/eLearning may be observed in the form of providing instructions in using Internet functions, and providing and sharing computer usage time for older adults to take part in learning activities over the Internet. Research has indicated that increase in accessibility to IT(Internet Technology) facilities, provided by family members at home (a form of tangible support) lead to decrease in the anxiety of learners related to IT usage (Bimber, 2000). Such tangible support seems to be essential in an Internet-based learning environment where learning with new technology is a challenge for most adults.

Emotional support for adult eLearners takes many forms. It could reflect family members' personal beliefs such as confidence in the ability of the learner, and the reassurance of having sufficient resources within the family for eLearning, when approaching new technology (Thather, Loughry, Lim, & McKnight, 2007). Research has also found that encouragement or coercion from children who want their parents to make use of the computer and who provide support are the essential motivations for older adults to learn to use the Internet (Johnson et al., 2008; Selwyn, 2004).

From the results of a quantitative study in South Korea, Ju-chun Chu (2010) indicated that emotional family support plays a main role in predicting the effects of eLearning. In this case, the emotional support was mediated through internet self-efficacy; family members supported the learner in believing that one can undertake eLearning. Ju-chun Chu also found that compared to male adult learners, women rely more on tangible family support for enhancement of eLearning self-efficacy of oneself. Ju-chun Chu

(2010) stated that this reliance of women was not an issue of gender, but relates more to the social context of the learners.

Certain situations could lead family support and involvement as a hindrance for eLearning. For example, Billipp's (2001) findings revealed that training from a friend or relative increases depression in a vulnerable older sample, leading to a form of discouragement. Billipp's found that better learning effectiveness occurs when the instruction is provided by professionals.

Cultural context and eLearning Readiness

A theoretical base exists to explain that culture has a significant impact on readiness towards application of technology in learning. What is meant by culture in this context is, as Hofstede (1980) defines "the collective programming of the mind which distinguishes the members of one group from another". This collective mindset, and culturally learned patterns of thinking and behaviour, shape how people relate to and use technology. Hofstede offered five dimensions of culture: (1) individualism/collectivism, (2) power distance, (3) uncertainty avoidance, (4) masculinity/femininity and (5) long-term/short-term orientation. Among these, the first three dimensions are likely to have an impact on students' and lecturers' readiness for eLearning within a given cultural context.

The first dimension of individualism/collectivism relates to the degree to which individuals in a given society prefer to act as individuals as opposed to members of a social group. In individualistic communities, students can be expected to take risks, be innovative, accept new ideas, and are willing to engage in new learning technologies such as eLearning. Conversely, in collective communities, students and lecturers may

be reluctant to try new technologies for learning and teaching due to the need to conform to the existing norms and practices of the community. Thus, one could assume that individualistic societies are more likely to produce self-directed learners who are willing to engage in new technologies for learning.

The second dimension of power distance is about the degree to which members of society accept an uneven distribution of power (Hofstede, 2001). Cultures with wider power distances are considered to be more hierarchical, while cultures with small narrower power distances are more likely to provide students and lecturers with autonomy and empowerment (Mumford and Licuanan, 2004). Thus, cultures with narrower power distances could be construed as likely to be more conducive for eLearning.

The third dimension of uncertainty avoidance relates to the extent to which people seek to avoid ambiguous and risky situations (Hofstede, 2001). Thus, students in cultures with high uncertainty avoidance may be more reluctant to the new eLearning, and lecturers may be unwilling to take the risk of exploring eLearning.

In light of these cultural dimensions of Hofstede, Nistor et.al. (2011) regard attitudes towards educational technology as comprising of socially shared patterns of feeling, thinking and behaviour towards technology. Nistor et al., (2011) argues that cultural dimensions of a given society are likely to have a significant impact on the students and lecturers' attitudes towards technology, in the acceptance and usage eLearning.

Similarly, Elliot, Hall and Meng (2008) also argue that an individual's desire or willingness to use technology for learning is influenced by culture, in addition to factors such as attitudes towards specific technologies and the level of technological

anxiety. They conducted a study on students' technology readiness and its impact on cultural competency, and found that there were cultural differences between American and Chinese students and that affected their attitudes towards using technology in learning. The findings of this study were that "Chinese students exhibit a lower propensity to embrace and use new technology than do American students" (Elliot, Hall and Meng, 2008, p 19). The researchers concluded that this was due to cultural differences.

Assessing Student Readiness

In terms of preparing students for eLearning, a key activity at the institutional level is to assess students' eLearning readiness. Such efforts are undertaken prior to enrolling students in eLearning courses. Most such examples are available from institutions in the United States where eLearning has expanded rapidly. Some of the tools used in such institutions for assessing students' readiness for eLearning have been used in selecting the domains in this study. Such tools include assessing readiness in terms of (1) access to technology, (2) knowledge and skills regarding internet and its usage, (3) personal learning styles, and (4) student perception regarding eLearning.

Concordia University Wisconsin (n.d) in the United States has an assessment titled "Is eLearning for me?" which can be conducted online by students who wish to pursue learning online. It addresses self-directedness, self-motivation and independence in learning. Independence includes approaching lecturers online on one's own to clarify issues related to learning. It also assesses the reading and writing skills of learners in obtaining guidance on assigned work. Basic computer skills and competency with word processing, email and Internet browsers are considered as well. Learners' regular and convenient access to computer, the internet, and knowledge of sending and

receiving emails and file management (uploading and downloading) are gathered for the assessment.

The University of Georgia (n.d.) has a similar assessment too called Student Online Readiness Tool (SORT), which consists of six interactive modules designed to help learners assess readiness for online learning. It is designed to help learners make an informed decision to pursue online learning. Each of the six modules consists of a brief description, a questionnaire and immediate feedback. SORT consists of access to tools, technological experiences, study habits and lifestyle compatibility to eLearning, goals of learners, their purposes for learning and their preferences for learning approaches (Louisiana Board of Regents, n.d.).

Furthermore, Wisconsin Virtual School (WVS) provides a model that emphasises personal skills and aptitudes for taking online courses that includes six attributes that contribute, based on Howell (2003) findings on learner-centred, non-linear, and self-directed model, emphasising students' responsibility for their own learning. These attributes include self-motivation, independent learning, computer literacy, time management skills, effective written and communication skills, and personal commitment. Howell (2003) believes that these attributes contribute to students' success in eLearning. And, Austin Community College uses a simple and interactive assessment tool designed to assist students to determine their own readiness for distance and online learning. The assessment tool helps students to conduct a learning style self-assessment and complete a technical skills checklist. (Austin Community College, n.d.). Similarly, The San Antonio College offers its students a readiness test that is interactive and consists of nine items of self-evaluation to determine the

appropriateness of online courses. The test provides an immediate report, advising students what additional skills to acquire.

These institutional attempts to assess eLearning readiness focus on students, primarily at the level of assessing skills, self-directedness and self-evaluation or eLearning readiness. The model proposed in this study calls for a much more comprehensive approach to assess eLearning readiness of students. It assumes that students' readiness cannot be considered in isolation to institutional readiness, which also includes lecturer readiness as an integral aspect. The concept of community of inquiry (Garrison, Anderson & Archer, 2000) places students and teachers, together in as nodes within a single learning network. It also argues that students would not be ready unless they receive the access and connectivity from learning institutions and at home. Furthermore, family support (both tangible and emotional) are seen as integral to learner readiness. Lecturer readiness includes technical skills to navigate the networks; be able to engage in teaching, social and cognitive presence with students; possess cultural sensitivity to work with diverse students, and have the right aptitude and attitude to provide support for students. Thus, what has been proposed is a holistic and comprehensive model of eLearning readiness that brings connectivism as a theoretical basis with COI and student and lecturer attributes to form a holistic eLearning readiness model.

Summary

This chapter defined eLearning readiness, explored the concept of readiness within learning theories in education, developed and explained the theoretical and conceptual framework of the study, and explored key research findings that relate to the constructs

(domains or factors) that form eLearning readiness. Through the lens of connectivism, learning as a process that occurs within networks and nodes, with learners, facilitators (lecturers) and institutions as forming integral components of the digital world have been argued as the theoretical framework that underpins this study. Supported by this theoretical perspective, Community of Inquiry with its 3 key components (cognitive, teaching and social presence) have been offered as the conceptual framework.

The review of research findings has clearly illustrated the importance of access and technical skills as basic elements of eLearning readiness. In particular, personal aspects of learning (i.e., self-directedness in learning in particular) has emerged as the defining factor in students' readiness for eLearning. The institutional/organisational culture as an influential force in shaping eLearning readiness has also surfaced from the review of research findings. The pedagogical knowledge, skills and preference of lecturers are also identified as essential aspects of eLearning readiness. With this review of literature, and having explored the theoretical and conceptual framework of the study, next chapter will detail the methodological design of the study.

Chapter Three

Research Methodology

"What people say, what people do, and what they say they do are entirely different things".
Margaret Mead

This chapter explains the research methodology with research design and study aims, theoretical framework of the study, study context, methods employed for the research, data collection, analysis, and ethical considerations.

The study aims to determine student and institutional readiness for eLearning in two higher education colleges in the Maldives. The study sought answers to two key questions. The first question is about personal, institutional and societal factors that relate to developing eLearning readiness in students and institutions in the Maldives. The second question is about Maldivian higher education students' and institutions' level of readiness for eLearning with respect to access and connectivity to technology, technical skills, and cognitive and social abilities. To explore answers for these two questions, the following subordinate questions are asked:

1. At what level of eLearning readiness are Maldivian students and institutions in terms of access and connectivity to technology?
2. At what level of eLearning readiness are Maldivian students in terms of technological skills and cognitive and social abilities?
3. In what ways do students' learning habits and styles affect eLearning readiness?
4. What ways do pedagogical cultures of institution relate to students' readiness for eLearning?

The data for this study came from the context of Maldives that has been described in detail in Chapter One. As mentioned, the higher education system in Maldives consists of 7 colleges and 2 universities. On average over 10,000 students participate in higher education, consisting of diploma, degree and graduate courses. The history and current efforts to expand online/eLearning in Maldives has been described earlier. The necessity of broadening the usage of eLearning in the Maldives was also detailed in Chapter One. What is relevant to add at this stage is that for the purpose of this study, two representative or typical institutions were selected to obtain data for this study. How these institutions were chosen, the relevant information about these institutions, and the selection of students within them are discussed under the sub-topic of participant selection.

Research Design: Mixed Methods Research (MMR)

Mixed Methods Research (MMR) is considered the most applicable research design for the purpose of this study. It is also the design that helps to answer the two research questions mentioned above. The research questions seek to obtain an indicative measure of eLearning readiness under various domains. A quantitative measure is most appropriate to obtain such an indicative measure. This research also is meant to obtain a deeper level of understanding of what factors or conditions affect/influence eLearning readiness of students, lecturers and institutions. For this purpose, qualitative research provides insightful data. Thus, a mixed method involving both qualitative and quantitative data fits the needs of the study. It is also a design that helps to understand the complementary nature of both qualitative and quantitative data in developing a model for understanding eLearning readiness. In other words, as Creswell (2014, p. 15) describes the mixed methods research provides a complementary approach in

which "…strengths of one form of research make up for the weaknesses of the other". While the interview data gives an in-depth view of the results obtained from the survey data, the survey data provides an enrichment to the interview data in quantity/numbers.

The use of mixed methods research is limited, but it is gaining acceptability over the past ten years, because it complements and links the quantitative and qualitative traditions. The term "mixed methods" is used for an approach to research that includes two or more methods that collect and use both qualitative and quantitative data (Creswell & Plano Clark, 2007; Teddlie & Tashakkori, 2009). Several mixed methods designs have been developed by researchers and among them the explanatory sequential design (Creswell & Plano Clark, 2007; Creswell, 2014) is used for this study because it is the design that helps to asks the question regarding ways in which qualitative data helps explain the quantitative results.

The explanatory sequential design is a two-phase design as suggested by (Creswell & Plano Clark, 2007) in which the researcher collects quantitative and qualitative data at different times. In this study phase one was the collection of quantitative data and, in phase two, qualitative data was collected based on the results of the quantitative data. From quantitative results, specific issues were identified to follow up in the qualitative interviewing, as described below.

Another important aspect of the explanatory sequential design relates to the sampling, or participant selection. As Creswell & Plano Clark (2007) argue, this is a design that requires participants in the qualitative component to be from those who participated in the quantitative component of the study. In this study, the participants selected for

interviewing came from those who completed the quantitative questionnaire of the study.

As mentioned earlier, this study uses the mixed methods approach to answer the questions explored. Mixed methods research, as defined by John Creswell, is the collection and analysis of quantitative and qualitative data for professional research (Creswell, 2011). Bryman, (2012) defines mixed methods research as research that 'integrates quantitative and qualitative research within a single project'. Mixed methods approach was employed based on the research questions and the existing body of literature available on the subject. Literature shows that previous studies on students' eLearning readiness mainly uses quantitative approach. Questionnaires and surveys have been used by several researchers to measure eLearning readiness. As proposed by Creswell and Tashakkori (2007), I have used the following guidelines in collecting and analysing the data:

1. The study consists of collection of two data sets, one quantitative and one qualitative, with appropriate analysis
2. Inferences are made from the two sets of data for the study
3. Integration of quantitative and qualitative parts of the data in terms of comparing, contrasting, or embedding conclusions
4. The rationale for choosing a mixed methods study should be that it enriches the findings of the study.

Both methodologies have various advantages and disadvantages. Qualitative methods are argued to be unscientific and theoretically open to bias by the researcher, while quantitative methods seek regularities by separating the social world in to empirical components known as variables (Payne & Payne, 2004).

Mixed methods are proposed for this study because the existing literature on student readiness for eLearning is primarily in the quantitative domain, and therefore, the use of survey questionnaires data would facilitate comparing and contrasting of findings from previous studies, creating a rich mix of data. In addition to comparing and contrasting, this strategy would allow me to expand beyond current studies by providing further understanding of the phenomenon based on the qualitative techniques used in the study.

In Search of a Theoretical Framework for the Study

It is a generally accepted view of research that the methodological choice of a study should be built on sound theoretical underpinnings. What it entails is to make explicit the ontological (nature of knowledge) and epistemological (how we obtain knowledge and understand the world) assumptions of the study. Some argue these ontological and epistemological assumptions forming the paradigm in which the study exists. Denzin and Lincoln (2008) define a paradigm as a framework that should contain the researcher's epistemological, ontological, and methodological assumptions - researcher's beliefs about the world and how knowledge from it should be gathered and understood. Maxwell (2005) stated, it is essential that the researcher explicitly states the theoretical assumptions within the selected paradigm of the study.

For the purpose of this study, I firmly believe that a case exists to utilise quantitative survey data and qualitative data obtained from semi-structured interviews. However, I am also aware that this belief in using dual forms of data is contested by many as a valid form of research. As Creswell (1994) noted some researchers argue that paradigms should not be mixed in a study. Creswell calls this the purists' view on research. Alternatively, Creswell also points to a second school of thought that

believes in the mixing of methods as justifiable in certain situations; situations in which a sound rationale can be provided for the practical reasons for mixing the methods.

I hold the belief that building a solid wall between quantitative and qualitative research undermines efforts to pursue research for practical purposes. In my view, both quantitative methods based on a positivistic view of the world are useful to solve certain problems, but not others that call for a deeper understanding of a social phenomenon. Similarly, qualitative methodology would not be appropriate for problems that require us to predict future occurrences with certain level of reliability.

For the purpose of this study, it is the belief that both quantitative and qualitative data have a role to play. For this purpose, a quantitative survey questionnaire is included to obtain an overview of students' self-belief on certain domains (access and connectivity, technical skills, and life style factors) related to eLearning readiness. Having conducted earlier research on the same topic using quantitative data, there is a conviction for the need to develop a deeper understanding of the issues related to students' life styles, beliefs, attitudes that may relate to eLearning readiness. Therefore, in this study, a decision is made to use qualitative data to complement quantitative indicators.

Hall's (2012) description of the position on a single paradigm for mixed methods fits my worldview on the role of my philosophical/theoretical thinking of the research design of this study. Hall makes the case that those who want to utilise mixed methods can consider one of the following positions: (1) a-paradigmatic stance, (2) the multiple paradigm stance and (3) the single paradigm stance. What is meant by a-paradigmatic stance is a position of simply ignoring the issue of paradigm completely.

What is considered a multiple paradigm stance is a situation in which the researcher relies on one or more paradigms. While this is a stance that could fit this study there is an inclination to find an applicable theoretical perspective that utilises a unified paradigm.

Pragmatism, which has a strong foothold in mixed methods research, is the best fit for my beliefs regarding knowledge and how and why we need to do research. Greene and Caracelli (2003) consider pragmatism as a philosophical stance that creates an interface between philosophy and methodology. Tashakkori & Teddlie (2010) also draws strong association between pragmatism as a research paradigm and mixed methods. In considering the works of Charles Sanders Peirce, William James, and John Dewey, Johnson & Onwuegbuzie (2004), view pragmatism as offering a middle philosophical and methodological position that offers a practical and outcome-orientated method of inquiry that is based on methodological mixes that can help researchers better answer many of their research questions. Johnson and Onwuegbuzie (2004, p.16-17) say:

> One can apply this sensible effect- or outcome-oriented rule through thinking (thinking about what will happen if you do X), practical experiences (observing what happens in your experience when you do X), or experiments (formally or informally trying a rule and observing the consequences or outcomes)

Among several characteristics of pragmatism offered by Johnson and Onwuegbuzie (2004, p. 20), the following are considered applicable for this study and they fit my own perspectives on research:

1. Pragmatism rejects traditional dualisms (e.g., rationalism vs. empiricism, realism vs. antirealism, free will vs. determinism, platonic appearance vs.

reality, facts vs. values, subjectivism vs. objectivism) and generally prefers more moderate and commonsense versions of philosophical dualisms based on how well they work in solving problems

2. Pragmatism recognises the existence and importance of the natural or physical world as well as the emergent social and psychological world that includes language, culture, human institutions, and subjective thoughts
3. Pragmatism views knowledge as being both constructed and based on the reality of the world we experience and live in
4. Pragmatism considers theories as instrumental (they become true and they are true to different degrees based on how well they currently work; workability is judged especially on the criteria of predictability and applicability)
5. Pragmatism endorses diversity and pluralism (e.g., different, even conflicting, theories and perspectives can be useful; observation, experience, and experiments are all useful ways to gain an understanding of people and the world)
6. Pragmatism prefers action to philosophising (pragmatism is, in a sense, an anti-philosophy)
7. Pragmatism takes an explicitly value-oriented approach to research that is derived from cultural values; specifically endorses shared values such as democracy, freedom, equality, and progress
8. Pragmatism endorses practical theory (theory that informs effective practice; praxis)
9. Pragmatism in general rejects reductionism (e.g., reducing culture, thoughts, and beliefs to nothing more than neurobiological processes).

The above characteristics form the theoretical perspective of this study. Based on these characteristics, mixed methods are used because it allows to do the following:

1. Use both participants' narrative, together with percentages to indicate the degree of presence of a domain, and let both types of data complement each other. The narrative can be used to add meaning to numbers
2. Use the strength of qualitative method to overcome the weakness of quantitative data (percentages in this case) to developed an understanding of why eLearning readiness may be low in some domains and how to enhance the readiness in such domains
3. Provides an avenue for convergence and corroboration of findings using data from both quantitative and qualitative methods.

Since this study includes a qualitative component, the researcher's experience with the phenomenon and preconceptions need to be made clear. Reflexivity is the process of exploring both oneself as the researcher and the research connection. In conducting qualitative research, interviewers have an interest in how meanings are shaped and reshaped within social, cultural and relational contexts (Hsiung, 2010). The interview itself is used in the context of meaning making. Therefore, reflection on the entire research context required when interpreting data in qualitative research. Hence, the following section describes the researcher and the study.

Researcher and the Study: Reflexivity

As mentioned earlier in Chapter one, Maldives consists of 1190 islands of which 202 are inhabited with a total land area of 300 square kilometres. Although there are 26 natural atoll formations, Maldives is divided into 20 Atolls for administrative

purposes. There are 2 international airports and some domestic airports but the main form of transport is by engine boats by sea. There are a few sea planes that travel to some parts of Maldives but this mode of transport is used mainly for tourism purposes.

When I started the pilot project of distance education, for the in-service teachers, the biggest challenge was the travelling the students had to organise to one of the 18 centres (one centre located on each atoll) once a month for face-to-face sessions and for the exams. Either rough seas or lack of availability of transport was hampering student participation. This experience indicated that eLearning would be a much better and more viable mode of learning for the students in the outer islands.

My interest to pursue this topic as a researcher stems from my own experience as a distance online learner and as a designer and coordinator for distance education courses in the Maldives. To explore Maldivian higher education students and the institutes readiness for eLearning and to test the instrument I wanted to use for the study, first I conducted a pilot study which is discussed briefly in the next section.

Pilot study

A pilot study to test the student questionnaire was conducted with 37 students from different levels of education programmes. The study sample was chosen from the two colleges selected for the research. The pilot study was only administered with the students' questionnaire, however, to check the reliability and validity of the lecturers' questionnaire, approval of the questionnaire components was sought from three lecturers from the colleges.

The pilot study not only helped with checking and revising the instrument (the questionnaires) used for the main study, but also guided the procedure I would use for

administering the instrument. The questionnaire sought to explore students' readiness for eLearning in; (1) access to technology, (2) technological skills, (3) Study habits and skills, (4) Lifestyle factors, (5) cognitive presence, (6) teaching presence and (7) social presence.

Sample. The pilot study sample included 37 students in the age range of 18-39 and included 22 females and 15 males. The age range is characteristic of the students in the two colleges. To select participants for the pilot study, I contacted lecturers at the colleges who provided me with a list of email addresses of students. I sent an email with the questionnaire and a letter introducing my research and myself and asking if they were willing to participate.

Data collection. The questionnaires were sent by email to the students. The students then filled the questionnaires and emailed them back. The questionnaires were digitised using Excel and the percentage occurrences of the 5 scales of the Likert scale questionnaire were tabulated. The results were obtained in percentages. The results of the study are discussed briefly.

Summary of the pilot study. This pilot study was conducted to check the questionnaire components which allowed me to amend the questionnaire, making changes where needed. The results of the pilot study confirmed that my research questions were answered using this instrument. It helped me in outlining and planning ways to analyse the results of the main study.

By administering the questionnaires by email for the pilot study, it was confirmed that the number of responses needed for the main study would not be achieved if the questionnaires were sent by email.

Mixed Methods Research – Instruments Employed

As mentioned earlier, mixed methods were used to explore the study questions. For quantitative data collection, 2 questionnaires were used: one for the students and one for the lecturers. After analysing data from the students' questionnaires an interview guide was formed for the next phase of the study- the qualitative phase. The qualitative data was collected in the form of semi-structured interviews.

The use of questionnaires is not prevalent in qualitative research. However, as Woods (2006, p.8) states, questionnaires "have their uses, especially as a means of collecting information from a wider sample than can be reached by personal interview". Woods (2006) further states that when clearly defined facts or views are required a questionnaire can explore how generally these apply, if such a case is of matter of interest for the study. O'Brien (2010) agrees with the fact that questionnaires could be both quantitative and qualitative.

For the purpose of quantitative data collection, two Likert Scale questionnaires were developed and administered, one for students and one for the lecturers. Likert Scales are commonly used to measure attitude, providing an array of responses to a given question or statement (Cohen et al., 2000). The five categories of responses sought in the questionnaire were: (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree and (5) strongly disagree. Both questionnaires are included in the appendices section as Appendix 6 and Appendix 7.

As recommended by O'Brien (2010), the student questionnaire was used to gain an understanding about this field as have other researchers in the field. The questionnaire

was developed by using past research instruments used by other researchers in studying students' eLearning readiness. The "Readiness Assessment Tool for an eLearning Environment Implementation", developed by Mercado (2008) was used to derive ideas to develop the questionnaire. North Western State University's questionnaire to assess eLearning readiness titled "Are You Ready for Online Learning" was also used to gather information in the development of the questionnaire. Another such instrument explored in developing the questionnaire was the Student Online Readiness Tool (SORT) developed by Louisiana Board of Regents. A modified questionnaire based on the type of questions asked in these previous studies and assessment instruments, was developed for the study.

The student questionnaire consisted of the following components:

1. Access – this include students' access to technical devices such as computers laptops and smart phones as well as reliable internet connectivity
2. Technological skills – the technological skills required for eLearning such as knowledge and skills on how to use the devices mentioned in 1 and the skills to do access online and perform online activities
3. Study habits and skills – students learning styles such as independence in learning, self-directedness etc.
4. Life style factors – includes work and family obligations and support from family
5. Cognitive presence – ability preparedness to interact with students and lecturers online regarding course materials and learning

6. Teaching presence – interacting with lecturers online regarding the design of the course, the lecturer's presence in the learning environment online, and
7. Social presence – social interaction with fellow students online in discussions and support outside of course content.

The lecturers' questionnaire included the following components:

1. Access – lecturers access to technology and connectivity to internet
2. Teaching styles – student centred, facilitator/ instructor, student support
3. Time management – availability of time for eLearning activities and time flexibility to engage in eLearning
4. Cognitive presence - ability preparedness to interact with students online regarding course materials and learning
5. Teaching presence – interacting with students through course design and communication online regarding the course/module, and
6. Social presence – interaction with students and providing the support they need for completion of the programme outside of course content.

For the qualitative data collection phase, semi-structured interviews were conducted. These types of interviews are guided and more flexible than structured interviews but more focused than unstructured ones. A guide of discussion areas structures the semi-structured interview so that the participants can talk liberally while the interviewer can interrupt to add or explain points in the discussion. The interviewer is thus evaluating the process continuously (Cohen et al., 2007), while spontaneously responding to the participant's thought process (Robson, 2002).

The interview guide was based on the components of the questionnaire as well as the results of the students' questionnaires. The analysis of the students' questionnaire enabled me to see which areas needed further probing in the interviews to get a clearer picture. For example, from the survey questionnaire results, it was clear that the students were not as ready for eLearning with regards to study habits and learning styles as well as family support, compared to other aspects that were measured. The semi-structured interviews gave more insight into the reasons for the non-readiness. The interview guide is attached in the appendices 8 and 9. Interviewing in qualitative research consists of several types: structured interviews semi-structured interviews and open-ended interviews. Semi-structured interview allowed the researcher to keep the focus on the specific domains of eLearning readiness that are relevant to this study.

Selecting Participants for the Study

Two colleges were selected based on convenience, familiarity and from the positive response received from the colleges for my study. The college heads were contacted by email, briefly informing about the research study and letters of consent were obtained. A brief description of the colleges (College 1 and College 2) were presented in Chapter One.

Participants were selected from the above mentioned two colleges in the Maldives. Prior to selecting participants, an email was sent to the colleges about my research and to obtain approval from them. Students were selected from different levels of education programmes from the two colleges. The colleges allocated a person to assist in administering the questionnaires. They were instructed to get as many students from different levels of programmes and to include females and males in a good proportion.

The sample population consists of a total of 111 students of which 57 are males and 54 are females. The ages range from 18 to 39. The programme of current study of student participants are from Certificate I level to Masters level programme courses.

The lecturers include a total of 45 of which 23 are males and 22 are females. Their ages range from 26 to 54. Educational level of the facilitators/lecturers are from bachelors' degree to PhD level. Among the personal data gathered from this sample, their country of origin is also included. This might be of significance in finding out their exposure to online learning experiences. In my sample, there are 24 Maldivians, 20 Indians and 1 Sri Lankan.

Data Collection Procedures

After receiving the consent letters from the colleges, and the ethics approval from Brunel University, the next step was to administer the questionnaires to students. Before the process, consultation with some lecturers revealed that there might not be a positive outcome if a survey application such as Survey Monkey or BOS (British Online Survey) were used. Consequently, the questionnaires were emailed to the assigned person from the colleges.

In completing the questionnaire, the students were given the opportunity to respond voluntarily if they agreed to participate in the study. Some students were provided with a suitable space (a quiet room at college) to complete the questionnaires privately, with no interference from others, while others completed the questionnaires on their own time and emailed them. Hard copies of the questionnaires were collected, digitalised through scanning, and shared through Dropbox. The scanned copies were then retrieved and the data was tabulated in categories on Excel sheets and this data was

used for analysis. All hard copies and soft copies of the questionnaire raw data will be kept with no one other than the primary researcher.

The lecturers' questionnaires were also sent to the assigned person in the college. The person assisting then sent the questionnaires by email to the lecturers. Some filled the questionnaires and sent them back to the person assisting who emailed them back to the researcher. Other lecturers completed the questionnaire and sent them directly to the researcher through email.

Questions for the interviews were formed after analysing the data from the student questionnaires as an interview guide. Skype interviewing was explored due the physical barrier, as the participants were in Maldives and the researcher in UK. Skype interviews can be recorded through software on the computer or by using a separate digital recorder. Since the Skype interviewing did not follow through as planned, face-to-face interviews were used at the end.

During the process of getting ready for the interview it is important to discuss the purpose of the research, how the information gathered will be used, privacy and data protection issues, plans for protecting the confidentiality of the data obtained and how and when the data will be destroyed. Informed consent was obtained before the beginning of the interviews. A sample of the guided interview is attached in Appendix 10.

Face-to-face interviews with 9 students and 2 senior staff of the colleges were conducted. Two of the students interviewed were students of the colleges and they provided information needed from the staff interviews together with student information. Details of the interview participants are provided in Chapter Four.

The interviews were conducted one-to-one in a quiet room in the respective colleges. The 30-45 minute interviews were recorded using voice recorder on a smart phone and later saved onto a laptop. The participants were given full confidence and trust that there would be anonymity and confidentiality in the information they provided. This enabled them to talk more freely about the college as well as their own readiness. Once the data were saved on the laptop, the data was deleted from the phone to avoid others getting access to the data in case the phone was stolen or lost.

The interviews were conducted in the local language, Dhivehi, for ease of communication except for one interview, which was conducted in English. The participants were asked what they preferred and they chose the local language but at times explained in English. The interview that was conducted in English was to a foreigner working at one of the colleges.

Ethical Considerations

When conducting a research involving human subjects it is important to take ethical concerns into consideration. The following steps were taken to minimise the risk and consequences for the participants and the researcher of this study.

i) Brunel University's Research Ethics Committee's approval was obtained by the researcher. Brunel University London's Code of Research Ethics was followed in completing the ethics approval form.

ii) All participants were informed, by email, of the purpose and nature of the study as well as information about the researcher and how the results will be communicated.

iii) The risks are minimal given the nature of the research. The risks taken into consideration include confidentiality of the information and opinions given by participants. Prior to the study, participants were provided in writing of the steps taken to protect their confidentiality. Participants' consent was sought in writing and participation was voluntary.

iv) Efforts were made to ensure that the participants made independent decisions in giving their opinions. Participants were emailed the questionnaires and they were provided with the researchers' email address so that, if opted, they email the completed questionnaires directly to the researcher. A trusted person was allocated to collect the questionnaires and copies as well as the originals were sent to the researcher by the person.

v) BERA (2004) Revised Ethical Guidelines for Educational Research states that, 'researchers must ensure that data is kept securely and that the form of any publication, including publication on the Internet, does not directly or indirectly lead to a breach of agreed confidentiality and anonymity' (BERA, 2004). Established clear procedures are in place to reduce risk and maximise confidentiality and anonymity. The completed questionnaires, interview records and transcripts and notes do not contain personal identifiers. Raw and processed data collected remain protected with the researcher at all times. The research personnel from the colleges were informed of these ethical procedures.

vi) It is important to protect participants' confidentiality when disseminating research results. In this study, a concern in this regard is

the potential risk to the business of the colleges concerned, if the research findings show negative aspects such as lack of its readiness for online learning. The identifiers of the specific colleges will be replaced by identifier names (College 1 and College 2) when writing up the research.

Data Analysis Procedures

After storing the data digitally and also saving it as hard copies, the data analysis procedure was conducted. As stated earlier the questionnaire data was analysed before the interviews were conducted.

Questionnaires

The data obtained from questionnaires were digitised using Microsoft Excel. A master table sheet was formed with information of participants with their age, gender, level of education, current programme of study and full time/part time studies and work. For each of the subtopics (access, technology skills, lifestyle factors, cognitive presence, teaching presence and social presence) in the questionnaire a separate Excel sheet was developed. The items were grouped according to these various constructs explored in the study and aggregate responses for the grouping were calculated and tabulated. The percentages of occurrences for each component were formulated and a graphic representation obtained. The same procedure was utilised for both the students and lecturers' questionnaires.

In analysing the survey data, the primary statistical measure used was percentages of respondents to each item on the five-point scale. As noted by McColl (n.d), data obtained on a Likert scale are not continuous and, therefore, it is inappropriate to use

measure such as mean and standard deviation to summarise the distribution. Median and mode could have been used as a measure, but for the purpose of the study, percentages in my view are more effective in displaying the general direction (in this case readiness level) in each respective domain.

The results of the questionnaire data are presented in Chapter Four in tabular and graphic form, and a narrative description of the results is also offered.

Semi-structured interviews

Each participant's interview data was saved on computer files and hard copies. The following steps were utilised in transcribing and analysing the interview data.

Transcribing. The interviews were transcribed and translated (from Dhivehi to English) in a single process. During the process of translation every effort was made to ensure that the essence of what was said in each interview was not missed in the process. To ensure authenticity of meaning in the translation, both the transcription and translation were both carried out by the researcher. Reflective notes were made following each interview and these notes were referred to in ensuring issues raised during the interviews translation.

Coding. For the purposes of coding the qualitative data, Saldana's (2009) Coding Manual for Qualitative Researchers and Flick's (2014) An Introduction to Qualitative Research were used as guides. Saldana (2009, p.3) described "a code as a qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence capturing and/or evocative attribute for a portion of language-based data". Flick (2014) discusses coding as a process of assigning annotations or concepts to data.

First, as Saldana (2009) and Flick (2014) suggested, open coding was assumed. Having read the transcript of each participant a few times, codes were assigned to chunks of qualitative data. These include phrases, sentences, paragraphs and words. Flick (2014) describe this process as adding units of meaning that classify expressions in order to attach what he called "annotations" (p.404) and concepts to segments of qualitative data.

In looking for codes, an attempt was made to look for patterns, i.e., those concepts, ideas, and issues that were repeated in all or most data from participants. During the process of coding, consideration was given that coding is not only an analytical process, but also subjective in the sense that the filter or perspective that was brought to the process as a researcher will relate to the codes that is produced. Due to this subjectivity, my own reflexivity was explored as related to the topic above. As Merriam (1998, p. 482) stated "all coding is a judgement call"; as a researcher, own opinions and preconceptions would be brought to the process of coding. At the end of the coding process, about 30 codes were collected. After having developed the codes, a second round of revising and reflecting on the codes were conducted.

Assigning categories. Next, was the process of grouping codes into categories. In identifying potential categories, issues, reasons and process that are pertinent to various domains of eLearning readiness were considered. The conceptual framework presented in Chapter Two also acted as a guide in shaping the categories for which the codes could be grouped. The categories were then refined and relationships between categories were established, which is referred to as axial coding (Flick, 2014). The next step undertaken was to compare and contrast, and look deeper into the data to

discover potential sub-coding categories. This helps to create deeper understanding of data in each major category.

Developing categories to themes. During the coding process, as suggested by Flick (2014), focus was given on potential themes that arise from the codes and categories. After developing the categories and sub-categories, as suggested by Flick (2014, p. 422), the process of "sorting codes and categories into themes and collation of relevant data extracts in the themes" was followed. Then it was attempted to refine the themes to sub-themes. In this process, "thematic maps (visual representations of themes and sub-themes and links between them)" were developed (Flick, 2014, p. 422). In Chapter Four, I have presented these themes as the research findings.

Summary

This chapter presented information about the research design employed for the study to investigate and explore the research questions. Specific details about the methods utilised, the research instruments, administering of the questionnaire, interviewing procedures, analysis of data and ethical considerations are discussed. The next chapter will present the findings and analysis of the questionnaire and interview data collected.

Chapter Four

Data Analysis and Findings

"The real problem is not whether machines think
but whether men do".
B.F. Skinner

Chapter Three presented the research design together with data collection methods and the procedures that will be utilised for data analysis. The data collected is analysed and presented in this chapter.

Since raw data do not provide a meaningful understanding, data analysis is one of the most important aspects of a research project. Data analysis is divided into two parts; quantitative data analysis and qualitative data analysis. The quantitative data analysis includes the results from the students' questionnaires and lecturers' questionnaires. The qualitative data analysis is based on the interview data of students and senior staff of the two colleges in this study.

Quantitative Data Analysis

The questionnaires were sent by email to the two colleges and information about the researcher's aim and about the questionnaire were emailed to the contact person in each college. The contact person distributed the questionnaires to the students and lecturers together with the information sheet (see appendix 5). The completed questionnaires were collected by the contact person and scanned and sent to the Dropbox folder of the researcher. These questionnaires, 111 for the students and 45 for lecturers, were then digitised using Excel spreadsheets.

Student questionnaire results

As stated earlier, the student population in this research consisted of 111 students of which 57 are male and 54 are female. The age ranges from 18 to 39 with most of the students in the age range of 18-24 group. In the questionnaire, students were asked to fill in information on their education level as well as their student and working status. That is whether they were studying full time or part time and if they were working and whether they were working full time or part time. Table 4.1 shows a summary of the student profile.

4.1 Table representation of the students' profile

GENDER	Number	Percentage %
Male	57	51.4
Female	54	48.6
Total	111	100
AGE		
18-24	87	78.4
25-29	13	11.7
30-39	9	8.1
N/A	2	1.8
Total	111	100
STUDYING		
Part time	85	76.6
Full time	16	14.4
N/A	10	9.0
Total	111	100
WORKING		
Part time	20	18.0
Full time	22	19.8
N/A	89	80.2
Total	111	100

The student questionnaire consisted of 7 sections. The sections are: (1) Access, (2) Technology Skills, (3) Study habits and Skills, (4) Lifestyle factors, (5) Cognitive presence, (6) Teaching presence and (7) Social presence (See Appendix 6 for student questionnaire). On the Likert scale questionnaire 1 is 'Strongly disagree', 2 is

'Disagree', 3 is 'Neither agree nor disagree', 4 is 'Agree' and 5 is 'Strongly Agree'. The results are presented as percentages in both the tables and the graphs. In describing the results, the two columns 4 and 5, in the sections with Likert scale questions, are added and presented since these two columns represent positive results for online learning readiness. For the section on access the percentage of 'yes' results are considered as positive results for readiness for online learning.

Student access

Student access to technology is measured with yes or no answers. This section involves finding facts about the students' access to a reliable internet and equipment and it does not involve any opinion based questions or answers, hence, 'yes' or 'no' answers are requested from the respondents. Questions or statements were asked regarding their access to technological devices and online technological access. This is presented in Table 4.2 below.

Table 4.2 Student access to technology results in percentages

#	Statement/Question	Yes	No	Total (Yes) %
1	I own a computer/laptop/smart phone	93	18	84
2	I have convenient access to a computer/laptop/smart phone at home	106	5	96
3	I have convenient access to a computer/laptop/smart phone at college/workplace	78	33	70
4	I have access to a reliable internet connection	93	18	84
5	I can gain access to internet multiple times a week	93	18	84
6	I have my own email address	110	1	99
7	I use my mobile phone to access the internet	75	36	68

In regards to learner access more than 83% own a computer, laptop or smartphone and more than 95% have convenient access to these devices at home Seventy percent (70%) of the learners have access to the devices at their college or workplace. The high percentage (95%) of student access to equipment at home compared to that at workplace/college (78%) is a positive indication that they can do online learning at home and they do not need to go to college to get access to the equipment. Over 83% of the learners have access to a reliable Internet connection and can gain access to the Internet multiple times a week. All but one of the learners have their own email address and over 65% of the learners access the internet through their mobile phones.

Overall, as seen from the questionnaire results, there exists a reliable and easy access to online facilities for the learners in both colleges. Figure 4.1 shows these results in graphic form.

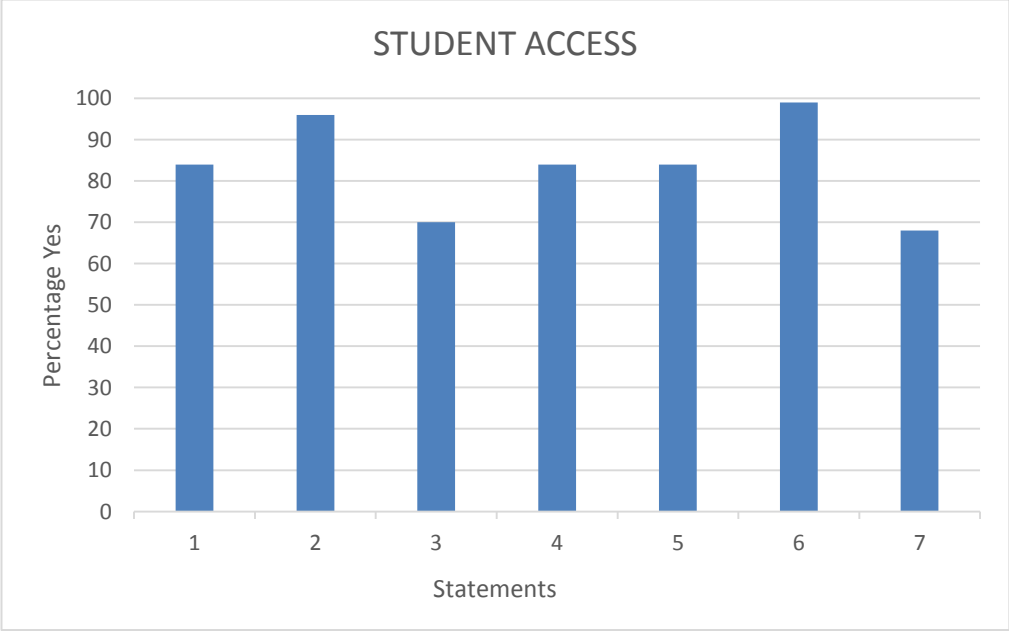

Figure 4.1 Graph of student access to technology in %

Technology skills

The table below gives the percentage occurrence, of technological skills, for each response from the 111 participants in the study.

Table 4.3 Students' technological skills results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	I know the basic functions of computer hardware (CPU and monitor) and its peripherals like the printer, speaker, keyboard, mouse etc.	0.90	1.80	1.80	21.62	73.87
2	I know how to save/open documents to/from a hard disk or other removable storage device	1.80	1.80	0.00	8.11	88.29
3	I know how to open/send email with file attachments	2.70	0.00	4.50	7.21	85.59
4	I know how to log on to an Internet Service Provider (ISP)	2.7	1.8	4.5	17.12	73.87
5	I know how to navigate web pages (go to next, or previous page)	6.31	0	2.7	9.91	81.08
6	I know how to download files using browsers (Internet Explorer, Firefox, etc.)	1.8	0.9	2.7	9.91	84.68
7	I know how to access an online library or database	2.7	2.7	10.81	30.63	52.25
8	I have previously joined online discussions/forums	16.22	21.62	18.92	18.02	24.32
9	I know what PDF files are and I can download and view them	3.6	2.7	2.7	17.12	73.87
10	I am familiar with word processing and can use it comfortably	3.6	0.9	3.6	18.02	72.97
11	I am able to have several applications opened at the same time and move easily in between them	2.7	0.9	7.21	18.02	69.37
12	I know how to use spreadsheet applications (e.g. Excel)	3.6	1.8	9.01	19.82	65.77
13	I have attended seminars/workshops related to online learning activities	27.03	27.93	20.72	11.71	12.61
14	I use/have used social networking (e.g. Facebook, Twitter, etc.)	5.41	1.8	0.9	10.81	81.08

15	I participate in online gaming networks	22.52	13.51	10.81	18.02	35.14

Even though only a few of the participants have joined any online discussion forums or attended workshops or seminars online, most of them have the basic technology skills required for learning online.

Ninety-five percent (95%) of the students know the basic functions of computer hardware (CPU and monitor) and its peripherals such as the printer, speaker, keyboard, mouse etc., while 96% of them know how to save/open documents to/from a hard disk or other removable storage device. Eighty-one percent (81%) know how to open/send email with file attachments and 91% know how to log on to an Internet Service Provider (ISP). Some of the participants have just completed their O'levels on their islands and they may not have had a chance to do activities such as file attachments. The 2.7 % who says they do not know how to attach files and the 4.5% who are not sure if they could might fall in this group of students who have not had the opportunities to have this experience.

Ninety-one percent (91%) know how to navigate web pages (go to next, or previous page) and 95% know how to download files using browsers (Internet Explorer, Firefox, etc.). eighty-three percent (83%) of the participants know how to access an online library or database. Only 42% of the students have previously joined online discussions or forums. Ninety-one percent (91%) are familiar with word processing and can use it comfortably and are able to have several applications opened at the same time and move easily in between them.

Eighty-six percent (86%) know how to use spreadsheet applications while only 24% have attended seminars or workshops related to online learning activities. It is

interesting to note that about 21% of the students are not sure whether they have attended seminars or workshops relating to online learning activities. This may be due to the fact they are not sure about what is considered an online learning seminar or workshop. As can be seen from the next statement (number 14) a clear majority (92%) of the students are using social networking and they may consider some of the online social networking as learning activities.

Ninety-two percent (92%) use social networking and 53% had participated in online gaming networks. The 10% of students who are not sure whether they participate in online gaming networks or not might belong to students who have very little or no experience with these kinds of networks and are not sure what consists online gaming. As I mentioned earlier some of the students in this study are fresh from completing their O'levels on their islands with no prior exposure to the gaming or other online activities.

The participant percentage for all except two constructs of technological skills are above 50% showing an overall readiness in technological skill readiness that is required for online learning. Figure 4.2 below illustrates the results of the students' technological skills.

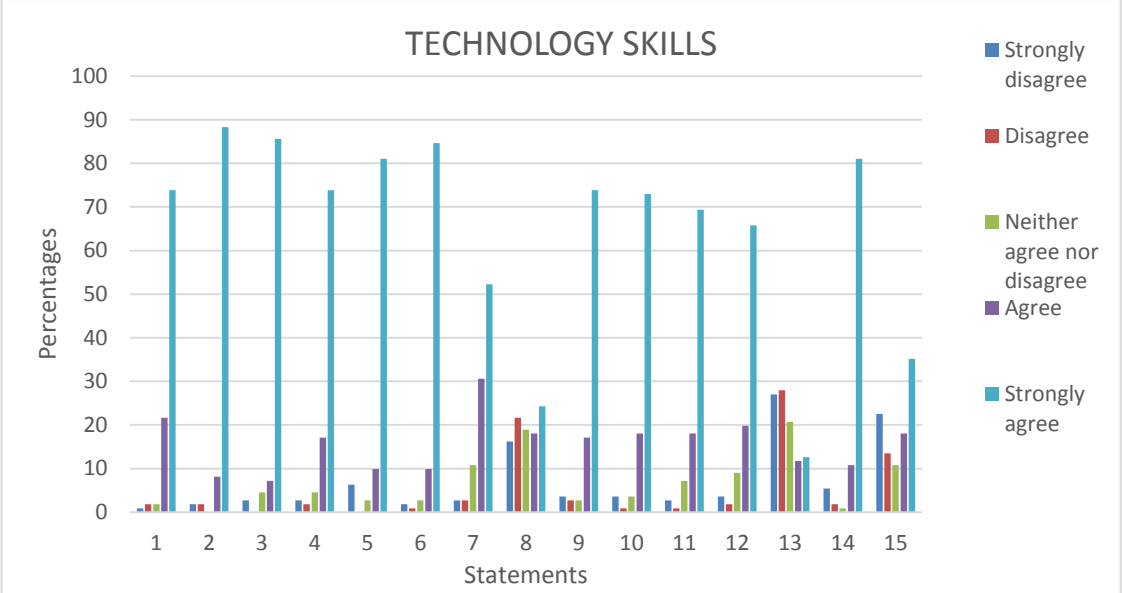

Figure 4.2. Graph of students' technological skills in %

Study habits and skills

Table 4.4 below shows the percentage occurrence for the study habits and skills of the 111 participants.

Table 4.4 Students' Study habits and skills results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	When I have an important assignment, I get it done ahead of time	11.71	15.32	24.32	29.73	18.02
2	I prefer to work alone	10.81	14.41	12.61	34.23	27.03
3	I prefer to figure out instructions for assignments by myself	7.21	9.91	18.02	30.63	33.33
4	As a learner, I am highly independent	2.7	6.31	12.61	34.23	43.24
5	I am able to refrain from distractions while working or studying	2.7	2.7	26.13	34.23	31.53
6	I am able to stay to task while	1.8	3.6	23.42	41.44	28.83

	working or studying					
7	When asked to learn new technologies, I do not put it off or avoid it	6.31	8.11	13.51	23.42	47.75
8	I can analyse class materials	1.8	9.01	16.22	33.33	38.74
9	I can formulate opinions on what I have learned	0.9	5.41	15.32	39.64	37.84
10	I am determined to stick to studies despite challenging situations	3.6	8.11	25.23	27.03	34.23
11	I do not need direct lectures to understand materials	8.11	18.92	27.03	26.13	18.92
12	I am able to express my thoughts and ideas in writing	0.9	10.81	9.91	34.23	43.24
13	I would describe myself as a self-starter	1.8	9.01	27.03	32.43	27.93
14	I am able to communicate effectively with others using online technology	2.7	8.11	13.51	24.32	50.45
15	I take responsibility for my own learning	2.7	3.6	6.31	22.52	63.96
16	Taking responsibility for staying in contact with my instructor would be easy for me	6.31	8.11	9.01	34.23	40.54

For the explanation of the results below, the two columns 4 (agree) and 5 (strongly agree) were added to find the readiness in regard to study habits and skills readiness. Table 4.4 above shows the results of study habits and skills.

Only 48% of students said they do assignments ahead of time while 61% of students prefer to work alone. It is worth to note that 24% of students reported that they were not sure about themselves doing assignments ahead of time. This could be due to the fact that some of the students have just started college and they have not done any assignments in this particular college or they are not comfortable in reporting that they do their assignments late. The interview data showed that students and institutions reported that students, in general, have a habit of procrastination.

Sixty-four percent (64%) of students prefer to figure out instructions for assignments by themselves rather than ask for help. Seventy-seven percent (77%) of the students stated that they are highly independent learners. Sixty-six percent (66 %) of students say they are able to refrain from distractions while working or studying and 70% agree that they can stay on task while working or studying. The reason for the 26% of students who are not sure whether they would be able to refrain from distractions are unclear from the questionnaire results. This may however, be due to the very young student sample (18-24 year olds) and some of whom are there to take on a programme of study because their parents want them to do so.

When asked to learn new technologies 71% of the students say they don't avoid it or put it off. Seventy-two percent (72%) of the students say they can analyse class materials and 77% can formulate opinions on what they have learned. Sixty-one percent (61%) are determined to stick with studies despite challenging situations. Forty-five percent (45%) of students do not need direct lectures to understand the materials and 77% are able to express their thoughts and ideas in writing. The question arises as to why 27% of students are not sure whether they need direct lectures to understand the materials. This percent of students maybe from the fresh school leavers who have just started the college programme and are not sure about whether they would be able to cope with not having direct lectures. They may not have had prior experience with not having direct lectures and they are unable to give a solid answer to whether they agree with the statement or not.

Sixty percent (60%) of students describe themselves as self-starters while 75% are able to communicate effectively with others using online technology. In statement 13, 27% of students are not sure whether they are self-starters. Again, as discussed above this

may be due to their lack of experience. Some students who are fresh out of school may not have the experience of doing projects or assignments where they have to do it on their own, they might have gone through school just by completing scheduled examinations in school and the terminal exam at the end of school.

Eighty-six percent (86%) of students say they take responsibility for their own learning while 75% say it would be easy for them to take responsibility for staying in contact with their instructor.

Overall, from the questionnaire results, students showed a positive readiness for online learning in terms of study habits and skills explored in the research. Figure 4.3 below illustrates the results for study habits and skills.

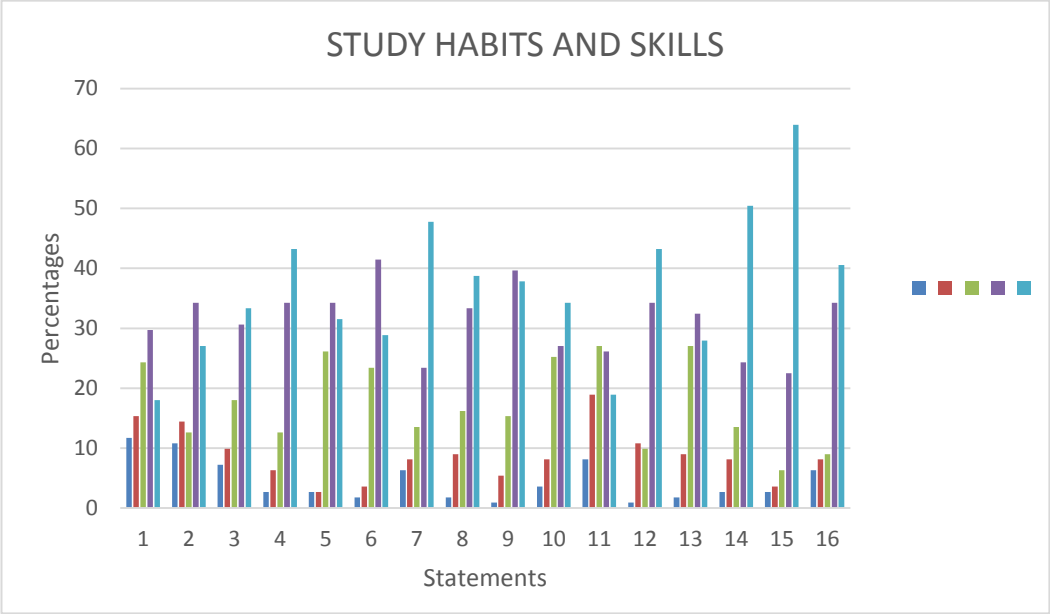

Figure 4.3 Graph of students' study habits and skills in %

Lifestyle factors

Table 4.5 Students' lifestyle factors results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	I have 10-20 hours per week for studying	9.01	13.51	27.03	25.23	24.32
2	My schedule is flexible to make up for occasionally lost study time or an unplanned important activity.	6.31	16.22	29.73	27.93	18.92
3	I have a quiet and personal space for studying that is free from distractions	5.41	12.61	18.02	28.83	32.43
4	At home, my internet connection ties up the phone and cause inconvenience to others	33.33	14.41	25.23	15.32	9.91
5	I have family obligations that may affect my studies	29.73	17.12	18.02	16.22	18.02
6	I have work obligations that may affect my studies	23.42	18.92	23.42	18.02	15.32
7	My friends and family would be supportive of me taking an online course	8.11	8.11	28.83	24.32	29.73
8	I would have support from friends and family when faced with difficult situations	2.7	3.6	8.11	22.52	62.16

Lifestyle factors that would enable for successful online learning were measured with the number of hours that could be dedicated to studying, flexibility of the learners' schedule, availability of quiet study space, family and work obligations and support from family and friends. The results are shown in Table 4.5.

Fifty percent (50%) of the participants agree that they would have 10-20 hours per week for studying. This is much less than anticipated given that the participants are all students and most of the participants are in the age group 18-24, I would have

anticipated over 70% of students would have this much time for studies. This result could be due to the fact that some of the students are working either part time or full time and they do not have much time to give to studies. Also, some of them may have interpreted the 10-20 hours of studying not including the time spent in classroom. Therefore, if they were working and studying they may not have that 10-20 hours to spend on studies outside classroom.

Only 47% of the students agree that their schedule is flexible to make up for occasionally lost study time or an unplanned important activity. Participants that reported that they were not sure whether their schedule would be flexible (29 %) may have reported that because they have inflexible working hours and also maybe because they have not had prior experience to be in such a situation.

Sixty-one percent (61%) have a quiet and personal space for studying that is free from distractions while 25% agree that at home, their internet connections tie up the phone and cause inconvenience to others. It is interesting to note that 25% of the students were not sure whether it would be an inconvenience to others if their internet connection would tie up the phone. This result could be due to lack of prior experience of them having the internet tied up for learning activities. It should be noted that at the time the participants filled in the questionnaire, there was no widespread availability of Wi-Fi and 3G, and modem was still used widely. However, currently widespread Wi-Fi and 3G data package use has very little or no use of modems in most places in the Maldives. Therefore, this statement may not be very relevant at present.

Thirty-four percent (34%) have family obligations that may affect their studies and 33% have work obligations that may affect their studies. Fifty-four percent (54%) think that their friends and family would be supportive of them taking an online course

while 85% of the participants agree that they would have support from friends and family when faced with difficult situations.

The students (29%) who reported that they were not sure whether they would have the support of their family and friends if they wanted to do an online course, may have reported as such because they have not had prior experience in taking such a course.

Graphic representation of students' lifestyle factors is shown in Figure 4.4 below.

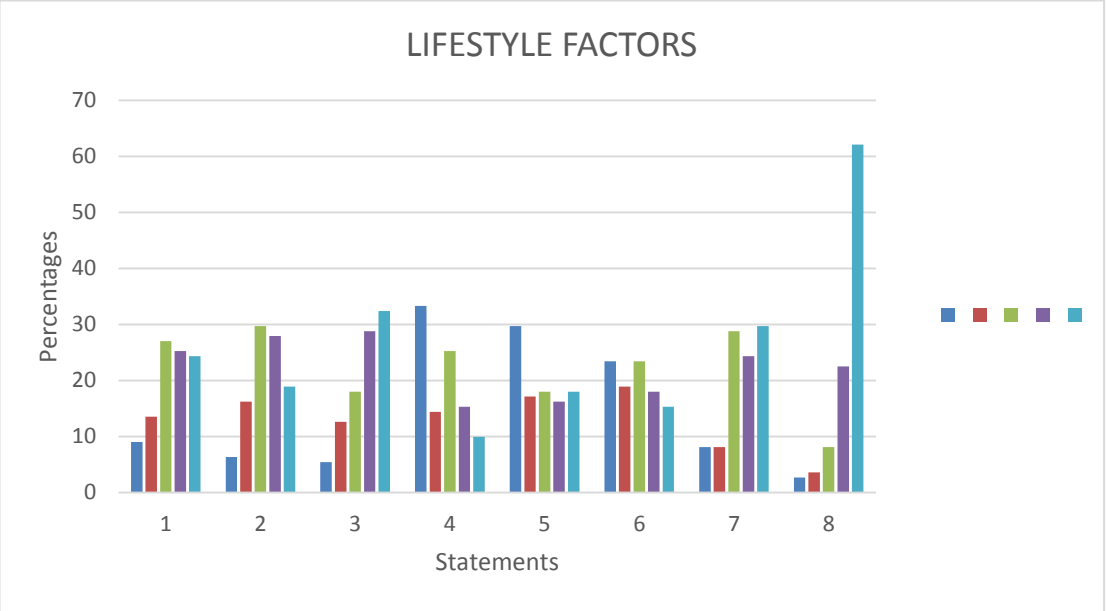

Figure 4.4 Graph of students' lifestyle factors in %

Cognitive presence

"Cognitive Presence is the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse" (Garrison, Anderson, & Archer, 2001).

Table 4.6 Students' Cognitive presence results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	When participating in an online course I would feel motivated to explore content related questions.	9.91	7.21	27.03	32.43	22.52
2	I would be able to utilise a variety of information sources to explore problems posed in an online course.	5.41	8.11	27.03	36.04	22.52
3	Brainstorming with other online participants would help me resolve content related questions.	2.7	5.41	26.13	36.94	26.13
4	Online discussions would be valuable in helping me appreciate different perspectives of course content.	0	7.21	18.02	45.05	28.83
5	Learning activities in an online course would help me construct explanations/solutions.	0.9	3.6	26.13	41.44	26.13
6	Reflection on course content would help me understand fundamental concepts in an online class.	0.9	4.5	27.93	42.34	21.62
7	Reflection on course discussions would help me understand fundamental concepts in an online class.	1.8	2.7	25.23	43.24	23.42
8	I can describe ways to test the knowledge created in an online course.	2.7	2.7	38.74	35.14	18.02
9	I can describe ways to apply the knowledge created in online course	0.9	4.5	36.94	36.94	18.02
10	When participating in an online course I can develop solutions to course problems that can be applied in practice.	1.8	4.5	37.84	32.43	20.72
11	I would have difficulty in applying the knowledge created in an online course to	7.21	18.92	36.04	19.82	16.22

	my work.					
12	I would have difficulty in applying the knowledge created in an online course to other non-class related activities.	7.21	16.22	36.04	24.32	14.41

Cognitive presence was seen as an important factor for the participants for a successful online learning venture with more that 50% of students agreeing or strongly agreeing with most of the elements that construct cognitive presence. When asked whether they would have any difficulty applying knowledge created on an online course to the participants work or other activities, 36% of the participants answered with neither agree nor disagree. This could be because they have not experienced any online learning and are not sure whether it would be difficult or not. This could also be because they may not have thought about these issues or they may not have really understood what the question was asking and have gone for the central option.

As shown in the results in Table 4.6, 55% of the students say that they would feel motivated to explore content related questions when participating in an online course. Fifty-nine percent (59%) of the students would be able to utilize a variety of information sources to explore problems posed in an online course.

Sixty-three percent (63%) of the participants believe brainstorming with other online participants would help them in resolving content related questions while 74% agree that online discussions would be valuable in helping them to appreciate different perspectives of course content.

Sixty-eight percent (68%) of students reported that learning activities in an online course would help them construct explanations/solutions. For 64% of the participants, reflection on course content would help them understand fundamental concepts in an

online class, and for 67%, reflection on course discussions would help them understand fundamental concepts in an online class. Fifty-three percent (53%) of the participants state they can describe ways to test the knowledge created in an online course and 55% state they can describe ways to apply the knowledge created in online course. Also 53% of the participants believe that when participating in an online course they can develop solutions to course problems that can be applied in practice.

Only 36% of the participants would have difficulty in applying the knowledge created in an online course to their work and 39% would have difficulty in applying the knowledge created in an online course to other non-class related activities. This is also a positive sign for online learning readiness.

All except statement number 11 for cognitive presence scored above 50% indication in agreement in being ready for online learning with cognitive presence. In statement number 11, 36% of the participants are not sure whether they would have difficulty in applying the knowledge they gained from an online course. This may be because they have not had prior experience with online courses and they are not sure what an online course entails. It is important to note that almost all the statements in this section have a higher percentage of 'neither agree nor disagrees'. This may be due to lack of awareness and prior experience of online learning and what it requires. These results are further illustrated in Figure 4.5.

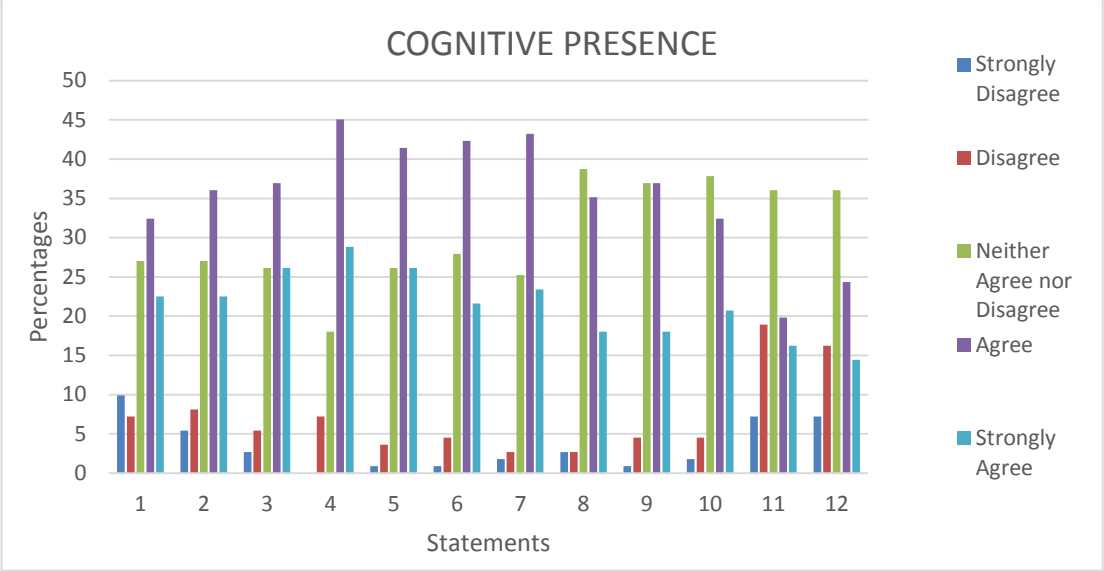

Figure 4.5 Graph of cognitive presence in %

Teaching presence

"Teaching Presence is the design, facilitation, and direction of cognitive and social processes for the purpose of realising personally meaningful and educationally worthwhile learning outcomes" (Anderson, Rourke, Garrison, & Archer, 2001).

Table 4.7 Students' Teaching presence results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	I believe the instructor should clearly communicate important course topics in an online course.	5.41	3.6	14.41	27.03	47.75
2	I believe the instructor should clearly communicate important course goals in an online course.	0.9	7.21	9.91	36.04	44.14
3	I believe in an online course; the instructor should provide clear instructions on how to	1.8	6.31	15.32	28.83	45.95

	participate in course learning activities.					
4	I believe in an online course; the instructor should clearly communicate important due dates/time frames for learning activities.	2.7	3.6	13.51	40.54	37.84
5	The instructor should help in identifying areas of agreement and disagreement on course topics that would help me to learn.	1.8	3.6	18.92	39.64	34.23
6	The instructor should help in guiding the class towards understanding course topics in a way that would help me clarify my thinking.	1.8	5.41	21.62	35.14	34.23
7	The instructor should help to keep course participants engaged and participating in productive dialogue.	1.8	7.21	23.42	33.33	31.53
8	The instructor should help keep the course participants on task in a way that would help me to learn.	1.8	3.6	15.32	43.24	33.33
9	The instructor should help to focus discussion on relevant issues in a way that would help me to learn.	2.7	1.8	16.22	45.05	32.43
10	The instructor should provide feedback that would help me understand my strengths and weaknesses.	0	2.7	11.71	36.04	47.75
11	The instructor should provide feedback in a timely fashion.	3.6	1.8	14.41	32.43	45.95

Teaching presence is an important factor in successful online learning activity. The results obtained from the questionnaire for teaching presence are presented in Table 4.7.

From the 111 students who participated in the study, 75% believe the instructor should clearly communicate important course topics in an online course and 80% believe the instructor should clearly communicate important course goals in an online course. Also, 75% believe in an online course, the instructor should provide clear instructions

on how to participate in course learning activities and 78% believe that the instructor should clearly communicate important due dates/time frames for learning activities.

All the statements scored over 65% in agreeing with the statements in the teaching presence showing that teaching presence, in guiding and interacting, is quite important for the learners. The student population in Maldives depend highly on their teachers in class or on tuition teachers. The high dependency on the teachers in classroom and in tuition classes may be the reason for the high scores in all the statements in the teaching presence.

Statement 6 and statement 7 have 22% and 23% students respectively, reporting unsureness about what entails in online learning. This may be because they do not have prior experience and also maybe they don't understand what it means and they have gone for the central option. Figure 4.6, below, shows a graphic presentation of the results for teaching presence.

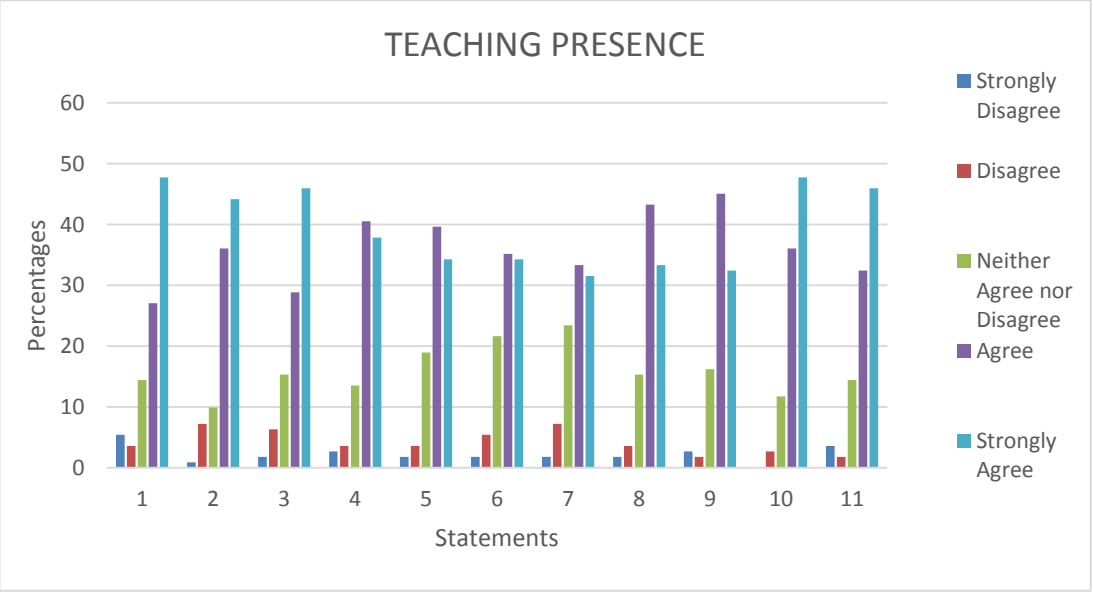

Figure 4.6 Graph of teaching presence in %

Social presence

Social presence is "the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities." (Garrison, 2009)

Table 4.8 Students' social presence results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	Getting to know other course participants online would give me a sense of belonging in the course.	6.31	2.7	20.72	31.53	36.94
2	I would be able to form distinct impressions of some course participants through online communication.	3.6	6.31	26.13	34.23	27.93
3	Online or web-based communication is an excellent medium for social interaction.	2.7	3.6	27.93	35.14	28.83
4	I value face to face over online learning	3.6	2.7	29.73	30.63	31.53
5	I would feel comfortable conversing through the online medium.	2.7	2.7	42.34	28.83	21.62
6	I would feel comfortable participating in online course discussions.	4.5	4.5	26.13	41.44	20.72
7	I would feel comfortable interacting online with other course participants.	0.9	9.01	26.13	41.44	19.82
8	I would feel comfortable disagreeing with other course participants online while still	8.11	5.41	29.73	38.74	16.22

	maintaining a sense of trust.					
9	I feel that my point of view would be acknowledged by other course participants online.	1.8	3.6	28.83	41.44	22.52
10	Online discussions would help me to develop a sense of collaboration.	3.6	4.5	24.32	39.64	26.13

Social presence is demonstrated in getting to know the participants of an online course and interacting with them socially. Table 4.8 is a presentation of the results for social presence. While 68% of the participants agree that getting to know other course participants online would give them a sense of belonging in the course, 62% state that they would be able to form distinct impressions of some course participants through online communication.

For 64% of the participants, online or web-based communication is an excellent medium for social interaction although 62% value face-to-face over online learning. Fifty-one percent (51%) of participants claim that they would feel comfortable conversing through the online medium and 62% would feel comfortable participating in online course discussions. Even though it is the Viber/Skype generation, and even if most of the students are socially active on these media, 42% reported they are not sure whether they would feel comfortable to converse online with participants in their course. The reason for this could be political – students may be apprehensive about conversing socially to be cautious. There are so many cases where private conversations are publicly aired on social media and the present generation are cautious about freely talking to people outside their comfort zone, such as family and close friends. This assumption is based on knowledge acquired from talking to students and others in general.

Among the participants, 61% say they would feel comfortable interacting online with other course participants and 55% say that they would feel comfortable disagreeing with other course participants online while still maintaining a sense of trust. Sixty four percent (64%) feel that their point of view would be acknowledged by other course participants online and 66% agree that online discussions would help them to develop a sense of collaboration. Statements 6 and 7 where participants were asked whether they would feel comfortable conversing about course materials or disagreeing with other course participants, 26% of them said they were not sure. This maybe because they are apprehensive about talking to people they are not familiar with and also maybe because Maldives is a very small society where people know each other and disagreeing with others may have consequences later (such as being bullied).

Culture may play a role in the social presence of students' unsureness of participation as well. The present-day Maldives is also very politically divided and since people know each other it may not be sensible to talk freely about their opinions. Thus, the political situation and social constraints make Maldivians socially private people.

All the statements in this section scored above 50% in favour of social presence in online learning. Results for social presence is presented in graphic form in Figure 4.7.

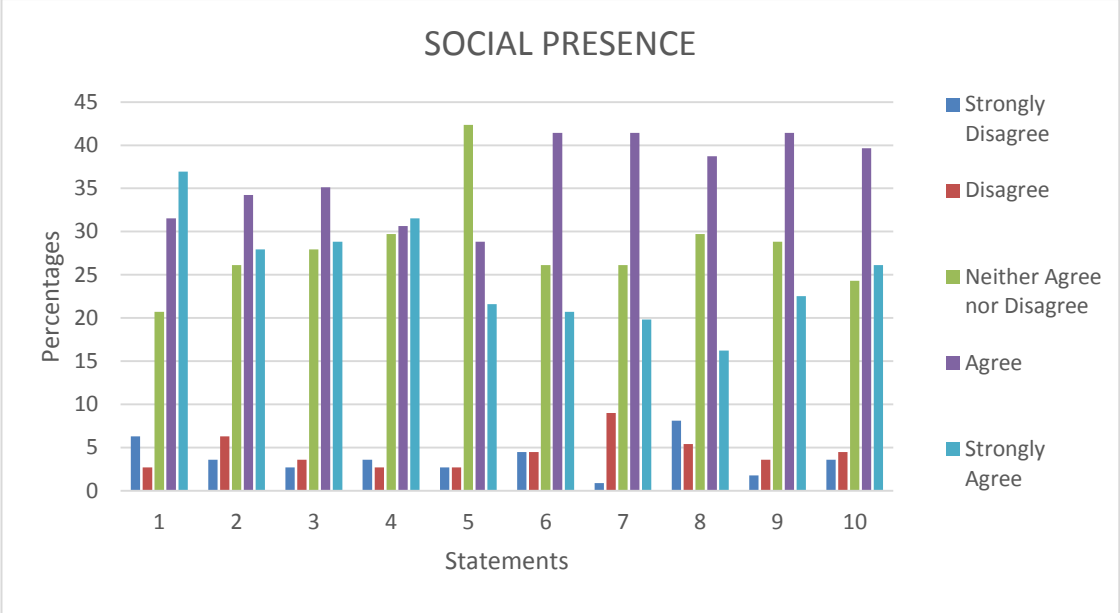

Figure 4.7 Graph of social presence in %

Summary of students' questionnaire results

Table 4.9 Overall student readiness in %

	Strongly disagree %	Disagree %	Neither agree nor disagree %	Agree %	Strongly agree %	Overall %
Access						83
Technology skills	6.91	5.35	6.73	15.74	64.98	80.72
Study habits	4.5	8.84	17.51	31.36	36.6	67.96
Lifestyle factors	14.75	13.06	22.3	22.3	26.35	48.65
Cognitive presence	3.45	7.13	30.26	35.51	21.55	57.06
Teaching presence	2.21	4.26	15.86	36.12	39.56	75.68
Social presence	3.78	4.5	28.2	36.31	25.23	61.54

As seen in Table 4.9, students' overall percentage scores in all the constructs measured for eLearning readiness, except that of lifestyle factors, are above 50% showing some amount of readiness in these areas. Access and technological skills score the highest with over 80% overall score and lifestyle factors score only 49%. There may be many

reasons for this and this will be further explored through interviews. The second lowest scorer was cognitive presence with a 57% overall readiness. Also, 30% of the students fall in the category of not being sure whether they are ready for cognitive presence in online learning. One of the reasons for this maybe because the participants in this study have not had prior experience in online learning and they are not very sure if they are ready for cognitive presence in online learning. Another reason maybe that they do not understand the questions asked or they are not comfortable in answering to agree or disagree with the statements. Students overall readiness is illustrated in the graph in figure 4.8.

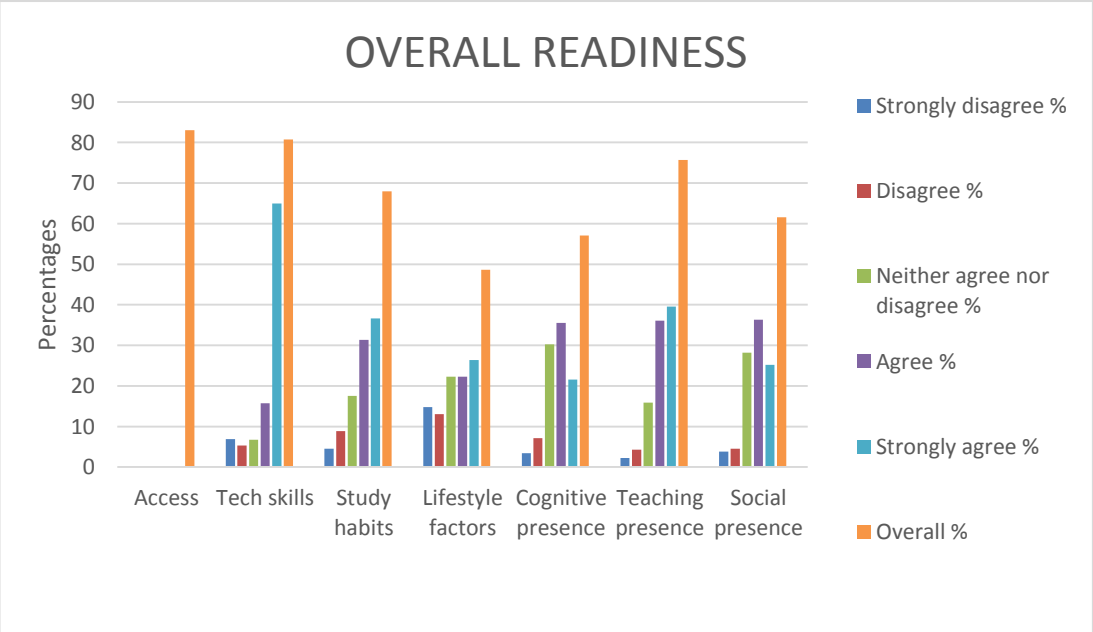

Figure 4.8 Graph of student overall readiness

Lecturer Questionnaire Results

A lecturer population of 45 lecturers filled in and returned the questionnaire. The questionnaires were sent by email to the colleges and the lecturers returned the filled in questionnaires by email. Table 4.9 shows the profile of the participants.

4.10 Table representation of the lecturers' profile.

GENDER	Number	Percentages
Male	23	51%
Female	22	49%
Total	45	100%
AGE		
20 -29	15	33%
30-39	15	33%
40-49	7	16%
50-59	4	9%
N/A	4	9%
Total	45	100%
EDUCATIONAL LEVEL		
Diploma	3	7%
Bachelors	7	16%
Masters	28	62%
PhD	6	13%
N/A	1	2%
Total	45	100%

As in the student questionnaire, the lecturer questionnaire consisted of 7 sections and except for the first section, Access, all other sections were Likert scale questions with 1 representing 'Strongly disagree' to 5 representing 'Strongly agree'. The section on 'Access' included 'Yes' or 'No' questions. The results are calculated as percentages in all the sections and are presented in tabular and graph form with a description of the results.

Access

Access to technology for both the learners and lecturers are essential for online learning to occur. From this study, we can grasp that access is not an issue since almost all the participants either own or had access to technology and Internet.

Table 4.11 Lecturers' access to technology results in percentages

#	Statement/Question	Yes %	No %
1	I have participated on online courses as a learner	46.67	53.33
2	I have participated on online courses as a facilitator/instructor/moderator	24.44	75.56
3	I own a computer/laptop	97.78	2.22
4	I have access to a computer/laptop	100	0
5	I have access to a reliable internet connection	100	0
6	I can gain access to internet multiple times a week	100	0

As seen in Table 4.11, 47% of the lecturers in the study have participated on online courses as a learner and 24% of them have participated on online courses as a facilitator/instructor/moderator. These results indicate that the lecturers have had very little or no experience in online learning or teaching. This could be an indicator of their apprehension to participate in online teaching.

Ninety-eight percent (98%) of the lecturers own a computer or a laptop and the 2% is representative of only one person in this sample. All the lecturers who completed the questionnaire stated that they have access to a computer or a laptop, have access to a reliable Internet connection, and can gain access to the internet multiple times a week indicating that there are no issues regarding access and connectivity for eLearning or eTeaching readiness.

Overall the lecturers are ready, in the aspect of access to technology, for eLearning. This can also be seen in the graphical presentation below in Figure 4.9.

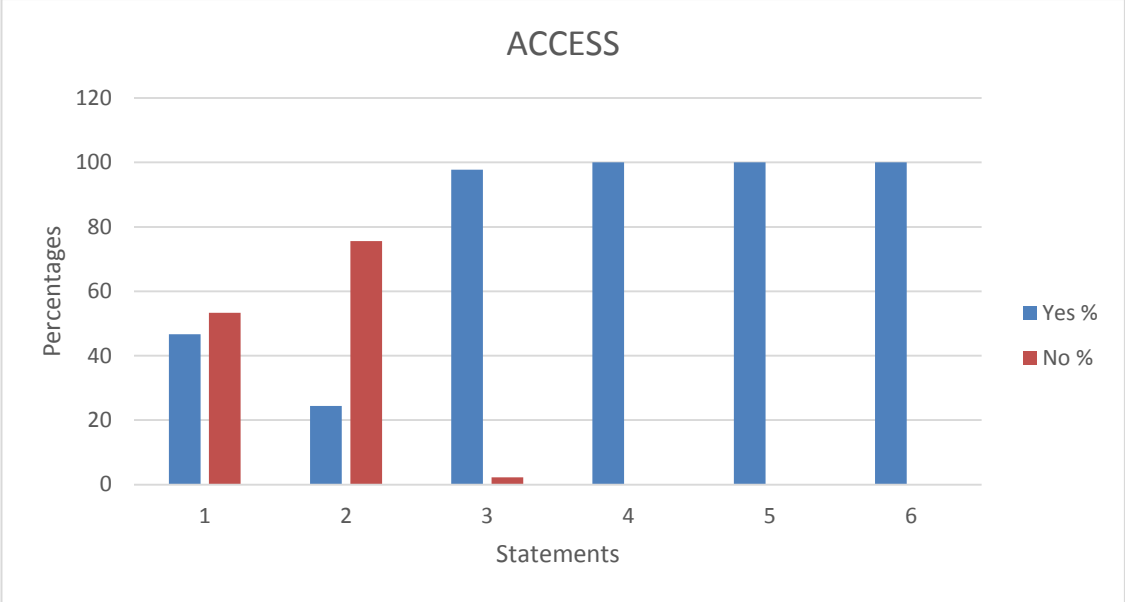

Figure 4.9 Graph of lecturers' access to technology in %

Teaching styles

Table 4.12 Lecturers' teaching styles results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	I use discussions as a teaching strategy for the subjects I teach	0	6.67	17.78	42.22	33.33
2	I encourage independence and creativity from my student	0	0	6.67	40	53.33
3	I facilitate and monitor appropriate interaction among students	0	0	8.89	40	51.11
4	As a teacher, I support student-centered learning	0	0	6.67	46.67	46.67
5	I am flexible in dealing with students' needs (due dates, absences, make-up exams)	15.56	22.22	4.44	28.89	28.89
6	Critical thinking and problem solving are important skills for my students	0	0	13.33	24.44	62.22
7	I use strategies to encourage	0	0	8.89	28.89	62.22

	active learning, interaction, participation and collaboration among students					
8	I provide timely constructive feedback to students about assignments	0	0	2.22	42.22	55.56
9	I use appropriate strategies designed to accommodate the varied talents and skills of my students	0	4.44	8.89	51.11	35.56
10	As a teacher, I view myself as a facilitator	0	0	4.44	33.33	62.22
11	My teaching goals and methods address a variety of student learning styles	0	0	6.67	44.44	48.89

As seen in Table 4.12 all the statements received a score of above 50% when the agree and strongly agree columns are combined. Seventy-six percent (76%) of the lecturers use discussions as a teaching strategy for the subjects they teach and 83% encourage independence and creativity from their students. Ninety-one percent (91%) of the lecturers claim that they facilitate and monitor appropriate interaction among students and 93% support student-centred learning. With regards to students' needs, such as due dates, absences and make up exams, 58% of the lecturers say they are flexible in dealing with the students' needs. This was the lowest scoring area in this section and the results maybe because there are set guidelines from the college that the lecturers have to follow and they do not have the flexibility to change the guidelines.

Eighty-seven percent (87%) of lecturers believe critical thinking and problem solving are important skills for their students while 91% use strategies to encourage active learning, interaction, participation and collaboration among students. Timely constructive feedback about students' assignments are provided by 98% of the lecturers while 87% use appropriate strategies to accommodate the varied talents and skills of their students. Ninety-six percent (96%) view themselves as a facilitator and

93% state that their teaching goals and methods address a variety of student learning styles.

Overall, the lecturers' teaching styles are positive for eLearning readiness with all the statements achieving a score of above 50% and all except one scoring above 75%. Figure 4.10 shows the graphic representation of the teaching style scores.

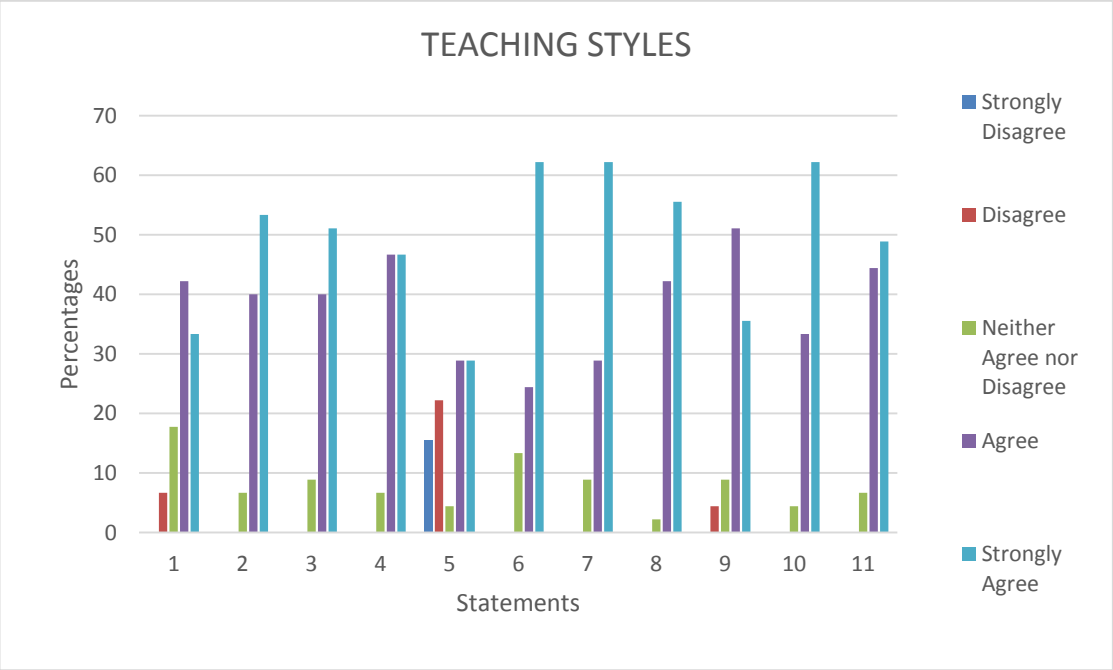

Figure 4.10 Graph of lecturers' teaching style results in %

Technology in teaching

Table 4.13 Lecturers' technology in teaching results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	I use the internet to locate resources for teaching	0	2.22	6.67	40	46.67
2	I work with students with different cultural backgrounds	4.44	24.44	13.33	33.33	24.44
3	I communicate with students very well	0	0	2.22	40	53.33
4	I have very good reading comprehension skills	2.22	0	0	51.11	40
5	I can work independently without the traditional class arrangement (student and teacher in the same class at the same time)	0	4.44	4.44	35.56	42.22
6	I am able to work comfortably online/ I feel I will be able to comfortably work online	2.22	6.67	4.44	31.11	33.33
7	I am able to comfortably communicate almost entirely through writing	0	2.22	6.67	33.33	37.78
8	I am able to establish effective environment for student-teacher and student –student interactions	0	0	8.89	35.56	51.11
9	I am capable of self-discipline	0	2.22	4.44	26.67	64.44
10	I am able to work in a non-structured environment	2.22	8.89	4.44	51.11	17.78
11	I assume responsibility for preparation and presentation of learning tasks	0	0	0	31.11	64.44
12	I have the ability to experiment with new pedagogical approaches	0	0	4.44	57.78	31.11

As seen in table 4.13, 87% of the lecturers use the internet to locate resources for teaching and 58% work with students with different cultural backgrounds. The lower score of 58% here might be because the student population of Maldives consist mostly of Maldivians and there are no differences in their cultural backgrounds. Also, since some of the lecturers are from overseas they might have had the chance to work with students from different backgrounds.

In regard to communication with students, 93% of the lecturers say that they communicate with students very well. Among the lecturers 91% say they have very good reading comprehension skills and 78% say they can work independently without the traditional class arrangement.

In regard to working online, 64% say they are able to work comfortably online and 71% are able to comfortably communicate almost entirely through writing. Also, 87% are able to establish effective environments for student-lecturer and student –student interactions. This is seen in the college student population where the lecturers and students interact using social media regarding their studies.

Self-discipline scored a high 91% but only 69% say they are able to work in a non-structured environment. Ninety-six percent (96%) of the lecturers say they assume responsibility for preparation and presentation of learning tasks and 89% say they have the ability to experiment with new pedagogical approaches. From the results shown in Table 4.13 and Figure 4.11 it can be seen that the lecturers have positive scores for eLearning readiness, in this section.

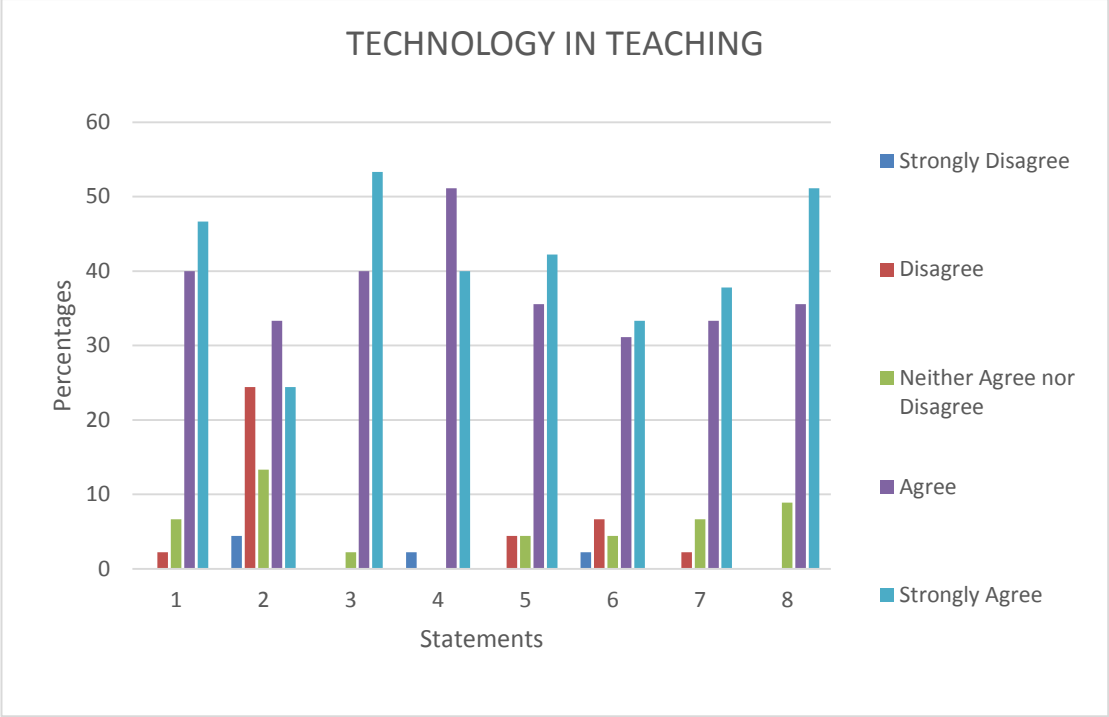

Figure 4.11 Graph of Lecturers' technology skills in teaching results in %

Time management

Table 4.14 Lecturers' time management results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	I can dedicate 4 to 6 hours a week (any time during day or night) to participate in the online teaching process	6.67	20	28.89	31.11	13.33
2	I am willing to log on and contribute to online classroom discussions and interact with students online	4.44	11.11	17.78	42.22	24.44
3	I am able to create schedules for myself and stick to them	0	4.44	13.33	48.89	33.33
4	I am willing to devote more time to online class than an onsite class	11.11	13.33	33.33	35.56	8.89

As seen in Table 4.14, it can be concluded that the scoring is low in the strongly agree category. Only 44% state that they can dedicate 4 to 6 hours a week to participate in the online teaching process. This may be because of the heavy workload they have or due to the fact that some of them are part-time lecturers. Sixty-seven percent (67%) are willing to log on and contribute to online classroom discussions and interact with students online while 82% of lecturers are able to create schedules and stick to them. I had predicted a higher percentage (higher than 67%) of lecturers would be willing to contribute to online classroom discussions because most of the lecturers are quite young and they are fluent in technology and use of social media.

Only 45% are willing to devote more time to online class than an onsite class. In this statement. 33% of lecturers are unsure whether they can devote more time to an online class than an onsite class. One reason for this is due to the fact that the lecturers do not have experience in an online class and they are not aware of the time they need to spend in an online class. Also, some lecturers are part-time lecturers and they might not be sure of the amount of time they can give to an online class given the situation. Figure 4.12 shows a graphic representation of time management of the lecturers.

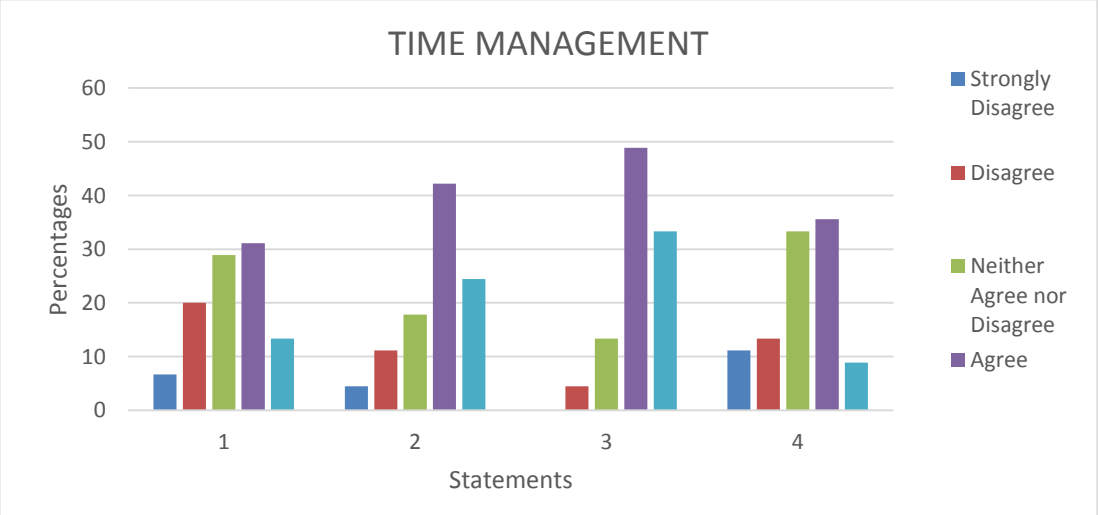

Figure 4.12 Lecturers' time management in %

Cognitive presence

Table 4.15 Lecturers' cognitive presence results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	When participating in an online course, students should feel motivated to explore content related questions.	0	4.44	15.56	31.11	48.89
2	Students should be able to utilize a variety of information sources (those available online and elsewhere) to explore problems posed in an online course.	0	2.22	4.44	37.78	55.56
3	Brainstorming with other online participants would help students resolve content related questions.	0	2.22	11.11	40	46.67
4	Online discussions would be valuable in helping students appreciate different perspectives of course content	0	4.44	17.78	35.56	42.22
5	Learning activities conducted through an online course would help students to construct explanations and solutions for questions/problems.	0	4.44	17.78	44.44	33.33
6	Reflection on course content would help students understand fundamental concepts in an online class.	0	2.22	17.78	51.11	28.89
7	Participation and reflection on course discussions would help students understand fundamental concepts in an online class	0	4.44	17.78	48.89	28.89
8	Students can describe ways to test the knowledge created in an online course.	0	8.89	31.11	31.11	28.89
9	Students can describe ways	2.22	4.44	24.44	33.33	35.56

	to apply the knowledge created/learnt in online course to real-life situations and problems.					
10	When participating in an online course, when problems are posed, students can develop solutions to such problems that can be applied in practice.	2.22	11.11	20	51.11	15.56
11	Students would have difficulty in applying the knowledge created in an online course to their work.	15.56	37.78	24.44	22.22	0
12	Students would have difficulty in applying the knowledge created in an online course to other non-class related activities.	15.56	37.78	24.44	22.22	0

All the statements in the section cognitive presence scored above 60% in favour of it being important for eLearning.

Over 80% of the lecturers agreed that when participating in an online course, students should feel motivated to explore content related questions and believe that brainstorming with other online participants would help students resolve content related questions. Seventy-eight percent (78%) of the lecturers believed that online discussions would be valuable in helping students appreciate different perspectives of course content and learning activities conducted through an online course would help students to construct explanations and solutions for problems.

It is worthy to note that 24% of lecturers were not sure that students can describe ways to apply the knowledge created or learnt in online course to real-life situations and problems. Possibilities of this unsureness may stem from the lecturers' lack of awareness about eLearning and thus assuming that the students would lack the knowledge of what eLearning requires.

Only 22% of the lecturers think that students would have difficulty in applying the knowledge created in an online course to their work or to other non-class related activities. So in this regard, in the lecturers' view, almost 80% are quite ready for doing independent online teaching with cognitive presence as a component incorporated in their studies.

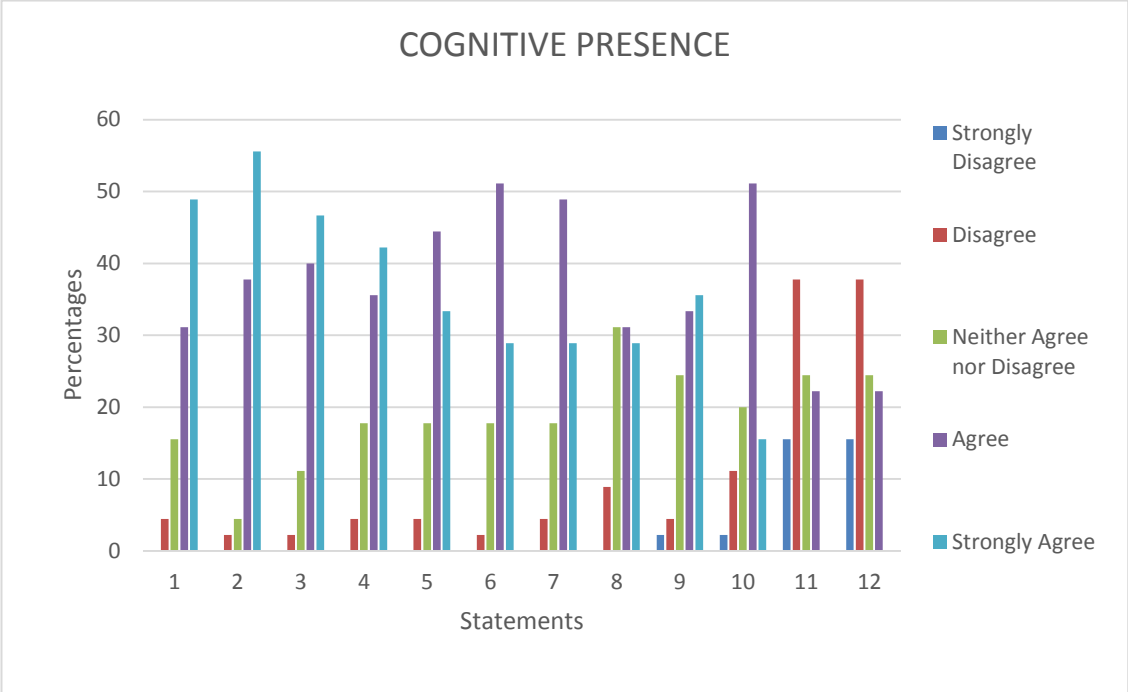

Figure 4.13 Lecturers' Cognitive presence results in %

Teaching presence

Table 4.16 Lecturers' teaching presence results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	I believe the instructor should clearly communicate important course topics in an online course.	0	2.22	13.33	31.11	53.33
2	I believe the instructor should clearly communicate important course goals in an online course.	2.22	2.22	6.67	22.22	66.67
3	I believe in an online course; the instructor should provide clear instructions on how to participate in course learning activities.	2.22	4.44	8.89	24.44	60
4	I believe in an online course; the instructor should clearly communicate important due dates/time frames for learning activities.	0	6.67	6.67	22.22	64.44
5	The instructor should help in identifying areas of agreement and disagreement on course topics that would help students to learn.	0	4.44	20	31.11	44.44
6	The instructor should help in guiding the class towards understanding course topics in a way that would help students clarify their thinking	0	6.67	8.89	31.11	53.33
7	The instructor should help to keep course participants engaged and participating in productive dialogue.	0	6.67	13.33	28.89	51.11
8	The instructor should help keep the course participants on task in a way that would help students to learn.	0	4.44	8.89	24.44	62.22
9	The instructor should help to focus discussion on relevant issues in a way that would help students to learn	0	4.44	11.11	24.44	60
10	The instructor should provide feedback that would help students understand their strengths and weaknesses.	0	2.22	8.89	20	68.89
11	The instructor should provide feedback in a timely fashion.	0	2.22	13.33	17.78	66.67

All the statements in this section scored over 75% when agree and totally agree columns were combined, showing a positive attitude for teaching presence in online learning. The lectures believe that the instructor should clearly communicate important course topics and course goals in an online course. Also clear guideline of instructions on how to participate in course learning activities and important due dates and time frames for learning should be provided by the instructor. Over 80% of the lecturers in the study also agreed that the instructor should help to keep course participants engaged and participating in productive dialogue and on task in a way that would help students to learn. Over 80% agree that the instructor should provide feedback that would help students understand their strengths and weaknesses and provide feedback in a timely fashion.

As seen in figure 4.13 and table 4.16, the results from the lecturers' questionnaire show a positive result for teaching presence. This indicates that the lecturers are ready for instructional design and delivery for online learning courses.

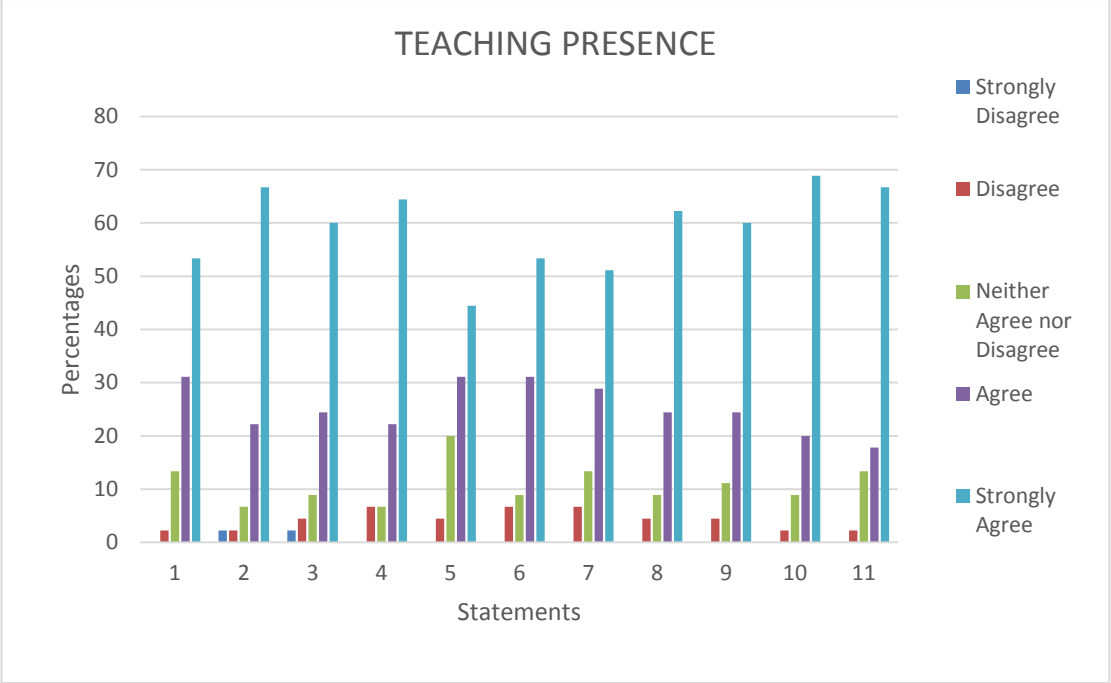

Figure 4.14 Lecturers' Teaching presence results in %

Social presence

Table 4.17 Lecturers' social presence results in percentages

#	Statement/Question	1 (Strongly Disagree)	2 (Disagree)	3 (Neither Agree nor Disagree)	4 (Agree)	5 (Strongly Agree)
1	Getting to know other course participants online would give students a sense of belonging in the course.	0	8.89	17.78	33.33	40
2	Students should be able to form distinct impressions of some course participants through online communication.	0	6.67	33.33	35.56	24.44
3	Online or web-based communication is an excellent medium for social interaction.	0	8.89	28.89	24.44	37.78
4	I value face to face over online learning	2.22	8.89	31.11	33.33	24.44
5	I would feel comfortable conversing through the online medium	2.22	0	40	37.78	20

6	I would feel comfortable teaching in online course and participate in discussions with students	2.22	13.33	17.78	40	26.67
7	I would feel comfortable interacting online with my students.	0	11.11	17.78	42.22	28.89
8	I would feel comfortable in providing critical feedback to students online while still maintaining a good student-teacher rapport/relationship.	0	8.89	17.78	44.44	28.89
9	I feel that my point of view would be acknowledged by students online	0	6.67	33.33	37.78	22.22
10	Online discussions would help students to develop a sense of collaboration	0	6.67	17.78	44.44	31.11

From the Table 4.17 it can be seen that all the statements scored above 60 % when agree and strongly agree columns are combined.

Seventy-three percent (73%) of the lecturers who participated in the study said that getting to know other course participants online would give students a sense of belonging in the course. Even though 68% of the lecturers agree that students should be able to form distinct impressions of other course participants through online communication, 33% of them are not sure whether they would or they would not. This may be due to the fact that the lecturers have no prior experience regarding this and they are not sure of the outcome. Sixty-two percent (62%) agreed that online or web-based communication is an excellent medium for social interaction while 67% would feel comfortable teaching online courses and participate in discussions with students.

Over 70% of the lecturers said that they would feel comfortable in interacting online with students, providing them critical feedback while still maintaining a good student-lecturer relationship. In agreeing with the positive impact of social presence of students

in an online learning environment, 76% of the lecturers agreed that online discussions would help students to develop a sense of collaboration

The lowest score of 58% in this section is the question about preferring face-to-face over online learning (statement 4) and the question about feeling comfortable conversing online (statement 5). Most of the students as well as the lecturers I talked to preferred face-to-face over online learning and these results together with the 31% are not sure that they prefer online or traditional teaching shows only a few (11%) favour online learning.

For statement 5, 40% of lecturers are not sure whether they would feel comfortable conversing using online. This is a very surprising result, given the fact that a lot of lecturers are on social media and have access to online activities. Also, students talked about being in Viber and Facebook groups with the lecturers and students discussing course materials. My assumption is that they are not comfortable given the political situation in Maldives and also because it is a small community most people know each other. There have been instances where people's conversations are aired on public and social media and that maybe why people are apprehensive. Another reason could be because some of the lecturers do not have prior experience conversing online with students and also, they might not consider the social media chat groups as online conversations for teaching purposes.

The overall results, as seen in Figure 4.15, show a positive attitude for social interaction and social presence in an online learning environment.

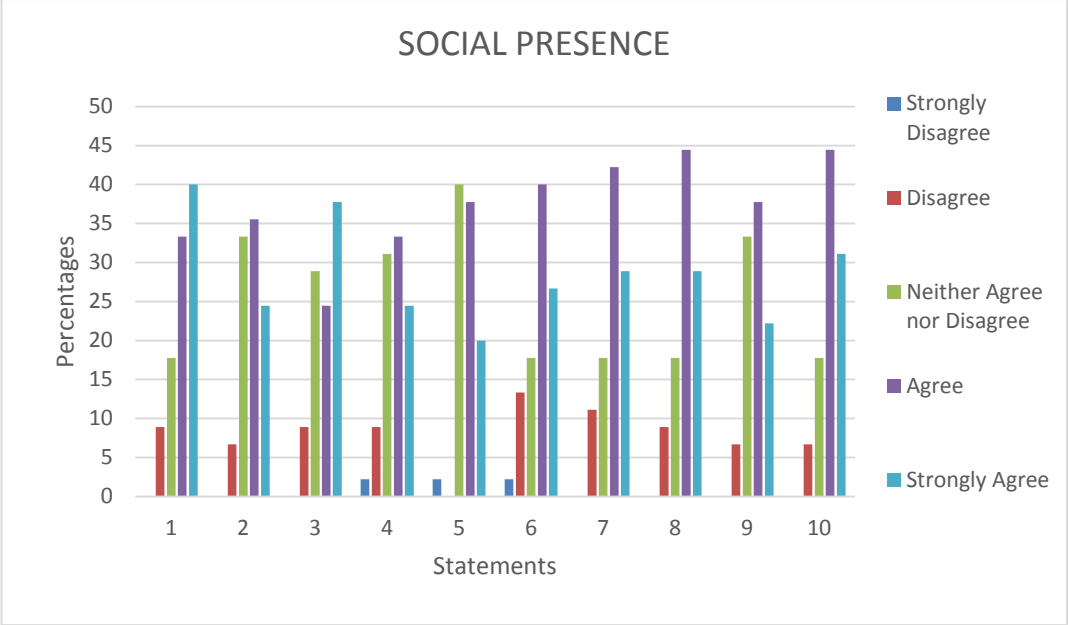

Figure 4.15 Lecturers' social presence results in %

Summary of Lecturer Questionnaire Results

Table 4.18 Overall lecturer readiness in %

	Strongly Disagree %	Disagree %	Neither agree nor disagree %	Agree %	Strongly agree %	Overall readiness %
Access						78.15
Teaching Styles	1.41	3.03	8.08	38.38	49.09	87.47
Technological skills	0.93	4.26	5	38.89	42.22	81.11
Time management	5.56	12.22	23.33	39.44	20	59.44
Cognitive presence	2.96	10.37	18.87	37.42	30.37	67.79
Teaching presence	0.4	4.24	10.91	25.25	59.19	84.44
Social presence	0.67	8	25.56	37.33	28.44	65.77

As seen in Table 4.18, all the constructs measured for lecturer readiness scored above 50%. Overall access is 78% indicating that lecturers have reliable access to computers

or other such equipment and the internet. From the 45 lecturers who participated in the survey, 87% reported having favourable teaching styles for providing eLearning.

In time management, 59% of lecturers reported an overall readiness. However, 23% were not sure whether they would be able to manage their time in this category. This may be due to most of the lecturers being part time lecturers and already have a full work load and they are not sure about taking on more work. This also could be due to the fact that some are not aware of what they might have to do in providing eLearning.

Overall readiness for social presence in online learning scored 66% and there are 26% of lecturers who reported being unsure of being ready in this area. With the time constraints and heavy workload, they may not be able to devote time for social conversation with students and lecturers may not see it necessary to converse or interact with students socially in an online forum. Figure 4.16 represents overall lecturer readiness for providing eLearning.

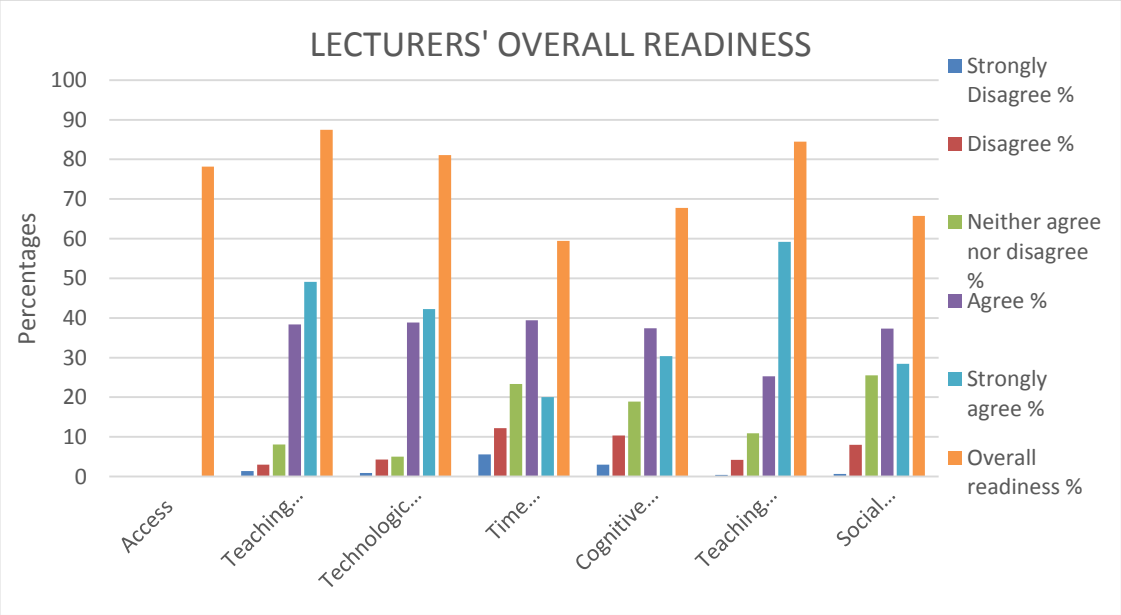

Figure 4.16 Graph of overall lecturer readiness

Qualitative Data Analysis

Student readiness

Table 4.19 Student profile

Name	Gender	Age	Current Programme
Aslam	Male	28	Dip
Hafsa	Female	18	Cert III
Shafy	Male	39	MBA
Hannah	Female	22	B.Ed.
Murad	Male	18	Cert III
Samad	Male	31	MEd
Shaya	Female	40	MEd
Amina	Female	30	MA
Samiya	Female	20	BBA

Access

All 9 students that I interviewed had access to or owned a smartphone and laptop or desktop. Those who did not have their own laptop or desktop had access to it at home, college and/or workplace. They all had access to Wi-Fi at home and college. Access to technology is very important for online learning. Learners should have access either at home or at a study area where they can get access to a technological device such as a desktop computer, laptop or smart phone. As seen in the questionnaire results access is not an issue for the learners in the study.

Ease of accessibility and internet connectivity. All the 9 students who were interviewed had access to one or multiple devices that could be utilized for online learning activities. In fact, most students had access to a computer and all students had access to or owned a smart phone. The results also indicated that students did consider smart phones as a practical device for eLearning. When asked about access to online

devices, Aslam said, “I have desktop, smart phone and laptop but I always prefer desktop”. Similarly, Hafsa said: “I have my own smart phone and access to internet.”. Murad stated that he owns a smart phone and laptop and continued to say that he thinks “everyone is very much addicted to the phone”. Given the fact that everyone owns a smart phone and uses it every day they are very familiar with using the phone for accessing the internet and there is a tendency that they prefer to use the phone for different learning activities. In this regard, Murad expresses, “yeah from the technology we have these days, we can get access to everything we get from a laptop using our phones except typing. We can get everything with data wherever we are”. The students are using their smart phones for student interaction and communication using social applications such as Viber and Facebook groups.

Internet connectivity is an essential part of eLearning. All the students have internet connectivity at college using Wi-Fi. Each of them are given their own password to logon to the internet when they are on campus. A few students complained of the speed of the connections and the lack of available devices at the computer lab. All 9 students have internet connectivity on their smart phones. They are either using Wi-Fi or a data package to access on their phones. Aslam uses Wi-Fi while Hafsa uses modem and a data package. Hafsa said that she thinks that using this connectivity would not be difficult for online learning: *“I do use college computers for assignments sometimes. At home I use computer and internet using modem”* She added*: “I use data package. No it would not be difficult to use it for online learning”.*

Some of the students use modems to access internet at home. When asked if their internet usage would be an issue for others at home if they use it to do online learning, they all replied by saying that it would not be an issue. For Aslam and Hanna, it would

not be a problem because it's their own and they are the only ones who would be using it at home. Shaya has no problems using Wi-Fi or the modem at home for her studies. She has already undertaken some online learning and according to her, "*At home it's just my two kids me and my husband so there are no problems with Wi-Fi or modem issues".* Murad uses modem and Wi-Fi but prefers to use the modem because it is faster. For Murad, using the modem all the time would not be an issue because he doesn't have many people at home, "*we don't have many people at home. So, nobody will bother even if I use it all the time, there won't be a problem".*

Shaya who has done some online courses previously, said: "*I have computer at office and in daily life we are using that all the time. I have access anywhere I am"*. When asked about the connection she said: "C*onnection is very good in Addu [southern-most atoll in Maldives]. Speed is good too'.* She uses Wi-Fi at home and modem in college. So far she hasn't had any issues with using the modem or Wi-Fi at home and she thinks there would not be an issue of her disturbing other family members by using it for online learning.

All of the students, like Amina, has internet connections at home, college and workplace, for those who were working. When asked about internet access Amina said: "A*t home I have Wi-Fi unlimited package. Workplace, here also Wi-Fi anytime".* She also stated that the speed of the connection was good.

All the students said they purchase a data package every month and cost is not an issue for them. When they use the internet to download too many things the internet becomes slow and they top-up the package. Samad who is a Master's student echoes this in his interview. Samad says, '*I have Wi-Fi and 3G. I have a data package'.*

Like Hanna, all of the 9 students interviewed have their own password to connect to the college internet. Some of them use the college computers while others, like Hanna, bring their own laptop and access the internet using the college Wi-Fi. She also stated that: *"At home I use a modem. Also we have access to the online libraries of MNU and Malaysian Open University".*

Samiya, a degree student got ready for her studies by purchasing a laptop and computer. She owns a smartphone as well. When asked if she had access to computers or laptops or any other such devices, she replied: *"Because I wanted to do the degree programme, I bought my own laptop and computer to get ready for the studies".* She also owns a smart phone and can get access through it. For Samiya, she doesn't have any problems in bringing her laptop to college and get Wi-Fi access there to do her assignments. But according to her there are some students who don't own a laptop but has a desktop at home. For them it is a problem to bring a desktop to college so they have difficulty finishing assignments on time. Samiya said: "*Sometimes when we have a PC at home we can't bring it. So we borrow a laptop from someone".* Also, when she gets an assignment she purchases a data package to get ready for the assignment. Sometimes she uses the internet at work; *"Both to save money and time".*

Shafy is characteristic of a lot of college students of his age. As all of the other students he also has a smart phone and has access to computer and laptop. He said he uses all of them every day: *"Yeah its everyday usage. I use all of them every day. I can't do work without them".* He accesses the internet using both Wi-Fi and data package and when asked whether it was at college and at home he replied: *"At home and at work and college everywhere. In college it is Wi-Fi".* He emphasised that they have free access to Wi-Fi in college and they can do their assignments and other work

related to studies using the college Wi-Fi. Like Samiya and many others, Shafy also talked about the limited number of computers available on campus and that they bring their own laptops to college to work on their assignments. According to Shafy: *"We have to bring our own computers. Those resources are very limited here".*

Murad further echoes what the other students were saying regarding access: "*Yeah from the technology we have these days, we can get access to everything we get from a laptop using our phones except typing. We can get everything with data wherever we are".* Murad uses a modem at home because it is faster than Wi-Fi. For Murad and other students, accessibility is widespread and they can access wherever they may be with the smartphone and data.

The interview data echoes the result of the questionnaire data with students' access to a device and connectivity to the internet. In this regard, Maldivian students have access and are ready for eLearning where accessibility and connectivity are measured.

Technological skills

High IT efficacy with minimal structured eLearning. In spite of the fact that structured eLearning has been experienced minimally by 6 out of 9 students interviewed, there exists an overwhelming confidence in the use of IT skills. Aslam has taken a CISCO course by distance and he described himself as a person who knows *"IT skills to a professional level".*

Most students have IT efficacy not because they have undergone IT training or structured eLearning, but because they engage in online activities through social media. The students engage in interaction with one another and with the lecturers using Viber and Facebook groups. Almost all the students in the study reported about

communication using technology. As Hanna said*: "We have Viber groups made by students and the lecturer is included in the group so we do have interaction through Viber groups".*

Use of social media as a window for eLearning efficacy. Widespread use of social media is a precursor for confidence in using technology for learning. All participants discussed use of social media particularly Viber when asked about their tech skills for eLearning, which appears to be the catalytical experience that builds confidence for IT use. The results show that it is through the use of social media that all the students communicate socially and for study related events.

Students, like Shafy, talked about the use of social media apps for communication with lecturers and students. Shafy said:

> *Viber. We have two groups, one official and one social for just students. We discuss about subject contents a lot when exams are near. We also discuss about the subject matter. Students ask queries and those who know help the other students with what they know.*

Hafsa confirmed the use of social media for interaction by saying: *"We have Viber groups made by students and the lecturer is included in the group so we do have interaction through Viber groups".*

In some cases, the colleges are substituting social media as a second option for teaching and learning substituting face-to-face traditional learning. Samad talked about one of the sessions he learned through Skype when his lecturer could not be physically present in class. Samad stated: *"A huge part of one module was covered using Skype.*

The lecturer was in Male (Capital island) all the students were on another island. We got together and the lecturer was on screen taking the session".

Samad is convinced that online learning in Maldives would be accepted better by the students and the larger society if it is offered through social media or linked to social media in some way. He said: "*yeah as I said it should be offered through social media or linked to social media"*.

Unknowingly a form of eLearning has begun through social media that has created the aptitude and skill for learning purposes. Students are engaged in informal use of social applications as a learning tool. They communicate with the lecturer and fellow students using Viber groups and Facebook.

Prior experience of structured eLearning facilitates willingness to engage in eLearning. Based on interview data, participants of the study could be grouped into four categories based on the degree of prior exposure to online learning. These categories include: (1) students with direct experience of structured eLearning, (2) students with direct experience of blended learning, (3) students with use of an online app in support for traditional learning and (4) those with no experience of structured eLearning.

Shaya and Aslam belong to the group with direct experience with eLearning. According to Shaya everything she learned (Diploma and First degree studies) she had learned online, except for the first certificate she pursued. Aslam also participated in an online course from abroad, while stationed in Maldives, and had only gone abroad to sit for exams. Among the participants, these two appear to be most willing to engage in future eLearning. Shaya said:

> *I always prefer online. For me classes are very boring. I understand when I read and when I research and highlight while reading. If the lecturer is very interesting and very interactive than I can participate but I really fully understand when I read on my own. I think it's the learning style as well*.

Aslam said:

> *For me online learning is more effective. Because it is easier for me to cheat. For example, when I was doing one of the online courses the lectures are scheduled for a specified time. What I do is I use another software and set it to record. I don't have to stay there I go about doing other work and then when I have time I listen to the recording.*

Amina belong to the second group that had experience with blended learning. She had studied in Australia and she said: *"We had one fully online module and two blended modules. they had online components too and we had to complete the tasks before attending classes."* She also expressed a certain level of willingness for eLearning. She said she would make time for learning and that Education for All will not be complete without online learning opportunities, because online opportunities would include the students who cannot travel to a campus to study.

Samad, who is a Masters student, fits into the third group who had limited use of an online application (Skype) to support traditional learning. He described this by saying: *"I have done some parts of modules online because the lecturer was unable to attend the classes. We used Skype for these classes. But most part was face to face"*

Based on his prior experience, Samad qualified his willingness for online learning. His view is that eLearning is not appropriate for lower levels of learning or content based learning. He said:

> *I think for very content based modules face to face is very important. If its subject specific it might be not so good to have online learning only. But for something like Masters in education, online learning is ok. If it is Master of science in chemistry it might be difficult to have a fully online course*.

The remaining students have very little or no prior experience with structured eLearning. Most of these students clearly expressed their preference for traditional learning, indicating lack of knowledge and interest in pursuing eLearning. For example, Hanna said: "*If online, I would be alone on the computer but face to face, I come to class the time I spend in class is better. Friendships are stronger. When you explain online and explaining it in your presence is different".*

The above observations from qualitative data analysis shows an emerging pattern in which a degree of prior experience relates to willingness for eLearning. Therefore, it could be assumed that prior experience and awareness of eLearning is a good indicator and contributing factor for eLearning readiness.

Study habits and skills

Study habits include taking initiative and responsibility for one's own studies, being an independent learner and managing time for studies. The themes that emerged from the interviews are discussed below.

Learners do not take responsibility or initiative. Even though most of the students I interviewed said that they take responsibility and initiative for their studies, they voice that most of the students do not take responsibility or initiative. When asked if students take responsibility, Aslam very strongly expressed about the issue of students not taking responsibility: "*Most of them don't take responsibility. Very rare. I would say*

the new generation almost all of them don't take responsibility". He thought that a contributing factor of students not taking responsibility or initiative is because they are not taught Civic as a subject in schools. According to Aslam:

> *They don't [take responsibility]. I think it's because our students are not taught civic. In other countries, for example, when I studied abroad they had civic as a separate module on its own. We don't have it here and that's the difference.*

Hafsa agreed with the notion of not taking initiative and responsibility by students by saying that she didn't think "*it would work*" and she thought *"very few would take initiative and push themselves to do it".*

The contributing factor for students' lack of taking initiative or responsibility for their own learning is explained by Samad:

> *I think it is mainly because we are so used to face to face learning from a very young age maybe that's why we feel that online learning wouldn't be as good as face to face learning. That face to face learning will be better for students to understand the materials being taught. We are being taught face to face from grade 1 to 12 and it is difficult to change I think.*

He further attributed this to study habits and learning culture that are formed from a very young age. Samad said*: "Study habits and we don't have a culture of taking initiative to learn on our own".*

Hanna's view about not taking initiative, is that there is a lack of confidence in students thinking that they will not be able to do the task and that others might be able to do the task better. She said: *"Maybe they think they might not be able to do it. The*

others will be able to do much better". She attributed this to the fact that*: "For example, even from a very young age we are taught by tuition teachers and it is always like we depend on someone else for our studying."*

This culture of not taking initiative or responsibility could be a hindrance for successful eLearning to occur. Therefore, in this regard the students might not be ready for independent eLearning.

Culture of procrastination as an impediment for eLearning readiness. From the analysis of the qualitative data, procrastination and lack of time management are seen as potential deterring issues that could contribute to eLearning readiness. Out of the 9 students interviewed for this study, 6 students admitted to habitual procrastination and lack of time management.

The students viewed procrastination as a cultural attribute. Samiya said: "*Almost everyone keeps to study the last week before exams. I think it's a Maldivian/cultural thing"*. She further explained that *"It's a Maldivian style to keep to do everything the last minute".* She believed that "*Online or in class we will always keep things to do the last minute".*

Arising from this culture of procrastination is the habit of focusing on the deadlines. Students habitually delay the completion of assigned learning tasks such as assignments until the very last minute. As Samiya stated:

> *There are students who don't really care about the marks. They finish on time whether it is good or bad. And then there are those who wants to hand in a perfect assignment. They manage their time in those four extra days and try to do the perfect*

> *assignment even if 5 marks is deducted they want to do a good assignment.*

The power of procrastinating, waiting to complete work until just before the deadline, is so prevalent that some students would wait for the extended deadline if they were aware that an extension may be provided. For example, Aslam said:" Some *students will wait for the last minute. For example, if you hand in your assignment four days after the due date you get a zero. Some will hand it in on the fourth day".*

Furthermore, Hafsa illustrated the habitual nature of procrastination by saying that:*' I usually do it the last minute. Just keep it do later and finally when can't keep any longer I do it'*. Hanna added to this in saying that: *"Even now in classes most students are like that. If we have to submit an assignment at 8.30 they might submit it at 8.45".*

Another contributing factor to this culture of procrastination is a belief that the urgency created by the approaching deadline acts as a strong motivator to do well in the assigned work. Samad believed that the urgency created by procrastination in effect helps to produce better work. He said: "*I do it the last minute. There is this general feel that I do it better if I do it the last minute. It is more satisfying I think".*

Similarly, Shafy argued that*: "It's advantageous to leave it till the last minute because we have more knowledge about the subject and the last couple of days we can really concentrate on it and do the work well".*

While most students attribute procrastination as a cultural practice, Shaya disagreed with this notion. However, Shaya an in-service teacher trainer, is also aware of the degree of procrastination among her students. She expressed the need to move away from using culture as an excuse for procrastination. She argued:

> *I encourage teachers and students to study and when I talk to them I also note that issue. But I tell them that they start a programme of study with a commitment so they should hold on to a disciplined routine of study. Allocate a time that would be easier for them during their day. I don't think its culture. I think we can train ourselves to do it. I don't think we should just blame it on the culture and leave it like that. I think we can discipline ourselves to do it.*

An additional factor that contributes to procrastination is the fact that the students lead a very busy life with working and studying at the same time and some having the responsibility of a family. Such multiple responsibilities are the reality for most students as discussed under the section on lifestyle. In explaining the effect of having to juggle many roles, Shafy expressed:

> *When we start a module, we would be thinking we should start the assignments at home when it's given and finish soon. But we always keep it till the last minute. It's also because we are working full time and are very busy. We can't spare time.*

Therefore, there is a culture of procrastination so deeply ingrained into the mental fabric of learning, that students have acknowledged it as an acceptable behaviour among students. This culture of procrastination is reinforced by belief that it may in fact improve their learning outcome.

Lack of inner-confidence to learn due to teacher dependency. The students voiced a lack of confidence in participating in online learning. As mentioned before, students are accustomed to the teacher being present and the teacher leading the students in their learning.

Students need someone, either a teacher or someone from the family to be present when learning activities occur. The fact that they are more comfortable and confident when a teacher is present face to face, could be a hindrance for online learning. As Shafy explained:

> *In class, we are physically there and we meet the lecturer also physically. Confidence and comfort is there. Virtually it is not there. There may be questions I need to ask and if physically present from my facial expressions and other cues the teacher would know that I have more queries or questions which is not there when virtual. I think that's an advantage of face-to-face. Physical presence.*

As seen from Shafy's excerpt above, we can see that he prefers face to face learning to online learning because physical presence is important for him. The comfort and confidence he achieves is from the lecturer's presence. This could be attributed to the educational practice of the school system where students are always led by a teacher or a family member in their learning. Most students take private tuition, after school, from a very young age, creating dependency of students on teachers. In describing this phenomenon Hafsa said:

> *For example, even from a very young age we are taught by tuition teachers and it is always like we depend on someone else for our studying. And there is very little effort to try and learn by themselves. Maybe that is why they don't have that confidence. Even those who do well in assignments and tests when they have to do a presentation in front of the class they are hesitant to do it. I think that confidence is not built even from a very young age.*

Similarly, Hanna associated lack of confidence in self-directed learning, as a result of being accustomed to face to face teacher led learning and the very little effort given for students' skill based learning. Hanna said:

> *I think it's because we are used to f2f learning from a very young age. it is as we say spoon-fed. We are taught content based and little effort is given to skill based learning. I think that is the reason. I think it's also because it is a new thing they are hesitant and they don't have the confidence to do it.*

Another interesting find from the study is the hesitance of students to use a structured platform for online learning. This could be because of unfamiliarity with such platforms combined with low confidence. For example, students use Facebook groups because they use is very frequently and are familiar with it, but when they have to log on to a learning environment they find it difficult to do so. Shaya explained:

> *I think if it is in flexible time they can go and do it in their own time like going on FB. But I noticed that students find it difficult to log into such a forum. FB is very user friendly and people are so addicted to it. But if they have to go on a platform or learning environment, they find it difficult to log on to it.*

According to Shaya she has been trying to convince students that a VLE (Virtual learning Environment) is the same as Facebook(FB) and to think of it as Facebook. Once they are familiar with it they gain more confidence using it. She further explained:

> *If we start a thread on FB it's not so difficult for them to answer on that thread. I am trying to convince students in my workshops also to think of it as not a VLE but as a FB. So, to*

> *comment as how they would comment on FB. So, when they become comfortable with it, it changes. They are more ready and willing to participate.*

Even though online libraries and resources are available, students are not confident in using them to do learning tasks. They are used to a teacher or someone leading them with their work, they don't even try. This lack of confidence and unwillingness in trying unfamiliar resources or applications is a hindrance for their online learning readiness. Hanna's belief is that:

> *I think more percentage not ready. Because sometimes when we are doing group work we divide the different tasks to different students but some just say they don't know and say they can't get information about it. But we have many resources where we can get access to information to online libraries. They are still not ready for that.*

Lack of independent or self-directed learning, arising from teacher-led pedagogy. Analysis of data revealed that students are aware that eLearning requires independence or self-directedness in learning. As an example, Amina, who had participated in some blended learning programmes said:

> *No independent learning here. In eLearning, we have to do independent learning and we have to manage our own time. But f2f learning we have to come to class at a scheduled time. eLearning, it would be very flexible right with time and all.*

Furthermore, Shaya expressed her belief that students must be ready for independent learning at the end of formal schooling. She said: *"I think by the time they reach A 'levels or when they finish A 'levels they should be ready for independent study".*

While students may be aware of the concept of self-directed learning, analysis of the qualitative data indicates a lack of independent learning among students. One reason for this lack of self-directed learning seems to be resulting from the prevalent pedagogical practice in the Maldives. Maldivian students, from a very young age, are accustomed to and cultured into following a teacher-led pedagogy as opposed to student-centred independent learning which is required for eLearning. In describing the nature of school system Shaya said: "*I think our school system is very much like that - spoon feeding students".* This culture of teacher-led learning seems to have developed a mind-set in students that expect their own learning to be led by another.

In expressing the nature of teacher-led pedagogy in Maldives, Hanna said: "*I think it's because we are used to face-to-face learning from a very young age. It is as we say spoon-fed. We are taught content based and little effort is given to skill based learning".*

Years of teacher-led learning has made students become accustomed to having an external influence that compels them to complete learning tasks. Shaya who has participated in many online programmes and manages her learning independently, highlighted students' expectation of their own learning to be directed by another. This other-directedness in learning is explained by Shaya:

> *I don't think it's[eLearning] going to work that way. I think we should give time for studies. What I notice is that students are not ready for reading and independent learning. They go into it thinking it would be very easy. After some time, they know they have to work there is no one to push them to do it, they are tired when they come home from work so they leave it.*

Thus, the qualitative data points to the general lack of attitudinal readiness and practice in self-directed learning due to a dominant educational practice of directed-teaching within the entire school culture. The efficacy or willingness for self-directed learning is absent.

Lifestyle factors

Working and studying to be able to afford studies. A majority of the students I interviewed were working and studying at the same time. For the students to be able to afford to live on the capital island for studying meant they needed an extra income to be able to afford rent. In Male' rent is very high and the students are mostly from other islands.

Aslam works full time and is currently enrolled in 2 diplomas, a diploma in IT and a diploma in Business studies. His daily schedule starts at 8 when he goes to his full-time job which finishes at 3pm. He goes to college for IT classes from 6.30-8.00 and business classes from 8.00-9.30. Since he has such a tight schedule he prefers to do online learning as opposed to face to face learning. He says he can manage his time better if he does so.

Samiya works on a full-time job from 8-5.30pm she takes leave from work at 5 so that she can attend classes which run from 5-9.30. She also has a part time night duty job at 1.30am. Samiya detailed her schedule: *"Actually fulltime work and a part-time job and part-time studies. 8-5.30 work. 5-9.30 college. College has given me a 30- minute*

leave so I come at 5.30. after I finish college I go to another part time job at 1.30". Samiya prefers to do online learning with her current situation. She says she doesn't have to attend classes then. Even though she prefers to do online learning with her current situation and with having to pay rent, when asked if she went back to her island and was offered the same programme to do on her island would she be ready to take it online, her preference was face-to-face studies. Her argument was that if she were on her island she would not be working because she would not have to pay rent

Murad also works full time from 10-5.00 and attends college from 9.30-11. 00. He explained*: "I work from morning 10 to 5 in the afternoon. And from 9.30-11 at night is college."* He rests and work on assignments in the time he gets in between work and classes;

> *That's the time I rest. And usually have lots of assignments so I do the assignments at that time as well. I sometimes go to college to gather information for assignments during that time as well. If I have college work, I do it or if I have other work also I do it at the break time.*

Even though he does not have family obligations he said he has a lot of stress and he would prefer to do his studies online. He said: *"I don't face problems. I finish duty go home and the only thing is the stress"* He added:

> *Then it would be much easier [talking about online learning]. I can schedule my studies. after I finish my duty time at work I can go home and do my studies on my laptop using the internet. It will be much easier to manage time.*

Amina explained why most students have to work while they stay in Male' to study. Amina said: *"If they are not earning it is difficult. Even if they come to study they have to earn because they have to pay rent and so on"*

Lack of family support due to lack of understanding and awareness. All the students stated that they would have family support if they were to do online learning. And some of them who had already participated in online learning of some form, credited their family's support in successfully completing their studies at the time.

However, one of the students noted that she knows some students who do not get family support for various reasons. According to Shaya: *"Some don't get support from their husbands or have small children to look after. Others live in extended families and have problems with their in-laws".* In clarifying the type of support students might not get from their families Shaya gave an example, she said:

> *We were doing phone conferencing with a student in B atoll and another in H. Dh atoll. After some time, the student in B atoll had problems with her husband. He wasn't happy she is on the phone so much. He didn't really check what she was doing on the phone. The other student was a male, so there were us two girls and a guy. The husband didn't like that at all that there was a guy in the phone group. My husband knows what I am doing and who is on the group so we have that understanding. But the other student had to stop. So, we have so many of those kinds of problems. I don't think they have that understanding.*

There are some issues with regards to getting family support for eLearning. Another real issue is that parents do not view eLearning as being the same level as traditional face to face learning. Amina said she participated in blended learning while she studied

abroad but when her sister wanted to stay at home in Maldives and study online, her mother was not supportive of it. Amina explained:

> *One of my sisters wanted to do an online course and my mom and them were telling her if she would be able to do it like that and it would be much easier if she goes to that place to do it. She won't be able to do it from home. Yeah, they do have that kind of attitude. I think if you are really committed to it you can do it in my opinion.*

Shaya also expressed that people, in general, view that a good quality education could not be achieved through online learning. Shaya said: "*People don't accept that we can get a good quality education or good quality certificate through online learning".*

From the student interviews, it can be seen that awareness of what eLearning entails and the position of eLearning in other well established societies could help in getting students ready for eLearning. As Hanna said*: "I think it's people's viewpoint. For example, if we say a certain college people will think they are lower in standard. I think that's what it is".* She further added*: "So if they know the differences (between online and traditional learning) and that the two are the same standard I think that it would be ok. I think awareness is the key point".*

Shafy another student interviewee talked about the need for assurance and awareness. He thinks with awareness and assurance there would be more acceptance of online learning courses and more support from families and society. He said: *"... we should make people aware of it. Also, who is going to approve it. Is MQA going to approve it. How is it ranked. Job opportunities. I think all these issues we need assurance to the community. The community may be the school leavers or some age groups. They need the assurance".*

Community of Inquiry

There is one common theme that runs in all the aspects of Community of Inquiry (COI). That is the preference and the use of social media specifically Viber groups and Facebook groups for interaction, whether it was for social interaction, interaction with lecturers or interaction about assignments and subject matter. Aslam voiced out the importance of having online forums for interaction in online learning courses:

> *Because it is online learning. In the course I took like Cisco I didn't have a way of knowing who else was studying with me. It will be more effective if we had a portal where we had forums to discuss*

Use of social media for student-student and student-lecturer interactions. As discussed in the previous sections, there is wide use of interaction both social and cognitive in place even though there is no formal structured platform for these interactions. At present, students from both colleges interact with other students and lecturers using social media. Most of them use Viber to communicate in groups it is easy to use and very little data is used when Viber is used for communication. William explained:

> *And you can manage Viber with a very small data package. Viber is so popular because it is also a gossip centred medium. Most of the time groups are formed for gossiping. Even in a student group it is very difficult to manage Viber. When using social applications, we have to have awareness of these things. For example, a Viber group itself can be seen as a component of eLearning.*

Even though students are doing face-to-face traditional learning, they are engaged in online interaction. Unofficial lecturer-to-student and student-to-student interactions occur in the form of Viber or Facebook groups. Samiya explained:

> *Actually, even right now after the lecturer teaches face to face in class we have student discussions online either in a Viber group or a group on fb. Even when we are getting ready for exams when the lecturer gives us questions we discuss it in these groups what to write or exclude. Because we are in different places we come together in these online groups. Even though we are doing f2f learning we use online to get ready for assignments, exams and discussions*

Shafy also talked about the use of Viber groups in communication with students and lecturers. According to Shafy they have two Viber groups. One official group where they discuss assigned work and exams and another one for social interaction. Shafy added:

> *Viber. We have two groups, one official and one social for just students. We discuss about subject contents a lot when exams are near. We also discuss about the subject matter. Students ask queries and those who know help the other students with what they know.*

Samad's view is similar to many other students in the college. He believed that if the forum is user friendly then the students would not hesitate to communicate. He also suggested that students use social media more freely rather than use a structured learning platform. Samad said: "*If its user-friendly I think it would. Or if they can connect or link to social media they would use it more I think rather than having it as a separate access platform".*

Social forums beneficial for familiarity and further ease in communication. All the students interviewed for the study agreed that having a social forum to communicate with other students would make it easier for them to discuss course materials. Shaya believed that social interaction is necessary and she pointed out that in general people are getting familiar with social interactions by using social media such as Facebook [FB]. Shaya said: "*Yeah they should know. It will be difficult if they are complete strangers to communicate. I think people are getting familiar with these things day by day through FB".*

Murad agreed with the fact that an online social forum would make it much easier for students to interact. He said: "*In my batch the students don't interact much. So it will be much easier to interact on computer online".* He added that it would be easier to interact when you know the person and there would be trust. *"Yeah when you know someone it would be easier to interact. There would be trust then".*

Amina, also, agreed with the importance of having a social forum. She said:

> *It is very important. I think it's very important to know each other otherwise the colleague feel is also not there. It would be like answering some questions. If we know about each other, when we are discussing or giving comments to each other it would be easier.*

Hanna thinks that an online forum, such as what they have with Viber groups at present, would benefit their studies. She added that knowing the person's background would make it easier for her to communicate. Hanna explained:

> *Yeah, I think so. We have different levels of students in class. Even now in the Viber groups we ask questions and those who know would give the answers or explain it. So if we had a*

> *discussion forum it would be. But for me I think if I know the person's background even a little bit it will be easier for me to communicate.*

Lecturer presence physically preferred to online forums for interactions. Most students preferred lecturers being present physically to answer their questions and queries. Murad argued:

> *If the students are not happy with the lecturer it won't go well. I think face to face is better because students can ask questions in real time in class so it will be easier. There might be students who didn't understand while the lecturer is teaching. So, when face-to-face if they don't understand they have the chance to ask the lecturer for clarification.*

He added it would be double work if they were to interact with lecturers online:

> *If we were to do that it will be harder. We would be studying and then when we see something we don't know we go to Viber and ask and then go back to study and keep doing that back and forth. That way it would be double work I think. In that way I think it would be better to do face-to-face.*

In the two aspects of COI (Cognitive presence and Social presence), the students are ready. They are already actively participating in such forums using social media as a platform. This shows that they have the willingness and readiness needed for online participation. However, most students prefer to have a lecturer physically present for lecturer interactions.

Institutional Readiness

Staff interviews were conducted to gain knowledge about the institute and lecturers' readiness for online learning. Two senior personnel and two staff were interviewed in order to get an in-depth view of the state of readiness of the institute.

Table 4.20 Staff profile for the interviews

Name	Gender	Education level
Stanley	Male	Bachelors
William	Male	Masters
Shaya	Female	Masters
Amina	Female	Masters

Resources

Access to Wi-Fi and computers. The two colleges in the study have access to Wi-Fi and computers. College 1 specialises in IT courses and they have computer labs for that purpose which could be used by other students to do assignments and research. William described the facilities in their college:

> *We do have the computer facilities in plenty. At our IT campus we have many computer labs and at the registrar's office is equipped with many computer systems. We have a computer system for each admin staff. There are no admin staff without a computer system.*

Currently, registration and record keeping is also done manually and the connectivity on each of their campus is different. There is no one single connection that connects all the campuses together. William explained:

> *Registration and academic records are also mainly done manually. We are using individual systems to prepare and issue transcripts using Excel. We don't have necessary departments automated yet. But we do have connectivity on each campus separately. We also have internet connections*

William further described the facilities and connectivity available on their campuses:

> *For student use we have for example for the IT courses they study and have classes in the IT lab. There is a resource room where students can use the computers on each campus. For example, the School of Business has its own resource room. Computers and internet connectivity is available there. Students can use them for their assignments and to do research. School of IT also has such a resource room. Also, if the students want they can bring their own laptop and Wi-Fi is available. Added to that this campus has a big study area for degree and masters level students. It can accommodate about 40 students at a given time. Wi-Fi is available so they can access the internet.*

As students described in the previous section about access and connectivity on campus, William also said that the students bring their own laptop to do their work. For students who do not own a laptop or tablet, desktops are available to do their assigned work.

> *In this area students bring their own laptop or tablet and do their work. Because they are degree and master's students, in general, all of them own a tablet or laptop. They can bring and*

> *work on their own there. But for example, if those students want to work on desktop systems we provide them with desktops in the computer lab.*

Students have access to limited Wi-Fi and computer on campus according to Stanley. He says that students have never complained about the issues because it is very rare for the college Wi-Fi to not work. Stanley said:

> S*ome issues will be there but Wi-Fi sometimes will not work. So far students have not complained about it not working because it is very rarely it is not working. And also, if they want to use the internet they have to come and register with us and we will get the mac and they will be getting internet. Not open Wi-Fi. Will mac only we are giving that. So, it's okay they don't have enough computers they can use their laptops.*

Even though all the students own a smart phone, the college does not encourage the use of smartphones for studies. Access to Wi-Fi is provided for use on their laptop or tablet during the time they are enrolled in the course. Stanley stated:

> *We are not allowing them to use the mobile phones. Only for the laptop we are giving the Wi-Fi. And only for a limited period of time only. When the course finish or they don't need for research we will remove the student from the list*

Some students view that the colleges are not ready to offer online courses in terms of connectivity. When asked if the college was ready for online learning delivery, Hanna replied: "*Wi-Fi is very slow here. Sometimes it disconnects and we have problems. But if the Wi-Fi facilities are improved I think this college is ready*". Another student Interviewee, Murad, has a similar view. He said: "*I don't think it's (College) ready to offer online learning".*

Limited facilities available that are required for eLearning. In the questionnaire results, it can be seen that all the lecturers have access to technology. This is echoed in the interviews. But when the facilities and capacity requirements for eLearning are considered, they do not have it. As Stanley from College 1 indicated, they do not have the facilities needed for online learning. When asked if the college had the infrastructure for eLearning including the hardware and internet capacity, Stanley replied: *"We have the facilities. Actually hardware we have, we have the internet facilities. But we don't have proper items. At the moment we don't have those things but we can".* William from the same college confirmed Stanley's answer, William said: "*At the moment we don't have the ICT infrastructure in a standard needed for online learning".*

William also added that they do not have the ICT infrastructure for conventional learning. He said:

> *Let's keep aside online learning. At the moment, we don't have the ICT infrastructure needed for conventional learning. We have the network infrastructure and connectivity but we don't have applications to run in a learning platform. We are using a software for fee collection. This is an old application that was put in place about twelve years ago. That is an area we really need to invest at the moment.*

In confirming that they do not have a sophisticated or well-equipped infrastructure and applications for eLearning, William further remarked: "*In regard to ICT infrastructure we don't have a sophisticated one. So if we want to go into eLearning it's not possible because we don't have the applications needed for that".*

Shaya from college 2 stated that the college was not ready to offer online learning. In her opinion the students are ready and they did not have a problem with being ready. She thought that the college should establish a good infrastructure and well-designed courses to cater for online teaching. She said:

> *I think the college is not ready. Students don't have much problems I think. I think college should establish a good infrastructure for online learning. We don't start with a good design. We design courses for f2f not for online learning. There's a big difference. If we can design for online and start with a good introduction and orientation in my experience it would work.*

She further explained that there should be a good plan and design and support for students with interactive communications forums in place for online learning to work. She emphasised that it was not a student problem and indicated that there was no such well-planned design in place at the moment. Shaya said: "*Communication is better when they have a group and discuss it among them. If we can start with a good plan and design, and support I think it would work. I don't think it's a student problem".*

Shaya's opinion is that the colleges and lecturers are not ready to offer online learning. She believed the colleges or university should be ready, with ready and willing lecturers and a well-designed programme before they start such a programme. Shaya remarked: "*In my opinion the university or colleges are not ready when they start such a programme and lecturers are not ready. So they have to make the design of the courses stronger for online learning".* Murad, a student interviewee has the same opinion as Shaya in terms of colleges not being ready in regards to facilities for online learning. He said: *"I don't think it's ready to offer online learning, more facilities than lecturers".* He further explains*: "I don't know about this campus but the other campus*

they don't have internet connection freely available in the classrooms. Its only in the lab. If all the students were to participate it would be very difficult. If we bring our own systems, it might be ok. It would be easier to teach". He argues that it would work if the students brought their own laptops or other systems to college. He said: *"but if we were to use their systems it would not work. Generally, all the students complain about the systems".*

College has eLearning or blended learning in vision. College 1 does not have eLearning in their mandate yet. William: "*We don't have at the moment. Not in the mission and vision statements. We don't even have that in our objectives. There are no statements that would suggest that we are pro to eLearning at the moment".* But there is a commitment from the leaders of the college to utilise technology for teaching and learning. William said:

> *We do have it very much. But right now we are trying to have the internal systems up and running for the conventional systems. After that is well established then we can proceed with that. For example, blackboard or if we go to say blended learning, because most places are going to blended learning these days, we are trying to get the internal system for the current conventional system well established before we go into it.*

The college council has a mandate for eLearning in the near future and the reasons for its need is described by William:

> *What I mean is in our college council we have a mandate to go into eLearning in the near future. There are many reasons. We have so many limitations here. It is very expensive to live in*

> *Male' and our market I mean 80% of our students come from other islands.*

William highlighted the work that had already been done by the college, to go into an online venture. This shows that there is a willingness from the college to participate in online teaching and learning and that they are getting the foundation work laid to achieve that. When asked if there was a willingness and readiness for college's online learning, William said: *"Yes, and we have done some work towards that. We have also talked to a particular group of people regarding this".* He further elaborated the plan:

> *Our thinking is that if we are going for eLearning we will start at higher level programmes. For example, master's degree. Even though we have a lot of students at certificate level I believe the student should also be ready for that. Otherwise it won't be very effective.*

Financially not ready for eLearning, priority is given for the already existing conventional teaching. In looking at colleges' readiness for eLearning, a question was asked if they were financially ready for an online venture. College 2 already had some form of eLearning in place with the use of Moodle as a platform for uploading assignments and giving feedback. On the other hand, college 1 was not yet ready financially. William explained: *"we are financially not ready to go into an online venture. The reason is priority. We have to work on what is present now but still it's in the pipeline right".* He further explained that it was because of priority, and they are focusing on bettering the present establishment before going into a new venture.

Stanley from College 1 was a little vague in responding to the question about their financial resources for online learning. His responded: *"Somehow we have to get right?".* He added: "*it's a need base no? If we need definitely I think we can take. We*

never expected we will grow to this level. 15 years back we never thought. So it happened like that"

Need of a well-established student support system for online learners. When asked if there was a well-established student support system in college, William from college 1 said*: "Yeah we do we have an IT engineer who gives technical support. He is available all the time during class hours"*. A point to note here is that it is technical support that is available at the computer lab when classes are in progress.

Shaya talked about the lack of support from the college and she attributes the high dropout rate to this. Shaya said:

> *Only when we have the block days we get any support. I would say we didn't get much support from most of the lecturers. I think we had a high drop rate in that one as well. 30 students started, from my office 7 people got sponsorship from NIE to do the course and I was the only one who completed it.*

In arguing about the reasons for the failure of the above-mentioned programme Shaya said:

> *I think they didn't get the support they needed. I think how we introduce should be good. Now it has a bad reputation that we wouldn't get the support needed and we would have to do it on our own. I think if we were to start a new course the introduction of the course and how it is started should be good. If we can show people a good picture of how online learning is when we start, then I think it will be good.*

Shaya also mentioned that the lecturers were not ready and well equipped to provide the necessary support to the students. This is attributed to the large number of students

each lecturer takes on board. Shaya explained: "*Lecturers are not ready. Also lecturers take too many students. I think lecturers should be able to give one to one support to their students when needed. So they have to limit their number of students".*

William also stated that the current faculty do not have the capacity or capability to provide eLearning. He said: "*At present if we look at them some of them don't have. Individually they might have some experience. But I believe there is no one at present who is trained for that".*

No learning platform in place. Currently there is no learning platform for online learning in place in college 1. When asked about the situation with online platforms, such as Moodle or Blackboard, Stanley replied*:*

> *Our Chairman, he thinks he wants to bring it actually. He always wants to bring new things. Not to implement actually but to learn something. He wants to bring in something he would test it first. Plus, lots of things he wants to do. Learning management systems at the moment we don't have any but we will. If we get a proposal, we will consider that. It's the next stage of learning.*

The college engages student in online learning through a university in Malaysia. Stanley explained: *"We have eLearning with the …. University. They have given to us. Through that one we are doing. We have nothing else. We didn't buy anything like that yet".* It is only the students in the Management studies department who have access to the online resources through this university in Malaysia.

> *Yes. Management students. Before everybody can use that. Now they have minimised the use. So all the students they can use that one. They can log into their ID and use them. Not only*

> *in their field but they can use everything. Not only business, medicine everything they can use.*

William confirmed that they do not have a learning platform in place at the moment but are developing a Moodle platform with the help of an internship student. William explained the current process in place:" *Moodle. We are developing Moodle with the help of an internship for a degree student. Currently we are managing some using google drive and share folder. We manage master's students with that"*

Shaya's opinion is that the college was not ready to offer online courses. Rather than doing online learning they depended on block mode learning, this could be due to the way the course was designed and also because there was no established learning platform available for them. Shaya clarified:

> *I don't think the college was ready when I took the course. We didn't depend on online modules rather we depended on block mode. Maybe because it wasn't designed for that. As a lecturer, we didn't have the facilities to upload and share materials online.*

The lack of a well-established learning platform forced them to use the more familiar Facebook instead. In the end, due to many issues it did not work. Shaya attributes the failure of the course to how the course was introduced and lack of planning and design. Shaya said:

> *We did block mode and teach. Fb [Facebook] was easier for us to communicate and share materials than Moodle. So, we used Fb more than Moodle. As a student and as well as a lecturer. But it slowly faded because there were many issues. I think how it was introduced was not good.*

Human resource capacity needed for eLearning. Both colleges state that they do not have the human resource capacity needed for online teaching. As discussed in the next section, a lot of the lecturers are working at the college part time. Stanley from college 1 said that the moment they do not have enough human resources but they are working on improving and addressing the problem once an eLearning system is implemented in the college. Stanley said*: "At the moment we don't have. Actually when we implement the new system we can. Since we don't have the system we don't use it".*

Lack of human resources has forced college 1 and other colleges and higher education institutes to employ part time lecturers and to give a full workload to the full-time lecturers. William explained the situation:

> *If they teach 30 hrs they would need time for preparation and so on. There will be so many assignments to mark exam papers to evaluate and so on. They have to prepare assignments and exam papers as well. So that's quite a lot of work. So with all that work it will be difficult. If you look at any private colleges, I don't think they can give the time. Even if you look at the National University they have also increased the number of hours. We don't get enough people so we can't get them to do only 15hrs.*

Another reason why lecturers' work is loaded and they cannot give extra time and effort for online teaching is the fact that there is a large number of certificate level students. For these students, lecturers would teach different subjects but for higher level students they need specialised lecturers. William explained this:

> *The other problem is in certificate level there are no specialised modules and we can't have lecturers teaching only specialised modules. For certificate students, the lecturer*

> *would teach different subjects but for degree level students the lecturers would only teach their specialised area subjects. We have a lot of certificate students so we can't manage it that way. So, with our schedules now they wouldn't have time.*

Lecturer readiness

Part time Lecturers not able to give time. Amina, a course coordinator in college 2 thinks that the college is ready to offer online learning but in her opinion the lecturers are not ready. When asked if the college is ready to offer online learning, she replied: "*I think college is ready. But those who are coming to study and those coming to teach should be ready too. That I am not sure".* She further added: *"Lecturers not really ready I think we have to make them ready. Even now all the lecturers are not familiar with Moodle. We have to make them ready".*

The lecturers are not ready to teach online not because they do not have the skills but because most of them are part-time lecturers and they do not make an extra effort to engage in online teaching. Amina explained:

> *Not because they don't have it [skills]. But I think because most of them are part time lecturers and for them I think it's not that important to know it. For example, they don't want to even make a small effort to learn it. I think that's the reason. Most of them have at least a Master's degree and I think they will know. They only need a little effort for example to open a discussion forum.*

According to Amina, at present the task of uploading materials and opening discussion forums are prepared by coordinators and it is because the lecturers do not want to spend time on these activities. Mainly because they are part-time lecturers, according to Amina: "*For example open a discussion forum or upload materials. These tasks are*

done by our coordinators here. I think they should know it and they should do it as lecturers". Amina added:

> *Actually they don't give time. for example, I personally upload the notes. I am coordinating the block mode courses. Most of the students are in outer islands and for them we have to give the notes on Moodle. We ask lecturers individually and we keep reminding them. But they are not able to do it. So we save it on a usb pen and then do it on our own. That's why I am saying that the lecturers don't really want to give the time. it's not because they don't know. I think they would need just a little effort to do it. And it wouldn't be difficult for them to do it because they are master's degree holders.*

Amina further elaborated in saying that part-time lecturers' commitment would be less than that of full lecturers. Amina:

> *I think part time lecturer's commitment would be less than that of the full-time lecturers. For example, because I am a lecturer from this college I do get ready for the lessons very much. But when I came as a part time lecturer I didn't give that much of importance or time to that.*

Her opinion is that they would not take it too seriously if they were part-time lecturers. Amina deliberated:

> *In my opinion, I think if they are part time lecturers, because it's a part time position they don't want to give that time and they are not taking it too seriously. And we can't force them to do it. When they don't do it we do it on our own and upload notes.*

College 2 organises sessions for lecturers to familiarise them with the use of Moodle but very few attend and the college cannot force them to come because they are part-time lecturers. Amina described: "*Yeah they are part time lecturers. We do a session to introduce them to Moodle and very few of them would turn up. We can't force them to come because they are part time".*

Shaya further explained the problems they face in the college with the part-time lecturers:

> *Yeah it is like that. We also face the same problem. Most are part time lecturers and they might have been teaching the same subject for a while so they don't have to prepare much for it. The only thing they do is done in class, just a lecture and then they are done. I think we need full time lecturers. I think we should design a good course and then try to market it. It's something I would like to see one day.*

In regards to lecturers not being able to give time for online learning, college 1 has a shortage of full-time lecturers as well. The limited full-time lecturers work on a full schedule because the college cannot afford to do otherwise. William said:"

> *It is because our fulltime lecturers teach a lot of hours weekly. It is not financially feasible for us to say that a lecturer would only teach 15 hrs a week. Usually it is 15-20hrs and if exceeds there will be quality issues and so on. They are written down rules. But practically we can't afford to do that. We need to teach about a thousand students and we would need a lot of lecturers for that. Our overheads will be very big if we do that right. Will the load they have now be the reason why they say they don't have time for online teaching is because of that.*

Lecturers' unwillingness to participate in online forums. Lecturers' unwillingness to participate in online forums could be due to the fact that they are part-time lecturers. Amina's opinion is that she would participate in such a forum but she does not expect part time lecturers to participate. In explaining such lack of commitment, she said:

> *I don't think that, say for example if we start something like that here in college 2, if I was the lecturer I will, but a part time lecturer who is coming from outside I think it is unexpected for them to give that kind of commitment yet.*

In probing further, when asked if they were paid for the extra time they give to participate, would they then participate? she said that if there was a person monitoring and moderating the forum then they might. Amina added: *"If we monitor it here from the college they might. We would definitely need a moderator. It's not because they don't know. I think they are just careless in doing it".*

As a course coordinator, Amina has organised some online forums in the college but it does not go as planned. She elaborated on how it worked at the college at present:

> *Here we do have some sort of online forums but they are not going the way it should be. For example, we have to beg the lecturers to give questions for the forums. Actually, the lecturer should be the one uploading the questions to the forum for discussions. But even last semester in a postgraduate course where there was a weekly online forum where they have to post questions for discussions. We had three lecturers for that but I as the coordinator have to call or message them and get the questions and upload it myself. The lecturer should be the one uploading it.*

Even after the coordinator uploads the materials there is very little or no participation from the lecturers. According to Amina it is mainly because they are part-time lecturers, but full time lecturers also do not participate much due to their heavy workload. Amina said: *"And we didn't get any input from the lecturer even after the coordinator has uploaded the question.* "When asked if it was the same with full lecturers, Amina replied:" Even *if they are not they don't do it. They don't give comments. But maybe for them it's because of their heavy workload (laughs)".*

Amina doesn't think that part-time lecturers lack of participation is due to their heavy workload. She said:

> *In my opinion, I don't think it's because of the heavy workload. For example, most of the part time lecturers are from education ministry or from MNU and they personally tell us that they have lots of free time. for example, our lecturers in this college can't go to another college to teach because we don't have that free time. we know they have the time because they are ready to take on 3-4 modules. I think some of them don't want to put an effort because it's something they are not familiar with.*

There is a general unwillingness from the lecturers in participating in structured eLearning platforms. They are well versed with smart phones but hesitate to use it as a learning device in class. Shaya has been trying to make lecturers use the smart phone and educational apps in class to no avail. Shaya said:

> *Even in classrooms it is a problem. All the lecturers are well versed with using smart phones but if we ask them to use it in the classroom teaching then it's a problem. I have been trying to train lecturers to use Padlet. They think it's a good tool and when I mentioned them to use it in the classroom then it's a*

> *problem. When I told them to make a lesson and use it in class then they became hesitant. Then they started seeing faults with the tool itself. They know that students are ahead of them in using these tools and they are worried that they might lose control of the teaching. They have this fear and we have to find a way to control that fear.*

As described by Shaya, there is an unwillingness to use learning technologies in the classroom. The culture of teacher-led pedagogy and the fear of the teacher losing control over the teaching is seen.

High lecturer turnover. Part time lecturers is an issue that was highlighted from the colleges in the study. Another problem was the high lecturer turnover. Stanley described how when a lecturer joins the college and starts teaching the lecturer does not want to share his/her notes and when he/she leaves the next one who takes his/her place has to start all over again. With the high turnover of lecturers this is an issue in the colleges. He explained:

> *Also learning materials, we are giving. For example, one lecturer is coming. I ask him to prepare the learning materials. I collect the materials. Because different lecturers they are having different thoughts they use to refer to different authors also. So I use to collect them. But some lecturers refuse to give their materials. They don't like to give. Because they say this is my work why should I have to give to other. So I have to convince them a lot. When a person comes they ask can I have the reading materials. So I am getting for them. There are two or three lecturers who have an issue. I convinced them and now after that they are giving also. So like that we are sharing the material.*

Williams confirmed what Stanley talked about regarding high turnover. He said: *"Difficult. Because the turnover is also very high the experienced person always leaves. Right"*

Summary

The analysis of the two questionnaires' data showed positive results for eLearning readiness in both the students and the lecturers. However, in further probing, from the interview data analysis, it showed that most students and the two institutions are not ready in many aspects for eLearning. Maldivian college students have access and connectivity needed for eLearning but the colleges do not have the full capacity, in regards to equipment, for eLearning. The students as well as the lecturers have technological skills required for online learning as seen from both the quantitative and qualitative results.

The students are not ready to participate in self-directed learning and there is a culture of procrastination which could be a hindrance for eLearning participation. Some of the students have full support from their families for eLearning but others do not, due to various reasons. Lack of awareness of what eLearning entails and lack of understanding, are some of the issues that they might face in not getting support from their families. The lecturers are not trained and are not very willing to participate in eLearning. This could be due to the fact that most of them are part-time lecturers. Both sets of data reveal that time management is an issue for the learners. From the qualitative data analysis, we can conclude that the learners and the institutes are not fully ready for eLearning. More details about the results will be presented in the discussions and conclusions chapter that follows.

Chapter Five

Discussions and Conclusion

"New technology is common, new thinking is rare".
Sir Peter Blake

This research study was conducted to explore Maldivian higher education students' and institutions' readiness for eLearning. The distribution of the islands of Maldives and its student population makes eLearning a priority in the country. There is limited research available in eLearning readiness and this study's aim was to make a contribution to the field by exploring eLearning readiness of students and institutes in a country such as Maldives where eLearning is increasingly becoming a necessity for higher education. The study engaged mixed methods research design to obtain a statistical overview of readiness and an in-depth understanding of pertinent issues related to eLearning readiness. The study sought answers two key questions. The first question is about personal, institutional and societal factors that relate to developing eLearning readiness in students and institutions in the Maldives. The second question is about Maldivian higher education students' and institutions' level of readiness for eLearning with respect to access and connectivity to technology, technical skills, and cognitive and social abilities. To explore answers for these two questions, the following subordinate questions were asked:

1. At what level of eLearning readiness are Maldivian students and institutions in terms of access and connectivity to technology?

2. At what level of eLearning readiness are Maldivian students in terms of technological skills and cognitive and social abilities?

3. In what ways do students' learning habits and styles affect eLearning readiness?

4. What ways do pedagogical cultures of institution relate to students' readiness for eLearning?

This chapter discusses the findings of the study and is arranged as follows. First, I discuss the findings derived from the quantitative questionnaires. This is divided in to two sections: (1) students' responses and (2) lecturers' responses. This is followed by the discussion of the findings derived from the qualitative data. In both sections, a summary of the respective findings is presented first, followed by the discussion related to the respective finding. In this discussion, I have attempted to connect the findings to related literature and also reflect on the findings based on my own experience and relevant theories. What follows next is a discussion on how the findings relate to the initial theoretical framework of the study. Finally, recommendations arising from this study that related to policy and practice, and for future research, are presented.

Discussions of the Quantitative Findings

Students' responses

As discussed in the previous chapter, the student survey questionnaire consisted of the following constructs: (1) student access, (2) technological skills, (3) study habits and skills, (4) lifestyle factors, (5) cognitive presence, (6) teaching presence and (7) social presence. These constructs have been discussed in detail in previous chapters. As stated earlier, these were the constructs selected to assess and understand if Maldivian higher education students are ready for eLearning.

For the purpose of this study, I considered a percentage score of 50-70% as moderate level of readiness for eLearning in the relevant construct category. A percentage score above 70% would be considered as a high level of readiness for eLearning n the respective construct category. A score below 50% in a construct category or item is considered as low level of readiness for eLearning. The percentage statistical indicator level for readiness as described above relate to the aggregate score of students within a construct category for participants of this study.

Access. The results from the questionnaires showed that students and the institutes have access to technology in the form of either smart phones, tablets, laptops or desktop computers. Students responded by discussing about the limited resources at the colleges and the slow speed of Wi-Fi connections at times. Students have connectivity to online either through data package, modem or Wi-Fi connections.

In this domain, over 70% of students had their own computers, reliable internet, and used emails. It is noteworthy that 96% of students in this study had access to computers or smart phones at home. The item that received a lowest score is use of mobile phones to access internet; 68% of the participant had used their mobile phones to obtain access to internet. This is likely due to the cost of obtaining access to internet on mobile phones.

Based on these results that relate to access, one could come to the judgment that Maldivian students do have high level of eLearning readiness in the domain of access. As Fathaigh (2002) argues, access to stable internet is a basic prerequisite of online learning. Furthermore, Greaves (2008) claims that access to technology off-campus, comfort of technology, reliability of technology, ability to logon frequently and software skills are important technological aspects of eLearning readiness. Akaslan

and Law (2011) developed a model in which the technical aspects of eLearning readiness are considered as hardware, software and stability of the internet. Some researchers have noted that low speed of internet and problems in using the system could result in students dropping out from the course (Mosa, Mahrin & Ibrrahim, 2016).

The high level of access to computers, smart phones and reliable internet is reflective of the reality in the country. Providing good communications for the population has for a long time been a national priority. With a relatively small population of 393,000 people (Maldives Census, 2014), by mid-2015 the country's total mobile subscriber base had increased to 700,000 (Ooredoo report,2015), with a rapidly expanding mobile broadband capability that includes 3G, 3G+ and 4G. Almost all schools and higher education institutions have internet access, and most higher education institutions provide internet access to students on campus.

Technological skills. Technological skills have been considered by researchers as an important determinant of eLearning readiness (Aydin &Tasci, 2005); Shraim & Khlaif (n.d.). A key finding of this study related to technological skills is that the students are well versed with technological applications especially social media applications. This is a precursor for technological skill readiness for eLearning. Research findings showed that the students as well as the lecturers have the technological requirements for eLearning. This was mainly achieved by using social media with minimal structured eLearning. Also results of this study show prior experience or exposure to online learning facilitates willingness to engage in eLearning. Use of social media such as Viber and Facebook for student-student and student-lecturer interactions was a key finding of the study.

Over 70% of the participants reported having awareness of computer hardware, ability to use computers and internet for communication, ability to use internet for research, and the experience of social networking. Therefore, it could be judged that students in this study had a high level of readiness in using computers and other related devices for eLearning. The reason for this could be that computer usage has been part of the primary and secondary curriculum of Maldivian school system for over the past ten years. Basic computer and connectivity skills are considered as essential by employers as well, motivating students to acquire these skills.

However, in contrast, only 24% of students had prior experience of online learning, and 42% had participated in online gaming networks. Thus, it becomes evident that even if students have technological skills, readiness to engage in online learning is at a low level of readiness. As mentioned, this result arises from the lack of experience in online learning. Most schools do have sufficient number of computers and connectivity; however, creation of online learning materials and delivery of online courses is minimal. The review of educational policy documents and those related to school curricula clearly showed the commitment and effort to provide computer related resources and broadband connectivity to schools. Yet, what became equally apparent is the lack of mention, or focus, or effort in using these resources and connectivity to generate online or eLearning. Development of eLearning materials and training of lecturers for eLearning delivery were minimal in such policy documents. The reality is that as in some parts of the world, blended learning at secondary school are yet to be considered in the Maldives. As a result, when students complete secondary school, they possess high level of technical skills, but low level of readiness for online learning. What become clearly apparent from this is the importance of early

intervention, both in primary and secondary schools, to generate eLearning readiness, if eLearning is to be made an integral component of higher education.

A significant observation related to technological skills readiness of Maldivian students is the relatively high level of readiness in this domain when compared to similar research that assessed these skills elsewhere. For example, Wallace & Clariana (2005) conducted an assessment of business students in the United States, and found that 64 percent of those students' test scores fell below 60 percent on technological skills related pre-instruction assessments.

As mentioned above, this high level of technological readiness could be attributed to the emphasis placed within the school system to teach such skills to students. In addition, another related factor could be the conformist cultural tendency, as discussed in relation to the Hofstede (2001) theory in Chapter Two. This cultural tendency means that parents, and students themselves, do ensure that they learn computer related skills. Lack of such skills is considered as an attribute of not being educated – placing a stigma of social and academic failure. For younger people, their presence on social media is seen as a requirement to fit in with the rest of the cohort in society.

In conclusion, the implication of these findings related to technological skills is that the education system needs to focus more on developing eLearning content, enhance lecturers' pedagogical ability to deliver eLearning, and create awareness among all stakeholders in the education section regarding the benefits of eLearning for Maldives. These efforts need to begin from primary to secondary schools, and into higher education.

Study habits and skills. Access, connectivity and skills are not enough for eLearning readiness. Attitudes and habits also play an important role in eLearning readiness. Independent and self-directedness in learning, together with time management, are also important factors for eLearning readiness (Ahmad & Majid, 2010). However, a key finding of this study is that such attributes related to study habits are the ones that students scored the lowest for eLearning readiness. This finding is also supported by the qualitative data.

In study habits and skills related constructs, students scored above 50% in readiness, except for two. Forty-five percent (45%) of students agreed that they 'do not need direct lectures to understand the learning materials', pointing to the majority of students' need to have direct lectures. This finding is indicative of students' lack of independent learning, which is essential for eLearning. Furthermore, 48% of the students said that they 'do assignments ahead of time', pointing to the fact that over 50% of students had a habit of procrastination. Interviews revealed that students rely on deadlines and often expect deadlines to be extended as well.

In effect, what these findings reveal is a culture of procrastination and lack of self-directedness in learning, which act as hindrances for eLearning readiness. The "laid back" and informal nature of island life, together with close knit families and friends, often means that deadlines could be extended and one could always rely on the understanding and well wishes of others. It could be these cultural realities or traits that carry themselves to the phenomenon of learning as well.

A second factor that could contribute to students' lack of self-directedness is the dominance of a teacher-led pedagogy which is inherent to all levels of schools in the country. From childhood, into institutions of higher education, the dominant

pedagogical method is teacher-centred teaching. As a result, students are cultured into a mindset that one must not take self-initiative, but wait until one is instructed what to do. Often students would feel it would be unwelcomed or disrespectful if one takes self-initiative and take a lead role in one's own learning, without the direction of the teacher. Thus, a cultural change in pedagogical practice is needed to enhance eLearning readiness.

Lifestyle factors. Among the lifestyle factors, all except the factors discussed below showed above 60% readiness, indicating a relatively high level of readiness. Those factors that showed low to moderate level of readiness related to lack of time to study and family support.

Lack of time becomes a key issue because most students in this study were studying and working at the same time, to be able to afford their studies and living expenses. Since most were from the outer islands and have come to the capital island for studies, they live in rental properties. Rent in the capital is very high and students can only afford to pay rent if they have an extra income.

Only 47% of the students agree that 'their schedule is flexible to make up for occasionally lost study time' and only half of the students in the study stated that they 'would have 10-20 hours per week for studying'. This finding means that 53% of the students had no flexibility to provide for lost time due to work and family commitments. And, 50% of the students are unable to secure 10 to 20 hours per week for academic matters, including time for attending lectures.

Family support for learning is also construed as a lifestyle factor. Studies show that family support is an integral aspect of eLearning readiness. Research conducted by Ju-

chun Chu (2010) regarding family support and internet self-efficacy and its influence on eLearning, indicates that emotional family support plays an important role in predicting the effect of eLearning success. Family encouragement and support enhances older adults in general and internet self-efficacy leads to better eLearning outcomes (Ju-chun Chu, 2010).

When asked whether friends and family would be supportive of the student taking an online course, a score of 54% answered affirmatively, illustrating moderate level of eLearning readiness in this construct. Given a culture that highly values education, what I had expected to see was a much higher level of support from family members for eLearning. Perhaps the reason for moderate level of support in this construct is due to lack of family members' experience and awareness of the benefits of eLearning. Furthermore, some students expressed a concern about online courses not being accepted by the authorities and employers – thus lack of social acceptance of eLearning could also be a reason why many students felt that their family and friends may also not be supportive of eLearning. The qualitative data also indicated that lack of family support for some students was due to lack of understanding regarding what eLearning entails and due to lack of confidence regarding the place of eLearning in the society.

Cognitive presence. All the components in the cognitive presence section of the student questionnaire scored above 50%. In my view this shows a minimal level of student readiness for cognitive interactions in eLearning. This minimal level of readiness for cognitive interactions appears contradictory to students' behaviour and skills since students in this study are highly interactive in social media platforms. Qualitative data gathered for the study paints a picture of participants using social

media for assignments and exams. Familiarity and user friendliness and the presence of it in their everyday life makes it easier for them to communicate using these social media for communication.

It is indeed puzzling that 50% of the students, many of them active on social media, show low level of readiness for academic discussions and interaction online. Further research is needed to explore the reason. For the moment, my assumption is that even if students are active on social media, they do so simply as an 'informal', or 'soft' form of interaction, discussing mundane academic matters. But, when eLearning is presented to them as a formal academic process that occurs online on a structured learning platform, it then becomes no longer a place that one can operate without risks and consequences. Culturally this could be an 'uncertainty avoidance' (Hofstede, 2001) characteristic in which people seek to avoid, ambiguous or risky situations. Students from such cultural settings would likely be risk averse in trying new ways of doing things.

Teaching presence. Teaching presence, in terms of the lecturer's role as instructional leader and facilitator, is crucial for most of the students in this study since they have grown up with teacher-led classes. They are used to a system that provided clear instructions from lecturers with regards to all aspects of learning. As can be seen from the student questionnaire (see appendix 6), the main focus of the teaching presence is about what students want the instructors/lecturers to do for them. Given this background of students, it is not surprising that teaching presence components scored above 65%, showing a high level of positive agreement in teaching presence.

Social presence. All components of social presence readiness scored between 50 and 70% indicating that students are moderately ready for the social participation in

eLearning. The lowest scorers were participants saying ‘they would feel comfortable conversing through the online medium’ with a score of 51% and participants claiming ‘they would feel comfortable disagreeing with other course participants online’ with a score of 55%. In my view this could be because Maldives is a small community where people know each other and they might be concerns of negative consequences such as being bullied in person or trolled online.

Concluding observations on student responses to questionnaire

The findings of the questionnaire have clearly indicated that students show high level of readiness in access, connectivity and technological skills. The likely reasons for these have been discussed as systemic effort by the education system to provide connectivity and technological skills, combined with a conforming culture that follows the directives of the system, moderate level of readiness was present in social, cognitive and teaching presence. The likely reasons for these have been discussed above as well, which relate to the influence of social media for social and cognitive presence, and teacher-centred learning for teaching presence.

The constructs that scored the lowest were on study habits and skills ‘I do not need direct lectures to understand materials’, which achieved the lowest readiness score of 45%. This is followed by item ‘My schedule is flexible to make up for occasionally lost study time or an unplanned important activity’ on lifestyle factors with a score of 47%. Third lowest item ‘When I have an important assignment, I get it done ahead of time’ is again in the study habits section with a score of 48% the fourth ‘I have 10-20 hours per week for studying’ and the fifth ‘I would feel comfortable conversing through the online medium’ items are in life style factors and social presence respectively with a respective score of 50% and 51%.

As can be clearly seen, the lowest level of readiness is evident in factors that relate to self-directed learning. The overarching influence of teacher-led pedagogical practices is the key reason for lack of self-directedness in learning. The cultural propensity for risk aversion, and the need for conformity to norms, and the unwillingness to try new ways of doing things, have been discussed as potential reasons for lack of self-initiative in learning. A clear picture that emerges is that, while students may have high level of readiness in many constructs, the catalytic domain that would ignite sustainable eLearning readiness would be to enhance personality and attitudinal factors such as self-directed learning.

It is also noteworthy that qualitative and quantitative data complement the findings in many respects, particularly regarding lack of self-directness in learning. It should also be noted that when quantitative and qualitative findings are compared, even though quantitative data in many constructs indicate overall readiness for eLearning, the students in this study are not ready yet, in general, based on the qualitative data findings. This is because when an in-depth understanding is achieved through qualitative data, one begins to see that students are not ready for eLearning pedagogically and in learning style and habits. Qualitative component of the study has also revealed why this is the case in the context of the Maldives. Interpretations of qualitative findings will be discussed in the section under ‘discussion of qualitative findings’.

Lecturers’ Responses

Lecturers’ readiness for eLearning was measured using a questionnaire in order to explore information about institutional readiness. The questionnaire was divided into seven parts and findings for each part are discussed briefly. As in the student

questionnaire, I have assumed that a score of 50%-70% on a respective construct would be considered as moderate level of readiness and a score above 70% as high level of readiness. A percentage score below 50% would be assumed as a low level of readiness.

Access. In the domain of access to technology, 100% of the lecturers had reported access to computers or other such devices. One hundred percent (100%) also reported access to a reliable connection and gain access to internet multiple times a week. In my view this is a remarkable finding for a developing country such as Maldives, a country that has only recently been promoted from 'least developed countries' to 'developing countries' category. This also shows the impact of the policies and efforts by the Government, and other stakeholders, in providing broadband access to all, particularly to the education sector. As discussed in Chapter One, the number of internet users in Maldives had increased from 2% in 2000 to 68%, an increase of 66% over the past fifteen years. In particular, the last five years have seen a rapid increase, increasing from 22% in 2010 to 68% in 2016. Furthermore, these findings clearly show that when it comes to infrastructure and networks (the hardware of eLearning), Maldives has the infrastructure that is required for eLearning.

Not only is the institutional hardware ready for eLearning, but also at a personal level, lecturers seem to be at a high level of readiness in terms of having access to their own devices that are required for eLearning. Ninety-eight percent (98%) reported that they own a technological device.

Unfortunately, while the results showed high level of readiness in terms of access, lecturers' pedagogical readiness appears discouragingly low. The item related to lecturers participating in an online course produced a score of 47%; i.e., the majority of

lecturers had not participated in an online course. When teaching modules/courses that include eLearning, the result was even more discouraging: only 24% reported as having engaged as a facilitator in eLearning. These findings are consistent with the issues of lack of pedagogical focus for ICT in education that I have referred to in Chapter One. The issue is a matter of policy and priority: while Government had invested in computers, technological devices, and hardware networks for connectivity, minimal policy focus has been placed on using these available resources to engage in eLearning.

What is needed now is a pedagogical orientation to use ICT in education with eLearning at its forefront. Some signs of positive action in this direction became apparent during this study. Among the two institutes that were included in the study, one has developed a Moodle platform for teaching purposes. Currently Moodle is primarily used as a platform to host module related resources and an avenue to communicate timetable and course assignment deadlines. However, some lecturers, did express an interest in using this platform for communicating with students, including having online discussions. This is an encouraging beginning for lecturers' pedagogical readiness for eLearning.

Teaching styles. This domain included eleven constructs and the results have been discussed earlier. What is noteworthy to mention here is that all the eleven components in this section scored above 50%, with only one of them scoring below 70%. This finding indicates that lecturers have a generally positive self-concept of having the facilitating skills for eLearning, such as (1) encouraging independence and creativity of students, (2) encouraging active learning and collaboration, (3) using strategies to accommodate differing learning needs of students. In particular, 95% had the self-

concept of a facilitator of learning. These positive self-proclaimed attributes of lecturers are ironically incongruent with what students, and leadership of colleges, have expressed about the abilities and practices of lecturers during interviews. The possible reasons for this contradiction in results would be further discussed later in the section related to qualitative data.

In addition, at this stage, I would like to note the point that at least the questionnaire results do show that lecturers believe that they have the right set of skills and abilities to engage in eLearning. This is a necessary and essential element to begin eLearning; in effect these beliefs of lecturers would be catalytic in launching eLearning in the Maldives. Thus, I would conclude that lecturers are attitudinally at a high level of readiness to engage in eLearning.

Among the items under teaching styles, the item that scored lowest is related lecturers' being able to provide flexibility for students' in dealing with change of due dates, absences and make up exams. Fifty-eight percent (58%) of the lecturers reported as providing such flexibility. The comparatively low score in this item could be due to the fact that there are guidelines set by the college regarding these issues.

Time management. Regarding time management, only 44% of lecturers reported that they could dedicate 4 to 6 hours a week for online teaching; indicating low level of readiness in time management. This finding is not surprising as most of the lecturers in these colleges are on part-time contractual basis, with a full-time work commitment elsewhere. Due to this reason, the lecturers reported that they would not be able to give extra time for online teaching.

This finding raises a pertinent question for these colleges, and Maldives in general, since many of the lecturers and students in Maldivian colleges are teaching/studying on a part-time basis. Can part-time lecturers provide the time and commitment to engage in a new form of learning such as eLearning? What would be the incentive for such lecturers to devote their out-of-college time on communicating with students and in preparing online material? Furthermore, how would the institutions pay for online/eLearning time when they are paid simply on the basis of hours worked? Would it be on a trust based system where lecturers simply report time spent on eLearning activities which would often happen asynchronously, without the ability for the institutions to audit the validity of time spent? These issues would have to be resolved to motivate part-time lecturers to engage in facilitating eLearning.

These questions are not only relevant to Maldives, and to the participating colleges in this study. In my view, this issue is global, one that the eLearning community need to address. Lecturers in many developing countries have to work two jobs to make ends meet. Among the reasons for increasing the number of part-time lecturers in countries such as Maldives are economic: private and some state institutions considering hiring of part-time and contract staff as an avenue to reduce costs. Altbach et. al (2012), after reviewing the situation in 28 countries, reported a global trend for increasing number of part-time lecturers on contract, and without tenure track, not only in developing countries but also in some developed countries for the same reasons. For example, Schuster and Finkelstein (as cited in Altbach et al., 2012) reported that in the United States, half of the new appointments to academic posts are either part-time or on a contract basis.

Coming back to the findings of this study, I would like to note that even though 67% lecturers reported that they are willing to log on and contribute to online discussions and interact with students online, this may not be the case (as seen in qualitative data). In my opinion this may be due to the existing heavy workload carried by both full-time and part-time lecturers. It could be seen from the interview data there is a shortage of human resources (lecturers and technical support staff) in these two colleges studied. This had compelled them to employ part-time lecturers (who cannot give full commitment due to other positions of work they hold) and to overload the work of the full-time employed lecturers.

Cognitive presence. Results for cognitive presence in the lecturer questionnaire indicated that the lecturers scored over 60% in all the components, revealing a moderate to high level of readiness in most constructs in this domain. For example, a high level of readiness was observed in the lecturers' belief that students should self-initiate exploration of course content. Lecturers also believe that students need to be independent leaners. What these findings reveal regarding lecturers' perspectives on what students should be able to, and do, in an online course can be collectively construed as a positive sign for eLearning readiness. It shows that in attitude, and in understanding of what is required for eLearning, lecturers are ready. It also clearly shows a willingness to engage in eLearning. Together with lecturers' own beliefs of their abilities, (as discussed above under teaching styles) this willingness provides a conducive platform for these institutions to begin eLearning. What is needed is will and effort to ignite the interest of lecturers to engage in eLearning.

Teaching presence. The domain of teaching presence included beliefs regarding key aspects of teaching that are essential for eLearning. The results related to teaching

presence revealed that all the components scored above 75%, indicating a high level of readiness in lecturers' understanding and attitude related to what is needed for teaching online. In fact, this is the domain that scored the highest in the strongly agree column (See table 4.15), which shows lecturers strong belief in these key elements of online teaching.

What does this finding mean for eLearning readiness in the colleges that participated in this study? In my view these findings are consistent with lecturers' beliefs, attitude, and interests that have been discussed under teaching style and cognitive presence. The conclusion that has to be drawn is that lecturers are ready cognitively, attitudinally and pedagogically for eLearning.

However, it should also be noted at this point that the interview data showed that lecturers are not very active on the platforms or in the social interactions. What this means is that lecturers are ready, but not necessarily practising eLearning. Cognitive and pedagogical readiness may not always translate into action, if there are impediments to taking such action. It calls for further research as to what challenges stand in front of lecturers in this regard.

Social presence. Social presence attempts to understand lecturers' comfort levels in undertaking social roles such as collaboration and communication online. Social presence also meant to assess lecturers' ability to relate to and work with students online. In this domain, all constructs scored above 60%, except one which scored 58% which is related to preference for face-to-face teaching. The story that these findings tell is that lecturers feel that they have the ability and interest to engage learners online, both socially and academically. These findings are also consistent with those of teaching style, cognitive presence and teaching presence.

Concluding observations on lecturer responses to questionnaire

The picture that emerged from the findings of the lecturers' questionnaire is that these lecturers are ready in terms of knowledge, attitude, and values related to eLearning. They are cognitively and pedagogically ready for eLearning. The only domain that revealed a slightly lower level of readiness is time management; a situation that arises from having to work two jobs – teaching and one other full-time job. Lecturers' willingness and interest is a significantly optimistic reality at least in the two colleges that participated in this study. Knowing the overall academic environment in Maldives, and based on my own experience as a lecturer, I would say that the findings of this study regarding lecturers are transferable to most colleges and the universities in Maldives. One of the most challenging tasks in eLearning is to prepare lecturers attitudinally, and in teaching skills, for eLearning. That task is complete with the lecturers being attitudinally ready for eTeaching – one of the key foundations for eLearning has been laid and is strong.

Discussions of the Qualitative Findings

In this section, I will be discussing the key themes that emerged from the analysis of qualitative data. The first theme relates to issues of accessibility, connectivity and skills. This will be followed by more abstract and conceptual themes that relate to eLearning readiness in the context of Maldives. These include the role of social media, the influence of culture, and the role of leadership in developing eLearning readiness.

Accessibility, connectivity and technological skills as prerequisites but not sufficient conditions

The results of this study indicate that students within the institutions selected do have adequate access to eLearning resources such as computers and other electronic devices. Ninety-six percent (96%) of students in the quantitative study, reported having convenient access to such devices. Similarly, qualitative data also supported this assertion of students. Regarding connectivity, 84% of students reported as having the necessary connectivity to undertake eLearning. Furthermore, both quantitative and qualitative data provide a strong case of students having the technical skills to undertake eLearning.

An important inference that arises from this study is that while the attributes related to accessibility, connectivity and technological skills are essential prerequisites to set the stage for eLearning, they do not in themselves contribute to sufficient eLearning readiness in students. As the qualitative data results show, access, connectivity and technical skills did not necessarily make students willing and able eLearners. In spite of having adequate readiness in these three tangible attributes, students reported not being ready at a personal level in terms of self-directedness and confidence in eLearning. For example, regarding lack of self-directedness Amina stated that: '*No independent learning here. In eLearning we have to do independent learning and we have to manage our own time. But face-to-face learning we have to come to class at a scheduled time. ELearning, it would be very flexible right with time and all' (*Amina, staff interviewee*).* Also, stating the reason for lack of confidence Hanna said: '*I think it's because we are used to face-to-face learning from a very young age. It is as we say spoon-fed. We are taught content-based and little effort is given to skill-based learning. I think that is the reason. I think it's also because it is a new thing they are hesitant and they don't have the confidence to do it'* (Hanna, student interviewee).

Thus, based on the results of this research one could argue that inner self or intangible attributes related to attitudes of willingness and self-directedness are essential for eLearning, together with the tangible attributes of access and connectivity.

The above assertion from this study supports the claim made by Piskurich (2003), who argued that technical skills are not the fundamental factor for readiness for eLearning. He also stated that, based on the review of literature, independence, autonomy or self-directedness in learning are important. Mason & Ronnie (2006) also argued that students' personal attributes such as autonomous learning, self-directed learning or independent learning are the key indicators of eLearning readiness.

A related observation to consider is that these intangible attributes are perhaps more important for eLearning readiness, yet more difficult to assess. Most studies that have attempted to assess eLearning readiness have considered obtaining survey based quantitative data to measure both tangible and intangible attributes of eLearning. On the other hand, this study, which has attempted to assess eLearning readiness by both quantitative and qualitative methods, points to the need to explore qualitative standards for measuring these inner attributes of self that impact eLearning readiness. This issue will be further discussed in detail under the heading implications of this study.

Growing influence of social media and its implications for eLearning

In the article on connectivism as a theory of learning, Duke, Harper and Johnston(n.d.) argue that social networks today have the influence of shaping the way we learn. Siemens (2005) and Downes (2007) argue that learning is the process of building networks of information, contacts, and resources that are applied to real problems. Connectivism is a reflection of our society that is changing rapidly. Social media plays

an important role in connecting individuals to learning resources and activities. A unique concept of connectivism is that how people learn, work and function is altered by the technology they use.

The findings of this study validate the above notion of the theory of connectivism. Just as the theory of connectivism argues that how students learn is shaped by social networks, the findings of this study affirmed that social media has shaped the learning styles and preferences of the students. How, when and what students want to learn seem affected by social media. The study's participants understanding and the limited use of eLearning were generated through Viber (as social communication applications such as WhatsApp which is used widely in Maldives) and Facebook.

Not only did social media shape preferences for learning activities, it has also created a form of psychological dependency on social media for the purposes of learning. In the college age population, in this study, there is a strong dependency on social media in everyday life, be it communicating with family, friends or learning and official purposes. As Wang, Lee and Hua (2014) described social media dependence as 'normal' usage habit that appears 'harmless' and the negative effects of social media tend to be accepted by those who use it. They argue that the usefulness of social media can tempt people to engage in excessive use, which in turn can modify their patterns of feeling and thought. The rational use of social media thus moves from habit toward irrational behaviour (Xu & Tan, 2012). The theory of rational addiction explains how individuals initially engage in repetitive behaviour to maximise usefulness of the media (Chen, 2011) and the irrational behavioural paradigm explains how overdeveloped habit gives rise to biased cognition and affect, and also, psychological dependence (Xu & Tan, (2012). Participants of this study did display such a tendency.

One may ask how the two issues discussed above (i.e., role of social media in shaping learning and students' dependency on social media as a medium of learning) relates to eLearning readiness. The relationship of these issues to eLearning is two-fold: both positive and negative. The positive aspect is that use of social media has facilitated the development of certain characteristics linked to 'digital natives'. These characteristics could be perceived as facilitating eLearning readiness. As Prensky (2001) describes, students today are native speakers of the digital language such as the computers, online games and the internet. Over the past 10 years, Maldivian students have access to smart phones and connectivity and it would be rare to find someone in the cohort age of this study who does not use a smart phone or social media applications. The familiarity, skills and practice of using social media could presumably facilitate eLearning readiness.

Furthermore, it must be noted that the findings show that lecturers, unknowing, have played a role in creating students' dependency for social media. The lecturers, in this study, use Viber and Facebook as a mode of communication with students: this is because lecturers themselves are familiar with and frequently used social media applications. The lecturers, as discussed in Chapter Four, are mostly part-time lecturers and they have limited time to engage in structured eLearning and are also not physically available for students on campus on a regular basis. They only come to college when they have to take a scheduled teaching session. This force them to find other means to support the students in their learning process. The students and sometimes the lecturer makes a Viber or Facebook group to communicate and give feedback to queries by students. The use of these social media comes from ease of access and familiarity.

The negative aspect of the dependency on social media is that students have formed an attitude and understanding of social media as avenues to communicate and socialize, not as platforms for eLearning. The findings of the study revealed students as being hesitant to explore eLearning platforms such as Moodle and Blackboard. They preferred the ease of use, informality, and perhaps the entertaining aspect of social media as the preferred methods of communicating with lecturers and classmates. Hence, ironically, familiarity and dependency on social media have presented impediments that need to be addressed in generating eLearning readiness. In the context of a setting such as Maldives, educators need to explore how to turn these impediments that arise from social media into positive forces to enhance eLearning readiness. I will discuss my views on how to do so under the implications of this study.

Need for societal acceptance and public awareness in promoting eLearning

Students' attitude towards eLearning was explored by asking students if they would prefer eLearning over face-to-face learning. The findings show that a high proportion of students (over 66%) preferred face-to-face learning. The lack of preference for eLearning could be considered puzzling in an environment in which students possess the necessary skills, connectivity and access to eLearning resources**.**

The qualitative data illustrated why students prefer eLearning: the key reason for students' preference towards face-to-face is due to lack of social acceptance towards eLearning. Students were hesitant to pursue eLearning due to the belief that learning achieved through online would be considered second class and would not be accepted by the qualification authority and employers.

Aslam describes a case of being rejected once by MQA. He is currently enrolled in two diploma courses while working full time. His reason for two diplomas concurrently is because of his experience of the rejection of an online course he had completed earlier. Aslam said:

> *I studied Btech as a Malaysian certificate and a branch in India. According to MQA standards, at that time, they gave approval when you study at a certain institute. When I finished my Certificate and came back the MQA guidelines have been reviewed and according to the new guidelines my certificate was not to their standard. So, that Diploma was just a waste'* (Aslam, student interviewee).

I believe the construct of social conformity could enlighten why opinions of others have such a strong influence on students' willingness to engage in eLearning. Deutsch and Gerrard (1955) identified two reasons why people conform: (1) yielding to group pressure to fit in, (2) conforming due to the fear of being rejected by the group. Conformity leads to changing of one's behaviour in matching the responses of others (Cialdini and Goldstein, 2004): conformity involves compliance to the views of others. The behaviour and judgment of other people provide information on the normal and expected behaviour in these circumstances and what is typically approved or disapproved. Based on magnetic resonance imaging results, there are also studies that show that conformity is based on mechanisms that comply with principles of reinforcement learning (Vasily et al., 2008). In the participants in this study reinforcement is in the form of employer approval, societal approval and the authorities' approval (example Maldivian Qualification Authority).

Based on the research findings and from experience, my opinion is that, societal and family support and acceptance of eLearning is pivotal for students eLearning

readiness. The reason for this is that among the lifestyle factors included in the study, family support emerged as the most predominant factor for being ready to embark on eLearning. Having reviewed the category of lifestyle, I believe, family support, that falls within broader social support, for eLearning is significant enough to be considered as a standalone factor in assessing eLearning readiness in the future.

Role of culture in shaping learning style

The findings of this study have demonstrated the significant impact of culture on eLearning readiness. Prior to data analysis, culture was not thought of as a defining factor in shaping eLearning readiness; but study habits, which is closely related to culture, was included as an indicator of eLearning readiness. Study habits is an indicator that has been widely used by researchers in assessing eLearning readiness (Aydin &Tasci, 2005). The findings of this study help to conceive the role of culture in shaping study habits, styles and attitude towards learning.

The analysis of qualitative data illustrate that participants of this study predominantly operate within a mind-set, and learning preferences, that fall within a teacher-centred paradigm of learning. Self-directed learning appears challenging for students because students are accustomed to directed learning by the teachers. The form of learning is also supported by parents who have socialized children into a pattern of studying that relied on direction from parents. Therefore, taking responsibility for oneself, and to be self-driven in learning, and to function in a learning environment that is chaotic and

unstructured from the top, is alien and difficult for students to understand, let alone function within.

In my assessment, a culture of conformity, based on a behavioural paradigm of learning, is the dominant pedagogical practice in the Maldives. School systems operate under a rigid national curriculum and teachers are entrusted with the job to ensure that students do well in centrally set examinations. The most valued of such examination is an international examination conducted as the terminal assessment of secondary schooling. Thus, the focus of learning has been on mastery of content and pedagogy driven by teacher-directedness.

Other attributes that are not entirely related to pedagogical practice were also found to be heavily influenced by culture. For example, participants referred to procrastination as a cultural norm that they have acquired in the process of growing up. Participants also displayed a certain level of hesitancy to make learning decisions on their own and to risk exploring new and creative learning strategies. Independence in learning and decision making had become challenges because in the small island based societies in Maldives, patterns of decision making in household and community level are often conducted by people in position of power.

What has clearly emerged from the findings is that eLearning readiness must not be conceptualised outside of cultural socialisation. While we would like adult learners to be self-directed and autonomous, research shows that individuals, including adults, are shaped by their society and culture, based one's own history and the social institutions (Merriam, 2001). Similarly, Rogers (2002) argues that culture can shape self-directed learning among adults and add to learner autonomy, if the culture is conducive to doing so. Candy (1991) also pointed to the influence of culture on shaping self-

directed learning by saying that learners are affected by culture, including family and prior education, in ways that limit and constrain their ability to be self-directed in learning.

The cultural influence on eLearning readiness in Maldives can also be explained using Hofstede's idea of individualism versus collectivism in cultural orientation, which refers to the degree to which people in a particular cultural setting prefer to act as individuals rather than as members of a group. Maldives has a culture that is historically and even now predominantly oriented towards collectivism that discourages self-directedness in learning.

The cultural attributes of Maldives points to that of a collective community as referred to in Hofstede's (2001) cultural dimension. Thus, students and lecturers appear reluctant to try new technologies for learning and teaching. Lecturers and students tend to conform to known practices in learning. Unlike in individualistic societies, Maldivian students are therefore averse to taking risks in their academic endeavours. In this cultural context, institutional drive is needed to get students and lecturers to explore innovative and new technologies such as eLearning.

The cultural dimension of power distance (Hofstede 2001) also seems to apply to the Maldivian context. Power distance is the dimension that relates to the extent to which members of society accept an uneven distribution of power (Hofstede, 2001). Maldivian society could be characterised as one with a wider power distance, i.e., hierarchical in nature. As Mumford and Licuanan (2004) argues such cultures are less likely to provide students and lecturers with autonomy and empowerment to explore new technologies. Thus, in the context of Maldives, eLearning would have to be made

a priority and driven from the top and concerted efforts made to empower students and lecturers to utilise eLearning.

Furthermore, the cultural dimension of uncertainty avoidance also seems to be part of the Maldivian cultural context. As Hofstede (2001) states, people in cultures that show tendency for uncertainty avoidance are less likely to take risks and tend to avoid ambiguity. In Maldivian academic institutions, students expect clarity and direction from lecturers. The pedagogical culture, encompassing all tiers of the education system, is teacher-driven. Thus, students expect clear specific and clear instructional guidelines to follow in learning matters. Such a pedagogical culture does not encourage ambiguous and risky situations.

Leadership (socio-political and institutional) and eLearning readiness

The study considered institutional readiness as an integral part of overall eLearning readiness. The reason for including institutions in the study is because of the belief that the institution is the pivotal node within the network of online learning. It is the node that provides the incentive for students to be enrolled in a particular institution to lean towards a particular qualification.

One of the two colleges in this study claims that they have begun the process of laying the ground work for online learning, but they are financially not equipped to begin eLearning at the time of the study. The second college was financially and technically ready for eLearning, but the utilisation of the learning platform was ineffective because lecturers and students were not using it for eLearning. Based on these findings, and based on my own experience with eLearning at the institutional level, my judgment is

that financial and technological resources in themselves will not prepare Maldivian institutions for eLearning.

What is scarce is not resources, but the national efficacy for eLearning. What I have termed as ‘national efficacy’ is the policy directive, willingness and confidence of the state to promote eLearning. Such a direction will come from vision and belief. A clear vision must be there to see the benefits of eLearning. In addition, a philosophical shift is required among the political and academic elite to embrace the connectivism philosophy of learning. Provision of leadership towards such a direction will have its own socio-political risks because for the general population, in particular parents, it would be difficult to accept an educational paradigm that is not build on student outcomes and structured/organised content. Therefore, in my view, the place for such leadership to occur is academic elite and leadership in the institutions. Without this paradigm shift in academia, financial and technical resources is unlikely to generate meaningful eLearning readiness in the context of Maldives.

In a conformist culture, such as the Maldives, societal readiness would come from educational leadership and the elite. The higher authorities concerned, such as the department or the ministry, need to create societal awareness by promoting the need and benefits of eLearning for higher education students.

Observed differences in results between quantitative and qualitative findings

In the domains of cognitive presence and social presence, differences were observed in the indicators of readiness achieved from Likert Scale questionnaire data and semi-structured interview data. For example, the analysis of Likert Scale data in cognitive presence showed high level of readiness of eLearning, but the analysis of data from

semi-structured interviews illustrated that eLearning readiness in this domain is low. Similarly, differences were observed in teaching presence data from lecturers' questionnaires and the interview data regarding lecturer readiness and willingness to participate online.

The reasons for these differences could be due to two forms of distortions attributed to Likert Scale: (1) acquiescence bias – respondents agreeing with the statement as presented, and (2) social desirability bias – respondents trying to portray themselves and their organisations in favourable light (Dimitrov, 2014). Since I had to seek the consent of the institutions, and also obtain potential respondents through the institution, it is likely that respondents may have a tendency for social desirability bias. Furthermore, as discussed above, students belong to a culture that promotes conformity and that too could lead to a social desirability bias. Furthermore, semi structured interviews also provided the opportunity to ask probing questions that allowed the researcher to critically examine students' attributes such as self-directedness in learning. This could play a role in creating a difference in the findings from these two instruments used in collecting data, one quantitative and the other qualitative.

For future research, it is important to take steps to address the issue of potential distortion. Inclusion of positively and negatively worded questions could help to reduce compliance bias (Dimitrov, 2014). However, as Dimitrov (2014) noted, reducing social desirability bias will be a challenge, particular in close knit communities such as small islands in the Maldives. An attempt to reduce this bias would be to meet the students in advance, explain various aspects of online learning, and encourage students to provide responses as authentically as possible.

ELearning Readiness through the Perspectives of Connectivism and Community of Inquiry

The purpose of this section is to determine students' readiness through the lens of the connectivistic framework. As discussed in Chapter Two, connectivism is a theoretical perspective that conceives learning as a process of building networks of information, contacts and resources that are applied to real problems. This perspective assumes that knowledge exist within nodes on networks and ubiquitous access to networked technologies (Siemens, 2005). From this perspective, technology is the channel that connects people to people, and people to digital artefacts and content. On these networks knowledge is available plentifully, learners have abundant access to these networks and the learner's role is to actively seek and apply knowledge when and where it is needed.

Certain conditions can be conceptualised as necessary for learners to function within a connectivistic learning paradigm – in other words, to function within the knowledge/learning networks. These conditions include access to technology, connectivity to networks, technological skills, and personal attributes of independence and self-directed learning.

A closely related construct to connectivism is Community of Inquiry that integrates three forms of presences to explain the effectiveness of eLearning. Connectivism and Community of Inquiry, the relationship between them, and how these theoretical perspectives and constructs fit within the conceptual framework of this study have been discussed in Chapter Two. For the purpose of this section, I suggest the view that the dynamic process of learning on online networks occurs within a setting of three forms (1) cognitive presence, (2) teaching presence, and (3) social presence.

***Readiness for cognitive presence*.** For a learner to be 'ready' for eLearning, the learner should be ready to engage in and create cognitive presence on the network. To do so the learners should have access to networks, and the learner ought to be literate and confident enough to use these to complete learning tasks (Siemens, 2005). The learners should also participate according to their learning needs, identify relevant knowledge and contribute on the networks to enhance their knowledge creation and retrieval of skills (Siemens, 2005).

The relevant question for this study with regard to cognitive presence is that if participants have the readiness for cognitive presence. In my assessment, apart from a few exceptions, most participants of this study do not possess readiness for cognitive presence, even if they have the access, connectivity and technological skills. This lack of readiness for cognitive presence arises because of inability to be self-directed and independent in learning. Students have been moulded by a culture of teacher-led and centrally controlled pedagogy to be pessimistic and suspicious of the type of pedagogical interaction promoted by connectivism. Connectivism promotes a pedagogy that tolerates fragmented bits and pieces of knowledge existing on a network that provides the onus on the learners to be active and lead their own meaning making process. Such an attitude to learning is alien to them, and one most are unwilling to embark on at this time.

Readiness for teaching presence. Teaching presence on the learning networks consist of the curricular design, support of an instructor/facilitator (not always) interactions that the learners generate, connections with existing and new knowledge resources (Siemens, 2005). In connectivistic pedagogy the teacher/facilitator is not solely responsible for defining, generating, or assigning content; lecturers in effect do not

have the power to decide content. The learners and lecturer collaborate to create the content of study and together undertake the process of re-creating content over the course of study. Assessment in connectivist pedagogy combines self-reflection with lecturer assessment (Siemens, 2005). Lecturers will also play the role of scaffolding by facilitating new learning.

In my judgment lecturers in this study do not possess readiness for teaching presence. Lecturers are unwilling to participate on learning platforms for several reasons. These include: (1) lack of technical skills, (2) unwillingness to devote the time and effort to engage in online learning, (3) lack of incentives and leadership from the institutions. The study's findings show that institutional priority to develop eLearning and incentives to train and provide support for lecturers are the most important aspects to generate lecturer readiness for teaching presence.

At a pedagogical level, teaching presence readiness will not occur meaningfully until lecturers move away from pedagogy based on behaviourism to either constructivism or connectivism. Unfortunately, almost all courses have been designed within the behavioural paradigm with learning outcomes, objectives, specific content, and with standard assessments. Lecturers' roles are predominantly perceived in terms of classroom teaching and marking of assignments. In such an environment, it will always be difficult for lecturers to change to taking on a new philosophy of learning such a connectivism. Connectivism embraces complexity, fragmentation, independent learning and "soft" forms of assessment. Such 'loosening up 'of the tightly controlled structure of instructional leadership in Maldivian institutions, in my view will not occur without political leadership to do so.

Readiness for social presence. Connectivism also demands learners to be ready to engage in social presence. This requires the learner to play his or her role in the creation of the network that requires liaising with others online. The learners have to sustain their social presence, be ready to reflect with others, and offer their comments and insights to facilitate learning on the networks. One could perceive this as the learner having the confidence and outgoing personality online, without the inhibition to engage with others through the technology. Each learner becomes a creator, contributor and receiver of information.

In my judgement, the participants in this study in general are students who have the social presence necessary for eLearning readiness. Participants' social presence is the result of active and widespread participation on social media. Most participants are already active on Facebook, Viber and Twitter, without much personal inhibition to communicate socially. The communal culture of Maldives also has contributed to this socialness through the process of socialisation. As CEO of one of the colleges said, "socialising online begins as social gossiping"; a common social pastime within the culture of small island nations.

Recommendations

Discussed below are recommendations that arise from the findings of this study. These recommendations are divided into two components: those that relate to policy and practice and those that relate to future research. This research was not only meant to contribute to theory, or generate an understanding of eLearning readiness in Maldives, but also to encourage and support the development of eLearning in the Maldives. As discussed in Chapter One, Maldives needs eLearning, and it is the sincere hope of the researcher that some of the recommendations would gain the attention of policy

makers and educational executives – leading to a positive and real change in eLearning in Maldives.

Recommendations for policy and practice

***ELearning leadership at the national level*.** This study has pointed to the need for the Government to take a lead role in developing and implementing a policy to increase use of eLearning. One of the hindrances noted by some participants is perceived reluctance of the Maldives Qualification Authority to accept and validate eLearning as an equally valuable form of learning when compared to traditional classroom based learning. It may be the case that MQA may already have a policy to validate and promote eLearning; yet the results of the study show students perceive that online or eLearning is not valued by MQA and other state authorities. Therefore, a recommendation arises from this study is to place a more concerted effort by the regulatory body, MQA, and the government to actively promote eLearning.

Role of institutional leadership. At the policy level, the institutions would have to take the leadership to promote eLearning. To do so, the institutions need to equally focus on pedagogical aspects as much as technical and hardware aspects. Investing in networks and developing software for eLearning will be fruitless without emphasis on getting students and lecturers ready for eLearning. In this regard, this study indicates the need to bring a cultural change – a change in the view – of the institution regarding teaching pedagogy. This change in view needs to consider learning within the framework of constructivism and connectivism. Lecturers need professional development activities to shift teaching towards student centeredness. Equally important is to ensure that instructional and content design (i.e., the design of courses) are geared for online learning, within the framework of connectivism. Students will respond naturally when

such changes are brought at the institutional level. In summary, a comprehensive set of changes ought to be implemented that focuses on networks, connectivity, curriculum and teaching. Maldives, being a small society with a history of conformist organisational culture, such institutional change has to be driven from the top.

Need for system wide change. One of the key findings of this study is that when students come to institutions of higher education, they are already moulded into a behaviouristic and outcome oriented learning system which is led by the lecturer. From childhood, students have become socialised into a model of learning in which they act upon the instruction of teachers and parents. Self-initiative and creativity in such a system is discouraged. Students become habitually reliable on the instructions of others to initiate and continue their own learning; such habitual behaviour will always be difficult to change within the 3 to 6 years that students spend in higher education institutions. Thus, if eLearning is to take root within higher education, self-directed learning must begin in primary school and continue into secondary.

In the case of Maldives, encouraging signs are evident in this direction. From 2015, a new school curriculum has been implemented. This new curriculum supports continuous assessment, provides more autonomy for teachers and requires students to become self-directed leaners. The vision of the new curriculum is ‘every child is prepared for life’ and under this vision it aims to develop students who are: (1) successful individuals who are motivated to explore and create knowledge, (2) confident and competent individuals who have a firm belief in Islam, with a strong sense of self and national identity. (3) responsible and productive contributors to their own family, local community and the global society’ (www.moe.gov.mv). Under this new initiative, lecturers are also receiving professional training to become student

centred lecturers. In my view, with such changes, the future of eLearning readiness in students is promising.

***Utilise social media as a launching pad for eLearning*.** One of the key findings of this study is that social media has to be the launching pad for students to enter and thrive in networked world of eLearning. Given the abundance of access, connectivity, and skills, students are already avid users of social media – even if it is not for serious learning purposes. The current narrative and practice of eLearning is to build learning management systems (LMS) such as Moodle platforms. Students who are used to the ease and infotainment value of social media seem reluctant to readily engage in these LMSes. It is, therefore, recommended that the institutions begin using existing social media applications for eLearning, and through them, get students to connect with and use LMS. Social media could be used in conjunction with more formal LMS in my view. Lecturers too are avid users of social media in Maldives, in general and they too can be easily encouraged to use social media apps for learning purpose. What is needed is a change in mind-set to use popular social media apps as learning platforms.

Recommendations for future research

***Methodological implications in researching eLearning readiness*.** My review of literature for this study revealed mostly quantitative studies conducted on eLearning, based on survey methodology. Most studies were conducted using quantitative survey method, utilising Likert scale questionnaire to ascertain eLearning readiness. Some examples of such studies are studies done by Aydin & Tasci (2005), Agboola (2006) and Saekow & Samson (2011). Details of these studies have been provided in Chapter Two, literature review.

When I began this study, I was somewhat apprehensive in introducing a qualitative component for this study. However, as I contemplated my purpose for doing the study, I became increasingly convinced that without in-depth understanding of readiness related issues, it would be difficult to bring real change. I asked myself: "if students are not ready, I would need to know why, and how I can help them to become ready".

Having completed the study, I am more convinced that I made the right decision to conduct a mixed methods research, one that includes a qualitative component. Today I believe that quantitative method alone is inadequate to develop a comprehensive understanding of eLearning readiness in a given societal or institutional setting.

Further in-depth research to understand lecturers' efficacy for eLearning. One of the findings of this study is that lecturers' overall readiness for eLearning is low when compared to students. Quantitative data showed lecturers also having access, connectivity and technical skills for learning. What is noteworthy is that based on the opinion of senior management staff of the institutions, lecturers' willingness to participate in eLearning is significantly low. It is unclear why lecturers' efficacy for eLearning is low from the lecturers' point of view, since this study did not directly interview lecturers. To achieve eLearning readiness within the higher education system, lecturers' efficacy for eLearning must be understood, and if low, measures taken to improve it. Therefore, I would suggest further research in the context of Maldives that focuses on lecturers' readiness for eLearning. Such a research should obtain in depth qualitative data from lecturers through interviews and focus group sessions. Data from students regarding their perceptions of lecturers' readiness for eLearning would also enhance the breath of data and help to triangulate data from the study.

Conduct additional studies to develop a broader understanding of eLearning in the national context. One of the limitations of this study is the limited scope of it. Data for this study was obtained from students and staff of two institutions of higher education in the capital island of Maldives, Male'. To obtain a broader understanding of eLearning readiness across the country, a more representative study, which include students from all the atolls, is required. In particular, given the geographical spread, and differences in educational and economic resources available in various parts of the country, the results of studies conducted elsewhere in the country may show different outcomes. Therefore, further research on eLearning readiness in other parts of the country is recommended.

One other need for future research is to understand why lecturers are not engaged practically in eLearning, while they show a high level of readiness cognitively, pedagogically and socially. An in-depth qualitative study, either based on case study or action research design, in my view would be useful to understand the challenges faced by lecturers to take initiative and continue eLearning in Maldives. It is not the lack of access, connectivity, infrastructure, knowledge, attitude, or interest that stop them from teaching via eLearning, or even, blended learning. It is something unknown, something that we need to find out.

Research on personality traits and eLearning readiness. This study has shown the importance of developing a more in-depth understanding of students' personality factors in relation to eLearning readiness; personal attributes such as self-directedness and independence in learning clearly play a significant role in eLearning readiness. In effect, the study has pointed to the need to further study how personality traits relate to eLearning readiness. Studies have shown that personality traits do play a role in

determining the learning styles of students (Ibrahimoglu, et al., 2013). Personality traits include inborn temperaments and features arising in different situations and a combination of the characteristics of a person (Phares, 1991). Also, personality traits are not only inborn but these traits are also a product of culture and socialisation of individuals (McAdams & Pals, 2006).

Personality traits affects learning. For example, those with a high extraversion personality trait is said to seek out environments with continuous stimuli and are talkative, sociable, active, friendly (Ibrahimoglu, et. al., 2013). Those with high neurotic personality traits show intense emotional reactions and could be easily worried, anxious, shy, and nervous when engaging in learning activities. These are just few examples of how personality traits affect learning. In addition, it is noted that relationship between personality and other factors such as attention and levels of memory has been discussed by researchers (Ibrahimoglu, et al., 2013).

Therefore, an implication of this study is the identification of the need to broaden the research agenda to develop an understanding of how personality traits relate to eLearning readiness. Further research could, for example, consider the relationship of personality traits of introverts and extraverts to eLearning readiness. In addition, research also needs to be undertaken regarding how students with learning challenges (e.g. special needs) can be prepared for eLearning. Other related research could include the role of critical thinking, problem solving, and creativity in developing eLearning readiness. In summary, what is called for is a research agenda that widens the understanding of how personal attributes and learning traits relate to, and the roles such traits can play, in developing eLearning readiness.

Conclusion

This study embarked with the purpose of exploring students and institutional readiness of eLearning in Maldives. It explored personal, institutional and societal factors that relate to developing eLearning readiness. Furthermore, based on the results, the study attempted to assess the level of eLearning readiness in several relevant areas. The design of the study was mixed methods and data was collected from students and lecturers in two colleges in the Maldives.

The findings of the study do show that Maldivian students and lecturers have high levels of access to technological devices. The results also indicate high level of readiness in connectivity, for both students and lecturers. Technological readiness, in terms of skills, were also assessed; students and lecturers showed high level of readiness in this domain as well. Furthermore, quantitative data revealed moderate to high level readiness among lecturers in teaching style, cognitive presence, and social presence. In essence, lecturers were ready for eLearning, yet they had not embarked practically teaching using eLearning. The reasons for this has been contemplated in the discussion above and a recommendation is made to conduct further research to explore the reasons.

However, based on both qualitative and quantitative data, it became apparent that students are not yet ready in terms of life-style and learning attributes. Self-directedness in learning is lacking. The ability to take initiative is lacking as well. In general, students are not accustomed to being independent learners, which are personal characteristics that are essential for eLearning.

The contributing factors for lack of these characteristics or attributes seem to be related to the dominant other-directed pedagogy within the entire education system. Parents, and society in general, also seem to discourage independent learning. Several cultural

attributes may have contributed to lack of self-initiative in learning. Such cultural influences have been explored in the discussion above, and potential theoretical underpinnings have been highlighted in the review of literature. Finally, recommendations have been offered at national and institutional level to shift towards a pedagogical attitude that would be more conducive for eLearning.

One other impediment to eLearning readiness that arose from the study is time constraints on the part of lecturers to engage in eLearning. In effect, eLearning is not any less, or perhaps more, time consuming than traditional face-to-face teaching. Most of the lecturers in this study are part-time lecturers. Part-time lecturers with another full time or part-time work commitment, are unable to provide time to engage in online activities and give the support students need. Recommendations with regard to addressing this issue, and further research on how to overcome this challenge have been discussed as well.

Maldives tertiary education is in early stages, with two national universities (Maldives National University and Islamic University of Maldives) and several private colleges. The institutes in this study are typical of private colleges in Maldives. Based on the findings from the institutes selected for this study, one could assume the existence of institutional readiness, in terms of providing the leadership to begin and sustain eLearning. The results of this study show that lack of resources is not necessarily the key constraining factor to begin eLearning. Knowledge, awareness, and interest of the lecturers are also not constraining factors; in fact, lecturers are keen to begin and this interest could be conceived as a facilitating factor.

Lack of students' self-directedness is clearly a limiting factor for eLearning, but it could be overcome with effort since students have the skills, access and connectivity.

What they lack is endorsement and support – more like permission – to become risk taking, self-directed, curious, and critical learners. So, what the country needs is leadership, policy, and willingness to push forward an agenda for incorporating eLearning into the entire education system – from primary, secondary to higher education. Without eLearning, or at least with the use of blended learning in the school system, it is unlikely that eLearning could become a reality in Maldivian higher education.

What will bring such leadership and policy change? From the conceptual framework of the study, what emerges is that policy leadership would need a paradigm shift in what they consider as useful learning. Historically, and up until now, the Maldivian education system operates on a behavioural approach to learning. It is a system that values standardised assessment and measurable outcomes of learning. The focus of secondary school has been to ensure that students obtain high academic marks in an internationally developed and prescriptive curriculum, i.e. British GCSE examinations. This mindset is contrary to the paradigm of connectivism, in which learners have certain level of control and learning occurs in a global and digital network in which curriculum is no longer prescriptive. Cultural factors that act as hurdles for change in perspective towards connectivism has been discussed in this Chapter. A model for checking eLearning readiness is illustrated in Table 5, below.

Table 5: A model for eLearning readiness

	Student Readiness (SR) Institutional Readiness (IR) Facilitator Readiness (FR) Societal Readiness (SCR) National Readiness (NR)
Access	. Access to devices such as desktop computers, laptops, tablets, Smartphones (SR) (FR) (IR) . Reliable online connectivity through Wi-Fi, broadband etc. (SR) (FR) (IR) (SCR) (NR) . Use of social media for eLearning (SR) (FR) (IR)
Technological skills	. Technological skills needed for online searching, uploading downloading files, online collaboration skills (SR) (FR)
Study habits and skills	. Taking Initiative in learning (SR) . Independent and self-directed learning (SR) . Encourage and implement independent and self-directed learning (FR) (IR) (NR)
Lifestyle factors	. Support from family, friends (SR) (SCR) . Create eLearning awareness (NR) (SCR) (IR)
Cognitive presence	. Ability to converse in an online environment in constructing meaning of learning content (SR) (FR)
Teaching Presence	. Instructional design of courses (FR) . Guiding students (FR) . Giving feedback to student queries and discussions (FR)
Social Presence	. Presenting and projecting oneself in an online learning environment (SR) . Presenting and building trust in an online teaching/learning environment (FR)
Teaching Styles	. Student -cantered teaching (FR) (IR) . encourage independence and creativity in students . encourage active learning and collaboration . Facilitating and guiding rather than didactic teaching . use strategies to accommodate different learning needs of students
Infrastructure	. Computer infrastructure such as computer labs with devices (IR) . Reliable Wi-Fi or online connectivity (IR) . VLE such as Moodle or Blackboard Learn (IR)
Human resources	. Availability of facilitators willing to teach online (IR) (FR) . Train technical and student support staff (NR) (IR) (FR)

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Appendices

Appendix 1: Ethics approval letter from Brunel University London

Head of School of Sport & Education
Professor Ian Rivers

Brunel UNIVERSITY LONDON

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Fathimath Thaufeega
24 Meon Road
London
W3 8AN

27th January 2014

Dear Fathimath

RE17-13 Student and institutional readiness for e-Learning

I am writing to confirm the Research Ethics Committee of the School of Sport and Education received your application connected to the above mentioned research study. Your application has been independently reviewed to ensure it complies with the University/School Research Ethics requirements and guidelines.

The Chair, acting under delegated authority, is satisfied with the decision reached by the independent reviewers and is pleased to confirm there is no objection on ethical grounds to grant ethics approval to the proposed study.

Any changes to the protocol contained within your application and any unforeseen ethical issues which arise during the conduct of your study must be notified to the Research Ethics Committee for review.

On behalf of the Research Ethics Committee for the School of Sport and Education, I wish you every success with your study.

Yours sincerely

pp Dr Richard J Godfrey
Chair of Research Ethics Committee
School Of Sport and Education

The Queen's Anniversary Prizes
2011

Appendix 2: Letter from Supervisor to the two Colleges

Head of School of Sport and Education
Professor Susan Capel

Brunel UNIVERSITY LONDON

Halsbury Building,
Brunel University, Uxbridge,
Middlesex, UB8 3PH, UK
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To whom it may concern

January 15th, 2013

Re: Mrs Fathimath Thaufega, A study of individual and institutional readiness for e-learning

I can confirm that Mrs Fathimath Thaufega is a bona fide doctoral student with us at the School of Sport and Education, Brunel University London and is engaged at the start of her second year of doctoral research into a study of individual and institutional readiness for e-learning in the Maldives.

Fathimath is now undertaking collection of her empirical data and has begun the task of testing and trialling her questionnaire approach to data collection. During the course of this academic year she will complete these tasks and begin to collect the full data for her doctoral research. It is of enormous importance that she has the opportunity to collect this data and experience peer review on her approaches and methods.

I very much hope that you are willing to help her, and that she has the opportunity to gain from the presentation of this initial part of her study in order to help complete her work.

Yours sincerely,

Professor Michael Watts
Professor of Education
Brunel University, London

Appendix 3: College 1. Letter of Approval for Research

بسم الله الرحمن الرحيم

10 April 2014

Dear Ms. Fathimath Thaufeega,

Sub: No Objection Letter

I am writing in reference to your request to conduct research for your doctoral studies, at Brunel University, involving our students. The college has no objections and would assist you in filling out questionnaires and helping you with conducting interviews.

If further assistance is required, regarding this, it would be a pleasure to offer help.

We take this opportunity to wish you success in your doctoral studies.

Yours Sincerely,

Note: The letterhead and signature deleted for anonymity

Appendix 4: College 2. Letter of Approval for Research

بسم الله الرحمن الرحيم

9th April 2014

Dear Fathimath Thaufeega,

I refer to your request to engage students from this college in completing a questionnaire and providing interviews for the purpose of data collection for your doctoral research. I understand that you are studying for your doctorate at the School of Sports and Education, Brunel University London, focusing your research on individual and institutional readiness for e-learning in the Maldives.

I would like to inform you that our college has no objection to our students being involved in your study, in completing questionnaires and in providing interviews. Furthermore, we would be pleased to assist you in your research, where possible.

I wish you success in your doctoral studies.

Yours sincerely,

Note: The letterhead and signature deleted for anonymity

Appendix 5: Letter to all participants

To all participants:

I am a PhD research student at Brunel University, London. My supervisor, Prof Mike Watts and I are conducting research on student and institutional readiness for online learning in the Maldives.

Since online learning is being widely used in colleges and universities around the world and because of our geographical formation, it is proposed as an effective method of learning for our Maldivian students. Online learning would enable students to engage in higher studies while having other responsibilities such as work and family commitments. It would also help students to study in a convenient location instead of having to travel to Male' or any other island where there is a university/college campus.

In this study, I intend to explore Student and Institutional readiness for online learning by measuring Student Access, Technology Skills, Lifestyle Factors and Study Habits and Skills. I would also be measuring readiness by using the Community of Inquiry framework measurements with Social Presence, Cognitive Presence and Teaching Presence.

The data collected would be used in my doctoral thesis. The research has been fully approved by the Brunel University London's Research Ethics Committee. The data collected will be kept confidential and if published would be done anonymously.

I would very much appreciate your participation in filling out a survey questionnaire.

For further clarification or query please email me at Fathimath.Thaufeega@brunel.ac.uk.

Thank you

FathimathThaufeega

Appendix 6: Student Questionnaire

To all participants:

I am a PhD research student at Brunel University, London. I am conducting research on student and institutional readiness for online learning in the Maldives.

Since online learning is being widely used in colleges and universities around the world and because of our geographical formation, it is proposed as an effective method of learning for our Maldivian students. Online learning would enable students to engage in higher studies while having other responsibilities such as work and family commitments. It would also help students to study in a convenient location be it their own island or island they reside in instead of having to travel to the capital island or to an island where there is a college campus.

In this study, I intend to measure Student and Institutional readiness for online learning by measuring Student Access, Technology Skills, Lifestyle Factors and Study Habits and Skills. I would also be measuring readiness by using the Community of Inquiry framework measurements with Social Presence, Cognitive Presence and Teaching Presence.

I would very much appreciate your participation in filling out a survey questionnaire. The data collected will be kept confidential and if published would be done anonymously.

Thank you

Fathimath Thaufeega

QUESTIONNAIRE

STUDENT READINESS FOR ONLINE LEARNING

Please fill in the following information

Gender: Male ☐ Female ☑

Age : 18-24 ☐

25-29 ☐

30-39 ☑

40-49 ☐

Above 50 ☐

Education level completed:

Name of programme enrolled:

Year in programme:

Full-Time Studies: ☑ Part-time Studies: ☐

Working full time: ☐ Working part-time: ☐

STUDENT ACCESS

Please answer the following questions with a Yes or No answer.

#	Questions/Statements	Yes	No
1	I own a computer/laptop/smart phone		
2	I have convenient access to a computer/laptop/smart phone at home		
3	I have convenient access to a computer/laptop/smart phone at college/workplace		
4	I have access to a reliable internet connection		
5	I can gain access to internet multiple times a week		
6	I have my own email address		
7	I use my mobile phone to access the internet		

TECHNOLOGY SKILLS

Note: Some of the statements below may appear trivial, given that most participants are computer literate. However, for the purpose of the study it is important to assess basic technological skills. All the answers are appreciated.

Please choose the option that best describes you for each question/statement.

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

#	Questions/Statements	1	2	3	4	5
1	I know the basic functions of computer hardware (CPU and monitor) and its peripherals like the printer, speaker, keyboard, mouse etc.					
2	I know how to save/open documents to/from a hard disk or other removable storage device					
3	I know how to open/send email with file attachments					
4	I know how to log on to an Internet Service Provider (ISP)					
5	I know how to navigate web pages (go to next, or previous page)					
6	I know how to download files using browsers (Internet Explorer, Firefox, etc.)					
7	I know how to access an online library or database					
8	I have previously joined online discussions/forums					
9	I know what PDF files are and I can download and view them					
10	I am familiar with word processing and can use it comfortably					
11	I am able to have several applications opened at the same time and move easily in between them					
12	I know how to use spreadsheet applications (e.g. Excel)					
13	I have attended seminars/workshops related to online learning activities					
14	I use/have used social networking (e.g. Facebook, Twitter, etc.)					
15	I participate in online gaming networks					

STUDY HABITS AND SKILLS

Please choose the option that best describes you for each question/statement.

1= Never

2 = Seldom (very few times)

3 = About half of the time (about 50% of the time)

4 = Usually (most of the time)

5 = Always

#	Questions/Statements	1	2	3	4	5
1	When I have an important assignment, I get it done ahead of time					
2	I prefer to work alone					
3	I prefer to figure out instructions for assignments by myself					
4	As a learner, I am highly independent					
5	I am able to refrain from distractions while working or studying					
6	I am able to stay to task while working or studying					
7	When asked to learn new technologies, I do not put it off or avoid it					
8	I can analyse class materials					
9	I can formulate opinions on what I have learned					
10	I am determined to stick to studies despite challenging situations					
11	I do not need direct lectures to understand materials					
12	I am able to express my thoughts and ideas in writing					
13	I would describe myself as a self-starter					
14	I am able to communicate effectively with others using online technology					
15	I take responsibility for my own learning					
16	Taking responsibility for staying in contact with my instructor would be easy for me					

LIFESTYLE FACTORS

Please choose the option that best describes you for each question/statement.

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 =Strongly Agree

#	Questions/Statements	1	2	3	4	5
1	I have 10-20 hours per week for studying					
2	My schedule is flexible to make up for occasionally lost study time or an unplanned important activity.					
3	I have a quiet and personal space for studying that is free from distractions					
4	At home, my internet connection ties up the phone and cause inconvenience to others					
5	I have family obligations that may affect my studies					
6	I have work obligations that may affect my studies					
7	My friends and family would be supportive of me taking an online course					
8	I would have support from friends and family when faced with difficult situations.					

COGNITIVE PRESENCE

Please choose the option that best describes you for each question/statement.

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

#	Questions/Statements	1	2	3	4	5
1	When participating in an online course I would feel motivated to explore content related questions.					
2	I would be able to utilize a variety of information sources to explore problems posed in an online course.					
3	Brainstorming with other online participants would help me resolve content related questions.					

4	*Online discussions would be valuable in helping me appreciate different perspectives of course content.*					
5	*Learning activities in an online course would help me construct explanations/solutions.*					
6	*Reflection on course content would help me understand fundamental concepts in an online class.*					
7	*Reflection on course discussions would help me understand fundamental concepts in an online class.*					
8	I can describe ways to test the knowledge created in an online course.					
9	I can describe ways to apply the knowledge created in online course					
10	When participating in an online course I can develop solutions to course problems that can be applied in practice.					
11	I would have difficulty in applying the knowledge created in an online course to my work.					
12	I would have difficulty in applying the knowledge created in an online course to other non-class related activities.					

TEACHING PRESENCE

Please choose the option that best describes you for each question/statement.

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

#	Questions/Statements	1	2	3	4	5
1	I believe the instructor should clearly communicate important course topics in an online course.					
2	I believe the instructor should clearly communicate important course goals in an online course.					
3	I believe in an online course, the instructor should provide clear instructions on how to participate in course learning activities.					
4	I believe in an online course, the instructor should clearly communicate important due dates/time frames for learning activities.					
5	The instructor should help in identifying areas of agreement and disagreement on course topics that would help me to learn.					
6	The instructor should help in guiding the class towards understanding course topics in a way that would help me clarify my thinking.					

7	The instructor should help to keep course participants engaged and participating in productive dialogue.					
8	The instructor should help keep the course participants on task in a way that would help me to learn.					
9	The instructor should help to focus discussion on relevant issues in a way that would help me to learn.					
10	The instructor should provide feedback that would help me understand my strengths and weaknesses.					
11	The instructor should provide feedback in a timely fashion.					

SOCIAL PRESENCE

Please choose the option that best describes you for each question/statement.

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

#	**Questions/Statements**	**1**	**2**	**3**	**4**	**5**
1	Getting to know other course participants online would give me a sense of belonging in the course.					
2	I would be able to form distinct impressions of some course participants through online communication.					
3	Online or web-based communication is an excellent medium for social interaction.					
4	I value face to face over online learning					
5	I would feel comfortable conversing through the online medium.					
6	I would feel comfortable participating in online course discussions.					
7	I would feel comfortable interacting online with other course participants.					
8	I would feel comfortable disagreeing with other course participants online while still maintaining a sense of trust.					
9	I feel that my point of view would be acknowledged by other course participants online.					
10	Online discussions would help me to develop a sense of collaboration.					

Thank you for taking time to participate in the study.

Thank you

Appendix 7: Lecturer Survey Questionnaire

To all participants:

I am a PhD research student at Brunel University, London. My supervisor, Prof Mike Watts and I are conducting research on student and institutional readiness for online learning in the Maldives.

Since online learning is being widely used in colleges and universities around the world and because of our geographical formation, it is proposed as an effective method of learning for our Maldivian students. Online learning would enable students to engage in higher studies while having other responsibilities such as work and family commitments. It would also help students to study in a convenient location instead of having to travel to Male' or any other island where there is a university/college campus.

In this study, I intend to explore Student and Institutional readiness for online learning by measuring Student Access, Technology Skills, Lifestyle Factors and Study Habits and Skills. I would also be measuring readiness by using the Community of Inquiry framework measurements with Social Presence, Cognitive Presence and Teaching Presence.

The data collected would be used in my doctoral thesis. The research has been fully approved by the Brunel University London's Research Ethics Committee. The data collected will be kept confidential and if published would be done anonymously.

I would very much appreciate your participation in filling out a survey questionnaire. For further clarification or query please email me at Fathimath.Thaufeega@brunel.ac.uk.

Thank you

FathimathThaufeega

LECTURER QUESTIONNAIRE

LECTURER READINESS FOR ONLINE TEACHING

Please fill in the following information

Gender: Male ☐ Female ☐

Age: ☐

Education level: Masters

Department/Faculty: English

Course(s) teaching: Secondary

Country of origin: Maldives

#	Questions/Statements	Yes	No
1	I have participated on online courses as a learner		
2	I have participated on online courses as a facilitator/instructor/moderator		
3	I own a computer/laptop		
4	I have access to a computer/laptop		
5	I have access to a reliable internet connection		
6	I can gain access to internet multiple times a week		

TEACHING STYLES

Please choose <u>one</u> of the following options for each statement/question.
1= Never
2 = Seldom (very few times)
3 = About half of the time (about 50% of the time)
4 = Usually (most of the time)
5 = Always

#	Questions	1	2	3	4	5
1	I use discussions as a teaching strategy for the subjects I teach					
2	I encourage independence and creativity from my student					
3	I facilitate and monitor appropriate interaction among students					
4	As a teacher, I support student-centered learning					
5	I am flexible in dealing with students' needs (due dates, absences, make-up exams)					
6	Critical thinking and problem solving are important skills for my students					
7	I use strategies to encourage active learning, interaction, participation and collaboration among students					
8	I provide timely constructive feedback to students about assignments					
9	I use appropriate strategies designed to accommodate the varied talents and skills of my students					
10	As a teacher I view myself as a facilitator					
11	My teaching goals and methods address a variety of student learning styles					

Please choose <u>one</u> of the following options for each statement/question.
1= Never
2 = Seldom (very few times)
3 = About half of the time (about 50% of the time)
4 = Usually (most of the time)
5 = Always

#	Questions	1	2	3	4	5
1	I use the internet to locate resources for teaching					
2	I work with students with different cultural backgrounds					
3	I communicate with students very well					
4	I have very good reading comprehension skills					
5	I can work independently without the traditional class arrangement (student and teacher in the same class at the same time)					

6	I am able to work comfortably online/ I feel I will be able to comfortably work online					
7	I am able to comfortably communicate almost entirely through writing					
8	I am able to establish effective environment for student-teacher and student –student interactions					
9	I am capable of self-discipline					
10	I am able to work in a non-structured environment					
11	I assume responsibility for preparation and presentation of learning tasks					
12	I have the ability to experiment with new pedagogical approaches					

TIME MANAGEMENT

Please choose <u>one</u> of the following options for each statement/question.
1= Never
2 = Seldom (very few times)
3 = About half of the time (about 50% of the time)
4 = Usually (most of the time)
5 = Always

#	Question/statement	1	2	3	4	5
1	I can dedicate 4 to 6 hours a week (any time during day or night) to participate in the online teaching process					
2	I am willing to log on and contribute to online classroom discussions and interact with students online					
3	I am able to create schedules for myself and stick to them					
4	I am willing to devote more time to online class than an onsite class					

COGNITIVE PRESENCE

Please choose the option that best describes you for each question/statement.
1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

#	Questions/Statements	1	2	3	4	5
1	When participating in an online course, students should feel motivated to explore content related questions.					
2	Students should be able to utilize a variety of information sources (those available online and elsewhere) to explore problems posed in an online course.					
3	Brainstorming with other online participants would help students resolve content related questions.					
4	Online discussions would be valuable in helping students appreciate different perspectives of course content.					
5	Learning activities conducted through an online course would help students to construct explanations and solutions for questions/problems.					
6	Reflection on course content would help students understand fundamental concepts in an online class.					
7	Participation and reflection on course discussions would help students understand fundamental concepts in an online class.					
8	Students can describe ways to test the knowledge created in an online course.					
9	Students can describe ways to apply the knowledge created/learnt in online course to real-life situations and problems.					
10	When participating in an online course, when problems are posed, students can develop solutions to such problems that can be applied in practice.					
11	Students would have difficulty in applying the knowledge created in an online course to their work.					
12	Students would have difficulty in applying the knowledge created in an online course to other non-class related activities.					

TEACHING PRESENCE

Please choose the option that best describes you for each question/statement.
1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

#	Questions/Statements	1	2	3	4	5
1	I believe the instructor should clearly communicate important course topics in an online course.					
2	I believe the instructor should clearly communicate important course goals in an online course.					

3	I believe in an online course, the instructor should provide clear instructions on how to participate in course learning activities.					
4	I believe in an online course, the instructor should clearly communicate important due dates/time frames for learning activities.					
5	The instructor should help in identifying areas of agreement and disagreement on course topics that would help students to learn.					
6	The instructor should help in guiding the class towards understanding course topics in a way that would help students clarify their thinking.					
7	The instructor should help to keep course participants engaged and participating in productive dialogue.					
8	The instructor should help keep the course participants on task in a way that would help students to learn.					
9	The instructor should help to focus discussion on relevant issues in a way that would help students to learn.					
10	The instructor should provide feedback that would help students understand their strengths and weaknesses.					
11	The instructor should provide feedback in a timely fashion.					

SOCIAL PRESENCE

Please choose the option that best describes you for each question/statement.
1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

#	Questions/Statements	1	2	3	4	5
1	Getting to know other course participants online would give students a sense of belonging in the course.					
2	Students should be able to form distinct impressions of some course participants through online communication.					
3	Online or web-based communication is an excellent medium for social interaction.					
4	I value face to face over online learning					
5	I would feel comfortable conversing through the online medium.					
6	I would feel comfortable teaching in online course and participate in discussions with students.					
7	I would feel comfortable interacting online with my students.					

8	I would feel comfortable in providing critical feedback to students online while still maintaining a good student-teacher rapport/relationship.					
9	I feel that my point of view would be acknowledged by students online.					
10	Online discussions would help students to develop a sense of collaboration.					

Thank you for taking time to participate in the study. Please indicate if you give consent to be contacted by email/phone/skype by providing your email address/phone number/skype contact.

Thank you

Appendix 8: Student Interview Guide

To the college

As you would already know I am conducting a research on Individual and Institutional readiness for e-learning in the Maldives, for my PhD research.

Thank you for agreeing to participate in a short interview regarding this. The information I gather would be kept in strict confidence and it would be disclosed anonymously. Please feel free to withdraw from the study at any time.

I really appreciate your participation.

Thank you

Fathimath Thaufeega

PhD researcher

Brunel University, London

1. Regarding access to computers at college or workplace and at home more students have access at home. Do you think it would be a barrier for your own online learning participation?
2. Do you think your college is ready to offer online learning? Why or why not?
3. How would you describe the support you have received from your college so far in online activities such as assignment hand-ins?
4. Have you engaged in any type of online learning in your college or elsewhere?
5. Do you think online discussion forums, in online learning, would help in your studies? If so, in which ways do you think it would help? If not, why not?
6. Many students feel that direct lectures (example: face to face lectures) would help them. Why do you think it would or wouldn't?
7. In your view how would your family and/or work obligations impact studying towards an online learning qualification?
8. Cognitive presence (defined as "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication")

   Do you think it is important to measure cognitive presence in an online course or module? Why or why not?

9. Teaching presence (defined as “the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educational worthwhile learning outcomes”.)

    According to a high percentage of students in the survey, teaching presence in an online course is significantly important. What is your opinion on this?

10. Social presence (defined as “the ability of learners to project their personal characteristics into the community of inquiry, thereby presenting themselves as ‘real people’”.)

    Online forums in online courses makes the students feel less alienated. How important do you think is the social presence of other students for your online studies to be successful?

Appendix 9: Staff interview Guide

ICT infrastructure

Do they have the hardware?

Internet

Electricity capacity, contingency plan if there is a breakdown

Admin support

Is it in the college vision and mission statement?

Commitment from college leaders to use technology for academic goals

Commitment from leaders beyond just using technology for teaching?

Willingness to employ capable/experienced staff/faculty

Willingness to accept eLearning as a mode for teaching and learning

Lecturers professional development for online course offering

Assist on improving online teaching and learning -access to online practitioners to discuss best practices in pedagogical issues regarding online learning/teaching.

Committed to learner centered learning

Computing integrated in institutional culture

Resource and support (Financial, technical and human resources)

Is the college financially ready?

Do they have experienced human resources to organize online learning?

Do they have adequate technical support when issues arise?

Do they have LMS (learning management systems) in place to offer online learning? If they do, do they have the capacity to support the students in the system?

Does the platform provide appropriate tools for communication and collaborations?

Appendix 10: Sample student interview transcript

Interview 4 Samiya (c)

Samiya: bachelor of Business admin major in HR

Me: Do you have access to Wi-Fi computers laptops network at C College?

Samiya: We can get access to Wi-Fi but only IT students have access to computers. Even for studies in the study room we have to bring our own phone or laptop to do studies. Wi-Fi can be accessed in classrooms as well as study areas.

Me: What if you don't have your own computers? Don't you get access to computers even then?

Samiya: we have to bring our own laptop if we want to come study at college.

M: What about the library?

S: We don't really have a physical library. We are given access to an online library. We get study materials from the online library

M: Is it free?

S: yeah its free for all students. We are given a login and we can get access to study materials through that

M: Do you have your own personal access to computers or laptops etc.?

S: because I wanted to do the degree program, I bought my own laptop and computer to get ready for the studies.

M: Smart phone?

S: yeah I do have a smart phone also.

M: so you don't have any problems getting access?

S: No problem but sometimes if we don't have the laptop with us it is difficult to finish assignments on time. Sometimes when we have a PC at home we can't bring it. So we borrow a laptop from someone.

M: Do you access through smartphones

S: Yeah. But it is difficult to do an assignment on smart phone. To do the typing and designing. Sometimes when we are searching for many things at a time it is very difficult checking many tabs and taking information and so on. So it is difficult to use smart phones for assignment completion.

M: Do you use a data package?

S: when I get an assignment I purchase a data package to get ready for the assignment. Sometimes I use the internet at work. Both to save money and time.

M: So you are working?

S: yeah fulltime work.

M: And part time studies?

S: actually fulltime work and a part time job and part time studies

M: So you work full time from 8-3?

S: 8-5.30 work. 5-9.30 college. College has given me a 30-minute leave so I come at 5.30. after I finish college I go to another part time job at 1.30.

M: Night sift?

S: I am a presenter at DhiTv.

M: So you don't get much time to study the?

S: I get a lot of time during office hours on freer days. But on busy days I will have to find my own time and manage it.

M: so in your situation do you think it would be easier to do your studies using online learning?

S: I think I can save time. I don't have to attend classes. I think I can work and study much easily if I was doing online studies. I think that would be very helpful for me.

M: Do you think C College is ready to offer online learning?

S; No

M: Why do you think so

S: It might be better for C college to do online learning. I think the lecturers here are not of a high standard. They can get good lecturers and be ready for online learning I think. I think for this college it might be better to take on online learning and teaching. They can save on time plus resources.

M: Do you think you will have any difficulties/barriers or problems in doing online learning?

S: No. It might be easier for me to do it than come here to college to learn.

M: Ok. So you do have access at home too. Like modem.

S: at home I have free Wi-Fi. We have many students in our household so we got Wi-Fi for the whole household so that everyone can use it freely for studies.

M: so you don't have that problem at home eh. Your problem then is even if you have Wi-Fi access at college you have to bring your own system like laptop

S; And some students don't have a laptop and some students don't have internet at home. So they would want to come to college to and use the internet and systems at college.

M: student who don't own a laptop or computer what do they do for assignment completion then?

S: They come to college and borrow a laptop from a friend and do their assignments.

M: really. Don't they have a computer lab where they can go and do their assignments

S: This college does have a computer lab but only IT students have access to the lab

M: Ok. I didn't know that

S: maybe us student don't know whether we can use it. I have no knowledge of it in the last two years.

M: Do you get support from college to do research online for your studies or do you have ways to hand in your assignments online

S: No we don't have that. We have to print out a hard copy and bind it and save the assignment on a CD and hand it in.

M: CD? Not email

S: yeah CD. Not email. We can send our assignments to the teacher for checking. Once the teacher checks and gives feedback we save it to a CD and hand it in. I think other colleges like Villa have a portal that they use to hand in their assignments. Beginning of this year they said they were going to build the portal system here as well.

M: And it's not established yet?

S: Not yet

M: Have you ever done any online work or studies such as participating in an online forum or short term course or such?

S: No

M: How old are you?

S: Twenty

M: I just wanted to see the age so that I can check if there is any relation with age in wanting or not wanting to use technology for studies. Some older teachers for example don't want to use technology. They would rather use the old ways of teaching.

M: So this is the second year of your degree program eh?

S: Yes. Right after A'levels I came to do the degree program

M: So right now you are doing f2f learning with interactions with students in class and doing collaborative work. Do you think it would enhance learning and would be better and easier for you if you had online discussion forums?

S: Actually even right now after the teacher teaches face to face in class we have student discussions online either in a Viber group or a group on fb. Even when we are getting ready for exams when the teacher gives us questions we discuss it in these groups what to write or exclude. Because we are in different places we come together in these online groups.

M: So even now you are using an fb or viber group?

S: yes. Even though we are doing f2f learning we use online to get ready for assignments, exams and discussions

M: So Viber and fb?

S: yeah viber and fb both

M: Is it for some specific modules or for all the modules

S: So this year we are doing finance, HR and IT. So each module has a separate group. And if there is a module with all the students in the program such as the Leadership module then we have a group with all the students and we discuss in these groups. Online groups are very effective specially when we are getting ready for the exams.

M: Do you include teachers in these groups?

S: No we don't include teachers but we can access some of our teachers through fb or viber and they help us. Once we get help from teachers we discuss this in the group and share it with other students

M: so the discussion is easier without the teacher in the group?

S: yes. For example, we might have some issues with the teacher that we don't like and it would be difficult for students to talk freely. Sometimes when the teacher teaches it difficult to understand and we go home do our own research on the topic. So what we understand on our own we share with the other students in the group. So if the teacher is in the group I think it would be problematic

M: what is the reason for not understanding when the teacher teaches? Is it their language or…?

S: Sometimes it is their pronunciation and sometimes they teach us as if they are teaching OL or AL students and not degree level students. So it's difficult. For example, this year's business degree students include students who have studied in science stream and they have joined the degree program without having any foundations in business studies, so they need very basic level. For example, if its finance module they have to start from debit/credit but those who have done they don't need these basics. So it's difficult for the students from the science stream to grasp and understand. So we have to do online discussions. In class the teacher just lectures. So they don't really understand.

M: Were these groups formed by students on their own initiative?

S: Yes. Students. Actually it's not easy for business students when the teacher teaches very basic things catered for the science students. So the business students wanted to help the science students to understand the basics and we formed groups.

M: So you helping each other out?

S: Yes

M: That's very good. Do you prefer f2f direct lectures or online lectures?

S: Now in the degree program it's just f2f lectures. It's just limited points given in class and we do our own research on that and study. So if we are going to listen to an online lecture and do research also there will not be any difference. Even now we listen to what the lecturer is saying and we make our own notes and prepare for exams. I think it will save us time if we go to online lectures and make our own notes.

M: Some feel that if you are in the classroom physically present then there is more interaction. For example, ask questions while the lecture is in progress> How do you feel about this

S: I think it's okay sometimes. But there are different levels of students in the degree program. For example, the higher level students get very frustrated when very basic questions are asked by lower level students. For example, when a science student asks about debit and credit and its basic things some lecturers also gets very frustrated sometimes. It is assumed that degree level students should know these basics but the lecturer doesn't understand that they are science students. Some students get frustrated and demotivated by these. So I think it would be better to learn online in these situations than going into f2f classes.

M: Ok. Are you married?

S: Yeah

M: Married and working eh?

S: yeah

M: You haven't started a family yet? Do you think this might be a barrier for pursuing online learning?

S: No. I think I will save more time if I do it online. I don't have to come to class. And also break time in class is also time wasted. I think it would be much easier for me to do online learning. It would not be a barrier.

M: So family and work obligations are not barriers for you?

S: Not barriers

M: Some students find it very difficult to manage their time. For example, in your case, you have to work and attend classes at a certain time and go to your second job after that. Do you think you can manage to do online studies? You wouldn't have to attend classes and have to study on your own. So to manage that do you have the discipline for it?

S: in that case I would do it during my free time. I would keep the things I need clarification or didn't understand for later. But in the class you have to listen to everything in the lecture and give time for everything that's happening in class. Instead if I am studying during my free time I think I can save time. I think it will be easier to manage time. I would know my free times and I can arrange what time to study each day.

M: so for you time management is not an issue?

S: It's not difficult for me to manage time. I am always on a schedule. And if I am studying online I would include it at a specific time in my schedule. Then it will be easier for me to manage my time. As I said I am always on a schedule.

M: for some students they attend classes because they have to come at a certain scheduled time and if they don't attend they might not be able to take the exams. But if you are learning online you don't have to attend classes. So do you think for those students it will be difficult. Say keep work to do later and it piles up and won't be able to finish. What do you think will happen to most students?

S: if I am honest, students who are attending the degree classes with me now are coming they are forced to come. They don't want to come and they are not coming to listen to the lecture. And when they leave the class most of them don't even really understand what was taught in class. Almost everyone keeps to study the last week before exams. I think it's a Maldivian/cultural thing. what is the use of the lecture if you don't understand it? We come to class because we have to attend. If we are listening to a lecture online, I think we will listen and try to understand what is being said. There won't be another person judging you if you didn't understand a basic concept. We will be able to identify what we know and what we don't understand. If questions arise we can research and find out about it on our own. In that case for me it's better than having to attend classes. I think it's a Maldivian style to keep to do everything the last minute and I think online or in class we will always keep things to do the last minute.

M: So those who manage time will manage online or not eh?

S: Yeah

M: A student I interviewed yesterday said a very interesting thing which I wasn't aware of. She said you get four days to hand in late assignments. And after the fourth day you get zero for the assignments. According to her some students wait to hand in on the fourth day. Some don't mind marks getting deducted for handing in late

S: There are students who don't really care about the marks. They finish on time whether it is good or bad. And then there are those who wants to hand in a perfect assignment. They manage their time in those four extra days and try to do the perfect assignment even if 5 marks is deducted they want to do a good assignment.

M: You think there are very few who start their assignments early and finish on time?

S: They are very very few of them. I haven't seen anyone in this degree program who does it that way. For example, they might start the first question of the assignment on the day it is given. If they are doing five modules this would be one question from one assignment of a module. Then it might be the only one done and he/she might wait to do the rest for the last minute. I have almost never seen anyone who starts and finish their assignments early

M: How about you?

S: For me I don't get much time to do my assignments. So during free times at work I try to do bit by bit. But I will be doing it till the last minute and I might not be able to finish it on time. But I have been trying to give it at the last minute of the last day. I have been able to manage it up to now.

M: Okay that's good. The questionnaire results show that students have smart phones, they have access to Wi-Fi and internet and data packages. They have the technological skills needed for online learning

such as searching using google, uploading assignments and save docs. But they are a bit apprehensive about going to online learning. Why do you think it is so?

S: Sometimes when you do online learning and when you get the certificate for the degree or course of study you often think would this be a valid certificate. Would this be accepted. For example, when you are asked where did you obtain the degree from and you say from this college through online learning. And if you are for instance applying for a job they might think would this person know anything. Would they approve it or would it be valid is what the students fear, I think. I know there are very good online learning programs abroad in good colleges and universities but would it be valid and would people accept it. this could be the reason that there is a fear in taking online studies

M: So online learning is lower level or send class.

S: yeah people see it as a lower level to face to face learning. I don't think the society accepts it. For example, let's say even for a student who studies abroad and a student who studies locally is seen very differently in the Maldivian market and society. They assume that the person who studied abroad would know more and would know their stuff better. But if it is in this college they will have local standards. But I don't believe that. I think it depends on the student. I think students also feel that way. For example, if we study using internet doing online learning the standard would be much lower than the regular face to face learning.

M: Even if you had the same materials?

S: yeah even if. For example, there is a degree offered in one of the local colleges in collaboration with a university in Malaysia. The same degree is treated differently for the student who is doing it locally and for the one doing it in Malaysia. It's the peoples view. I think it's because of their mind-set.

M: I think when you go to online learning the student herself should want to do it. Even if they know the technological skills they should want to do it online. For example, you want to do online learning.

S: yeah I do want it very much. I think there would be some like those girls who manage a household who want to study but are not able to because of duties or parenting duties. I think it would be very helpful for them if they can do eLearning. It would work if it could be marketed well to those who really need it. Also make them understand that the degree achieved both ways are the same thing and of the same level. If we can make them understand that then I think it would be good.

M: In a lot of universities worldwide they are offering online learning as blended learning or just online modules. they have given importance in student to student interactions through a forum or computer conferencing or like your viber groups. Do you think it could be a plus for online learning?

S: I think now with all the technology available these days' face to face interactions are getting less. We don't have time or we don't feel like leaving home and go out. Either to save time or because it's easier we interact through viber or fb for discussions and such. So we are sort of going towards eLearning. I think it's better than f2f. people are using social media to interact these days. Even in the same room we sometime we use social media to interact. So I think this is more useful now than f2f interactions. And more students are using these. Only students who have very difficult problems in understanding might want to interact f2f. but generally we interact through social media or such

M; when there is such a forum do you think interaction with teachers are important? How important is it

S: if we are doing eLearning I think teacher interaction is very important. For example, each college has different ways of getting ready for exams or answering questions in assignments. So a teacher could guide the students in how to prepare for exams. I think it's important to have a teacher to interact with. For example, tell us that this is how we do things in this college and this is how our exams are conducted and so.

M: when you are interacting with fellow students do you think it is helpful to know the students socially such as their background? For example, when you first meet a student and know nothing about them it might be difficult to interact or converse with them about studies? Do you think a social forum is important to introduce yourselves to each other? For example, telling them your name whether you are working or have your own family and such

S: I think if there is a forum that's the first thing they'll do. They introduce themselves. So during the studies when you are interacting about content also you get to know each other. Its ok to not know their personal background but during the studies they would get to know each other

M: You will be on your own studying on your own and when stressful situations arise you need to talk to someone. Do you think a social forum will take that feeling of isolation and stress from you? Or discuss about issues about the teacher

S: I think it's very important. Sometimes you have things you want to discuss about the teacher or about the college. Even now we have groups like that only for students and groups with lecturers. So when you are studying and you don't understand something you raise the issue immediately. We can ask students for example what the student understood and what the teacher taught might be different. In this situation the student can ask the group what they understood and what is right. It is very easy to understand issues or to vent out because we have these groups.

M: Overall we are seeing that students are very ready to do online learning based on the questionnaire. I don't know if they just filled out positively or whether they are really ready. Almost all the factors measured show it very positively. But something like study habits or lifestyle factors for example, if they are married, have a family or is working part time or full time, is not very strong. Why do you think it is so?

S: I think for example if we are coming to class there is a fixed time, say 5-10. So they do what they need to do before coming to class. But if we are studying online at home we might have allocated time but because its flexible we might think I will do it after I do some other thing. then you might get busy after that or you might have another responsibility after that. Maybe that's why they are thinking they might not get the time needed to study. If you have a fixed time to go to class, you leave other things and would go to class in the fixed time. but if you are studying at home you would think you can do it tomorrow or the day after. For example, if you have ten days for exams you will think you still have ten days. Then you leave for tomorrow and the next day till the last day arrives and then you start studying. Maybe that's why they are apprehensive about it. If you have a specified time it's much easier to do it.

M: For example, if you don't have deadlines you wouldn't do the assignments.

S: Yeah. Even when we finish work at five we still come to class at five because we have to be there at a specified time. but if we are studying at home on our own we would keep it for later and also for those who have lots of responsibilities it would be very difficult to manage time.

M: Do you think if you decided to do your degree online family and or work will be supportive of it?
S: I think they would be. I come to classes from 5-10 after finishing work at five. So if I am doing online learning I can do some of it during the office hours when I have no work to do. So I think they would be more supportive of me doing online learning than attending college classes. It will save time and less stressful for me. I don't have to worry about not being able to attend class on time or having office duty and not being able to attend class and so on. I think I would be more stress free and I think in personal as well as office life they would be very supportive.
M: So you feel you are ready for online learning?
S: yeah actually I am ready.
M: With your life situation now what do you prefer?
S: I prefer online learning. I have the resources and time and I am ready too. I find it difficult to attend classes because in my job I have to travel to places sometimes. Also it will be easier to go places during my free days. If I am on a business trip I can study while I am there. Because I have to attend college on certain scheduled days and times I have not been able to give time to some business trips and personal trips. So in a way I am actually more ready for online learning than f2f learning.
M: Are you from Male'?
S: No I am from Addu
M: So you are renting with a group of students
S: Yeah
M: Not family?
S: some family
M: Do you think we can do online learning in a place like Addu
S: May be in Male' but not Addu
M: For example, you are in Addu and this college or National University was offering you a way to study online while you are there?
S: If that is the case I might go. But if I am in Addu I prefer to go attend classes and study.
M: Why?
S: Because it won't be like Male' life won't be that busy.
M: how about Wi-Fi and internet access?
S: I think it is much better than Male
M: I see
S: The price and everything better there. But life is not busy there. For example, if I do a part time job there the money I earn is of higher value. If I do two jobs here and get more money I would still have less. It's because of the high rent and living expenses in Male. In Addu I won't be renting and living expenses are lower compared to Male'. So if I am in Addu I prefer to go to college then I can meet friends and interact with them. If in Male I prefer online learning.
M: for some students in other islands they don't have campuses, only in places like Addu they have campuses. So if they go to a place where there is a campus they have to pay rent. So for them it might be better to have an option to study while they are on their island?

S: I think it will be better. But they must have an awareness about it. They should know it is the same level as f2f classes. I think for example some students from Fuahmulak comes to Addu to study. I think it would be better if they have a centre in Fuahmulak and they can stay on their island and study. But I think they need the awareness. And if it is done I think it would work very well. But I think it will take time. make them aware that it's the same level. For example, our Maldivian mind-set is such that if we study abroad the standard is higher than a student studying locally. Even if it is the same course. If the student in Malaysia gets a credit pass for the same course while the student here gets an HD pass they still consider the Malaysian studies level and standard higher. I think we need to change the mind-set and I think it will take some time to do it.

M: it's like us Maldivians thinking that we have to do the GCE O'levels instead of a local exam of the same standard or better

S: Yeah like that. I think we need awareness to tell that it is the same level and same standard

M: Actually public awareness is very important right

S: Yeah very. For example, in this college if they offer online learning with forums and make students aware that it's the same standard and all I think there will be many students who can't afford to come here to study who would want to study online. Some have responsibilities that they can't come. I think we have to change the way we think and make more people aware of it.

Appendix 11: Sample staff interview transcript

William Interview

M: Thank you for agreeing for the interview. In your opinion, do you think you have the facilities needed for online learning. For example, hardware, electricity, internet connection. Or a backup plan for those if something fails

W: At the moment We don't have the ICT infrastructure in a standard needed for online learning. Let's keep aside online learning. At the moment we don't have the ICT infrastructure needed for conventional learning. We have the network infrastructure and connectivity but we don't have applications to run in a learning platform. We are using a software for fee collection. This is an old application that was put in place about twelve years ago. That is an area we really need to invest at the moment. Registration and academic records are also mainly done manually. We are using individual systems to prepare and issue transcripts using Excel. In regards to ICT infrastructure we don't have a sophisticated one. So if we want to go into eLearning it's not possible because we don't have the applications needed for that. We don't have necessary departments automated yet. But we do have connectivity on each campus separately. We also have internet connections

M: What about computer like desktops and laptops?

W: we do have the computer facilities I plenty. At our IT campus we have many computer labs and in the registrar's office is equipped with many computer systems. We have a computer system for each admin staff. There are no admin staff without a computer system. They can do all the work required on the computer systems but the tasks are not automated. We do have the computer systems infrastructure.

M: Do you have computers that students can use for their studies?

W: for student use we have for example for the IT courses they study and have classes in the IT lab. There is a resource room where students can use the computers on each campus. For example, the School of Business has its own resource room. Computers and internet connectivity is available there. Students can use them for their assignments and to do research. School of IT also has such a resource room. Also if the students want they can bring their own laptop and Wi-Fi is available. Added to that this campus has a big study area for degree and masters level students. It can accommodate about 40 students at a given time. Wi-Fi is available so they can access the internet. In this area students bring their own laptop or tablet and do their work. Because they are degree and master's students, in general, all of them own a tablet or laptop. They can bring and work on their own there. But for example if those students want to work on desktop systems we provide them with desktops in the computer lab.

M: and electricity wouldn't really be a problem.

W: in Maldives we don't have any issues with electricity.

M: if an issue arises do you have a backup plan for it.

W: If there is an interruption to the electricity provided by STELCO we don't have any means to carry on providing services. We don't have any backup batteries or anything as such. We don't have an electric backup system installed in any of our campuses. We depend solely on state electric company. That means if they cannot provide electricity we have to cancel the classes.

M: If they have to interrupt because of a system down.

W: we would have to cancel

M: in your vision and mission statements do you have any clause that would enable or make room for online learning

W: we don't have at the moment. Not in the mission and vision statements. We don't even have that in our objectives. There are no statements that would suggest that we are pro to eLearning at the moment.

M: are there any commitment from the leaders of the college to utilise technology

W: We do have it very much. But right now we are trying to have the internal systems up and running for the conventional systems. After that is well established then we can proceed with that. For example, blackboard or if we go to say blended learning, because most places are going to blended learning these days, we are trying to get the internal system for the current conventional system well established before we go into it. We do need to automate it. considering the formation of our islands and in general majority of the students who come here to study are from other islands it is necessary to find a way for them to stay in their own islands and study. I think if we can provide eLearning or distance learning where the students can stay on their island and study then I think there is big market for it and we can definitely increase our enrolment numbers. For that first we need to develop the applications needed for that. We discussed this with US Blackboard last year. They came here and conducted presentations as well. Blackboard is a very famous platform for online learning. Their agent in Singapore came here and we even got the price quotations from them. We agreed with them that if we were bringing a platform we will bring blackboard. I think instead of us developing a customised one for us it is better to bring something that is trusted worldwide. It will be easier because they have everything needed.

M: yeah lots of universities are using blackboard.

W: yeah. What I mean is in our college council we have a mandate to go into eLearning in the near future. There are many reasons. We have so many limitations here. It is very expensive to live in Male' and our market I mean 80% of our students come from other islands. Also we have to train our faculty for eLearning. We need a specific kind of training for eLearning. Not all professors or lecturers would be able to teach by distance. They need those skills and training. When we talked with the Blackboard people they also offered to train. but at the moment it is not very easy for us to go for such an investment. The reason is I believe we need to strengthen the existing ICT infra structure and specially we need to upgrade the systems so that we can run the needed applications. Be it admissions or fee collections or academic records. After we automate all these only I think we can go for further ventures and strategies for teaching. The answer is very clear we at academic council have the vision for eLearning. That is the current trend right?

M: Yeah

W: we have to go for it because it's the way the world is going right now. We can't work against it.

M: yeah. How many campuses do you currently have?

W: Three. Three in Male'.

M: do you think the current faculty has the capacity or capability for eLearning

W: At present if we look at them some of them don't have. Individually they might have some experience. But I believe there is no one at present who is trained for that.

M: Ok. So you are saying there is a willingness in the college for eLearning

W: yes, and we have done some work towards that. We have also talked to a particular group of people regarding this as I said earlier.

M: so the college will help to professionally develop your lecturers for that

W: yes. We would invest in that from the college. Our thinking is that if we are going for eLearning we will start at higher level programs. For example, master's degree. Even though we have a lot of students at certificate level I believe the student should also be ready for that. Otherwise it won't be very effective.

M: that's what happens most of the time. School leavers who come fresh from school wants to learn the same mode as they did in school

W: yeah. That's how they want to do study. So at first we would offer to higher level programs. Master's program would be where we would start. There is an added advantage to it, that is we would be able to get the level of teachers for it. If we use Blackboard as a platform we can get many associated professors from different parts of the world. We can diversify it and get a good quality professor to teach the students. We can tunnel into the resources that are not available in the Maldives. That is also applicable for higher level programs right

M: yeah. In this college how much emphasis is on student-centred learning? In a lot of colleges, it is based on teacher, the teacher teaches and students absorb what is being taught. So your students get opportunities to do their own research

W: we work very hard to establish student centred learning. We talk to students and try to instil it in them from day one. We encourage them and tell them that they need to work on their own. But in our students in Maldives be it certificate, diploma or degree level they want spoon-feeding type of teaching. That's what the students want. They don't want to do their own research and think and organise their studies on their own and do things. They always want someone to tell them what to do. Of course we give them guidance but we encourage them to do take initiative. Even in the college council we discuss to let students do as much work as possible. We want to gear them towards independent learning. I think independent learning is much better than dependent learning. It will be more effective. That way they will have what they learn instilled in their minds more effectively. in that regard if you look at our master's degree also you will see that we are trying to create that type of environment for them. Specially in teaching we are looking at interactive sessions more than a one-way delivery. Interactions and group discussions. Lots of tutorials. They discuss in class instead of just reading slides. High level programs are like that. But for low level programs the students don't want that. It is a fact that students who join private colleges such as ours come with minimum entry criteria and we don't get the cream students. So the work we have to do is immense right. No matter how much we encourage them to study independently we don't see it from them. The other challenge is majority of the students who come to private colleges are part time students. This we know from discussion forums with other colleges as well. They take full time credits while working full time. It is a big challenge for them. They would rarely get time to read a research paper or a journal. They have work commitments; family commitments a lot of the students are married. They are getting married at college age. With all these they have to give commitment for studies. So how are they going to find time to study independently. That is a very big challenge in the private sector in Maldives. So we need fulltime students to be able to

do it effectively no matter how hard we work on it it's not going to work effectively. For example, before we start some programs we run basic research courses for students and APA referencing and how to do assignments with referencing. So before we start the orientation we run these programs to get them ready for the courses. Even for these classes most students can't attend them. They are busy and no time they give these excuses and don't attend these classes. It is a very big challenge that our students are par time. Part time studies with fulltime credits.

M: Yeah. One of the students I interviewed yesterday is a very interesting case. He is working fulltime and doing two diplomas.

W: Business and IT right?

M: yeah. He says he schedules everything and its going well

W: Yeah he is very smart student.

M: yeah. From the way he speaks it looks like that. He wants to do it and he sounds very positive about it and he manages time well. For online learning students what happens is that they think they have time so they keep delaying till last minute and then they drop the course or are unsuccessful in the course. But when I talk to some students I can see that they are the type that will take initiative for studies

W: yeah. We have to discipline the students that way. Even if it's not online learning even now our students do their assignments the last minute. When we check the assignments we note that. Also if they don't do much work they don't get feedback from the lecturers. If they submit last minute they have to submit without the lecturer's feedback right lecturers also would need time to give feedback. So quality assignments are rarely submitted. Also because of the workload of students. They will tell us they are busy at work they have events or work at office. There are so many reasons. If we go to online learning that would also be a challenge if we don't have a well-established system to monitor students work.

M: to check if the students is continuously participating in the studies.

W: yeah. And when the students complete the course there will be questions about the quality of the students. Even now there are issues about the quality because of the situation they are in. I believe if they can give full commitment it will be good and they can study well. But if I am to generalise I don't see it now

M: some students come after O'levels their parents don't want them to stay home so they enrol them in course

W: yeah in some programs we have that. The students don't know what they want to do or where they want to go with further studies. I have noticed this in their orientation when I question them

M: in this college do you have professional development programs whereby lecturers talk and discuss issues with other lecturers maybe in other colleges. Do you have forums or any place where they can discuss issues?

W: at present we have. In some programs when we develop the programs we consult people in that specialised area and we input from them. For example, when we designed the psychology course we consulted people from Society for Health Education and together with them we created the courses. We consulted a psychologist as well before we embarked with the program. So we do get professional consultancy and feedback in some courses. In IT programs also for example in IT masters course we got advice from notable people in the industry in Maldives in finalising the modules. What we wanted was

actually was to get our students ready for what the industry need from them. We want to narrow the gap. When students leave with diploma degree or masters course we don't want them to say they don't have the qualification needed. I think its very subjective if the students can't do what they ask for they say they don't have the required standards. So there is a problem with what they studied. If they didn't study what is needed for the industry on one hand but is very good in what he studied on the other. Still when they go for a job for example a student who completed a degree in IT maybe offered a job in Human resources in Maldives. So even if the students are extremely good in what he studied he will not be as good in an area he didn't study. There is that issue. So we are trying to get students to get jobs in what they study and we are trying to get input from the industry in what they study so that they are trained for what is needed. In that regards our degree IT programs have an internship module. That is designed so that they get experience to work in a real work environment. There are lot of students who come to do IT degree who work in admin. One who works at accounts might come to do IT degree. One who works in operating vehicles at national defence force might come to do IT degree. They don't have any idea of how IT works they might not have even seen a server or a server room. So we are giving that opportunity in the internship module. They would have to go complete the number of hrs given under supervision in the area they major in. the supervisor there would evaluate and their feedback plus our tutor's feedback would complete their assessment. Also to help our lecturers in professional development we use to run regular sessions. There was a break and now again we are starting those sessions. Because we bring someone from outside there always comes a break. But now we have a fulltime person who would be doing it and they are getting ready for those sessions. We assess lecturers first external as well as student feedback and then we decide on training based on their needs. We make customised programs. But the turnover is very high so the trained person doesn't stay and we to have continuous training.

M: from what I see you have a lot of Indian lecturers. Do you have any issues like culturally or otherwise the way they teach and so on?

W: culturally we do have. We generally get from south India. South and north is also very different. My opinion is north is more civilised than south. India has so many colleges and universities some affiliated with states and so on. They might have studied in their local languages. The biggest issue we face is communication issue. But we do get some very good lecturers as well. The biggest challenge is that these lecturers are not trained to teach. The other issue is that we are somewhat forced to recruit some of them without any teaching experience at all.

M: depending only on their subject area right

W: yeah if its IT and if they have a master's degree in IT. Or if its business and they have a first degree or master's degree in business. They do have the qualification but it is a big challenge to find someone who has both the subject and experience or qualifications as a teacher. Firstly, teaching is new to them so we have to train them in teaching. Secondly communication. Our medium and mode of delivery is in English language and there are communication challenges. But we notice that they improve very fast. Most of them need the job for survival and so they work very hard to keep the job. So it is an advantage. If we look at culture differences, I think Maldivian student culture is very different. If we look at the current students from when we were students, their behaviour and attitude is very different and I would

say very bad. So it would be an additional challenge for the lecturers. They would face many problems from students. Students don't respect teachers these days. It's always about student rights and so on right

M: yeah. The responsibility part doesn't exist eh

W: yeah it is not there. I mean to get a trained good lecturer is a very big challenge for us

M: for those who have no teacher training do you have a program for them like an induction or something of that sort

W: we do have it. Now we are trying to put a system in place where they have to go through the training before teaching. Even though we want it is very difficult to do it in practice. For example, the lecturers go for holidays and don't come back and we can't stop ongoing classes for students just because that lecturer didn't come back. So we have to bring someone. If the classes are suspended there will be complains from students so we are forced to recruit someone urgently. So if we were to put him through the induction process before starting teaching, by that time semester would have ended. So we have to assign them without the induction. So it is a big challenge for us. The biggest issue is that we don't get local lecturers.

M: true. I have analysed the lecturer's questionnaires and the part about time management scores a bit low. Why do you think that is?

W: what do you mean by time management

M: for example, would you be able to give time for online course?

W: they would say they don't have the time. We would have that issue here in this college. It is because our fulltime lecturers teach a lot of hours weekly. It is not financially feasible for us to say that a lecturer would only teach 15 hrs a week. Usually it is 15-20hrs and if exceeds there will be quality issues and so on. They are written down rules. But practically we can't afford to do that. We need to teach about a thousand students and we would need a lot of lecturers for that. Our overheads will be very big if we do that right. Will the load they have now the reason why they say they don't have time for online teaching is because of that. If they teach 30 hrs they would need time for preparation and so on. There will be so many assignments to mark exam papers to evaluate and so on. They have to prepare assignments and exam papers as well. So that's quite a lot of work. So with all that work it will be difficult. If you look at any private colleges, I don't think they can give the time. Even if you look at the National University they have also increased the number of hours. We don't get enough people so we can't get them to do only 15hrs. the other problem is in certificate level there are no specialised modules and we can't have lecturers teaching only specialised modules. For certificate students the lecturer would teach different subjects but for degree level students the lecturers would only teach their specialised area subjects. We have a lot of certificate students so we can't manage it that way. So with our schedules now they wouldn't have time.

M: in regards to resources, financial, technical and human resources. I think you have answered some of these areas. Financially

W: we are financially not ready to go into an online venture. The reason is priority. We have to work on what is present now but still it's in the pipeline right

M: Experienced human resources

W: Difficult. Because the turnover is also very high the experienced person always leaves. right

M: Yeah. If you have technical problems is there someone assigned to support

W: yeah we do we have an IT engineer who give technical support. He is available all the time during class hours

M: as you said you don't have an LMS such as blackboard or something in place yet right? Moodle.

W: Moodle. We are developing Moodle with the help of an internship for a degree student. Currently we are managing some using google drive and share folder. We manage master's students with that

M: such as assignments

W: everything. They access share folder. Online. It is a very closed group only those who are doing MBA. We can't open it up for everyone. Space is also limited. We know it is the trend and students also want that. We will be forced to go in that direction. For example, if we want to improve students experience and want to attract more students we have to. So ICT plays a key role in that area. Be it marketing perspective or accessibility we have to do it. Every student has a smart phone. Even though they can't pay tuition fees they own a smart phone. Students would want to view their results as soon as the registrar puts them up. They would want to stay at home and view it using their smart phone. We have to go to that level. I have always been saying this even at the college council meeting we, our college has to have that here. We have been an IT specialised college all these years. Even though we have equal amount of students in our management department, when people talk about IT they always mention our college. Even other colleges mention it. So we have to complete that area and students need to experience that with us right

M: yeah. So you don't have that capacity with a platform yet eh?

W: we don't. But we do have individual systems. We have the biggest number of clients. We do have our own network and we do have internet connectivity in all our campuses. But we don't have an application that is developed to run all the activities in all our campuses.

M: such as one for student collaboration.

W: yeah we don't have such applications yet. Once we develop an application we can upload it and use it

M: for example, Blackboard in place

W: yeah. Inside the college network they can't use it. But say we host it on www then they can access it anywhere.

M: I think it's also an issue with the students. They all have smart phones. They have internet access. Some students I interviewed were also saying that all of them have smart phones. Even the one in the remote islands have smart phones

W: yeah that's true

M: but they say they have problems such as when they purchase a data package the cost is an issue and it goes very fast. Even to access on modem or Wi-Fi cost is an issue. Having a smart phone or two is not an issue.

W: smart phones are used for other purposes too

M: yeah I think mostly for social purposes.

W: yeah mostly for social purposes

M: I also think it's for status as well.

W: sometimes for some people right. I think when we look at people who own these would even use fifty percent of the applications available on it. Even though it is a smart phone many people use it just for calling and texting. Or social interaction. At present Viber is the thing. But only few people use twitter.

M: I think things like Viber are free so there is no big issue with that.

W: yeah. And you can manage Viber with a very small data package. Viber is so popular because it is also a gossip centred medium. Most of the time groups are formed for gossiping. Even in a student group it is very difficult to manage Viber. When using Social applications, we have to have awareness of these things. For example, Viber group itself can be seen as a component of eLearning. Real time interaction.

M: yeah. In Maldives, if we were to have collaborative student groups I think one of the easiest thing would be to use fb.

W: yeah. And fb you have more security.

M: also a lot of Maldivians are on fb.

W: yeah

M: we can create a closed group for example masters in IT group and use it as a collaborative group. I think it would work well

W: yeah. And they can share files as well.

M: Ok thank you.