INSTITUE AND LEARNER READINESS FOR E-LEARNING IN THE MALDIVES

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Abstract

Maldives is an island nation scattered with over 1190 islands, e-learning is the ideal form of delivery of higher education for students on remote islands. This study explores Maldivian college students' e-learning readiness. Mixed-method research has been conducted using questionnaires (quantitative) and semi-structured interviews (qualitative). 120 students from two private higher education institutes completed the questionnaires, 10 were selected for interviews. Students' technological skills, access to technology and learning abilities, as well as their level of e-learning efficacy, are measured. Their lifestyle and family and workplace environments' conduciveness for e-learning is explored. Similarly, 50 lecturers/facilitators completed the questionnaire to obtain teacher/institute readiness for online teaching. Responses allow exploration of Maldivian higher education students and institutes readiness for e-learning. Lecturers/facilitators' readiness is measured by their skill and ability to support e-learning. The importance of the three elements of the Community of Inquiry Framework: Cognitive Presence, Teaching Presence and Social Presence, in e-learning, is also explored through the questionnaires. The study's findings are significant as the first research in the Maldives to provide a convincing case in support of e-learning in higher education. The research supports the transferability of the findings to similar colleges in the Maldivian context.

Keywords: e-learning, readiness, higher education, Maldives

1   INTRODUCTION

Universities and colleges worldwide are harnessing the power of Information and Communication Technology ICT to improve their learning environment, with varying degrees of success. One of the most widespread possibility of improving higher education has become 'e-learning' or 'online learning', with the promise of expanding learning opportunities for the masses in both developed and developing nations [1]. Campbell [2] defines e-learning as that which takes place as a result of experiences and interactions in an internet environment. While any one definition may not capture all dimensions of e-learning, today's conceptualization is certainly beyond simple acquisition and use of knowledge using internet; it involves a broad spectrum of ICT assisted learning activities, inclusive of online learner-to-learner and learner-to-instructor interactions.

While e-learning continues to grow rapidly and promises to transform higher education, it still remains at an early stage of development [3]. As Mercado [4] observed, many institutions have made 'blunders' in the rush to employ e-learning due to unfamiliarity with the requisites of successful e-learning delivery. Therefore, the need to assess an institutional readiness for e-learning has become an important aspect of endorsing e-learning. Aldrich and Ross [5] and Bonk [6] reiterated that the starting point for beginning e-learning is to assess the institution's readiness by evaluating and identifying the institutional goals, needs, motivations, resources, and constraints in relations to its plan to begin e-learning. Similarly, Mercado [4] observed that successful e-learning undertakings must always involve a systematic process of planning, designing, developing, evaluating and implementing an e-learning environment where learning and teaching is actively nurtured and supported, and where all stakeholders (learners, teachers and support staff) find the environment meaningful and prepared to engage in e-learning.

Within the framework of institutional readiness, this study focuses on 'learner readiness' and 'lecturer readiness'. Studying the readiness of learners to undertake e-learning is essential since many institutions that offer online and e-learning are confronted by an unforeseen issue: the unexpected level of 'drop out' of students from e-learning courses [7]. Researchers, therefore, have emphasized the significance of developing an understanding of the needs of online learners before and during their learning experiences so that institutions can identify and provide the required student support to fit the needs of individual students ([8]; [9]). Simply said, assessing learner readiness enables planning, designing and implementing interventions that help students and institutions to succeed in e-learning.

Moreover, findings of such research will not only enhance the theoretical knowledge, but also inform and improve the practice of e-learning.

1.1 Assessing e-learner readiness, a review of literature

Reviews of literature on student readiness show that studies have been conducted in developed nations, primarily in the United States and in some European countries. Limited number of studies has been conducted in Australia and Taiwan. Pillay *et al.* [10] conducted a study to validate a diagnostic tool for assessing tertiary students' readiness for online learning. Smith [11] also conducted a study in Australia with 314 students regarding learning preferences and readiness for online learning. Hung *et al.* [12] conducted a quantitative study in Taiwan that included 1051 students, and the purpose of the study was to validate college students' readiness. Similarly, Liang and Tsai [13] had conducted a quantitative study that included 365 Taiwanese students regarding Internet self-efficacy and preferences toward constructivist Internet-based learning environments. This kind of research has shown that e-learners may be unable to sustain e-learning if they lack sufficient capability in (i) skills for self-directed learning and technology management [14], (ii) self-motivation [14], and (iii) preparedness for isolation [16]. Similarly, based on a study in United States, Allen and Seaman concluded that a barrier to widespread adoption of online learning is the fact that students need more discipline to succeed in online courses [17]. And, Barnard *et al.* [18] found that online self-regulatory learning behaviours mediate the positive relationship between student perceptions of online course communication and collaboration with academic achievement.

Students' e-learning readiness is considered fundamental to success in e-learning. Therefore, some institutions have begun the process of assessing students' e-learning readiness prior to enrolling students in e-learning courses. Most such examples are available from institutions in the United States where e-learning/online education has expanded rapidly. Assessment tools used in such institutions have been used in framing the constructs and in designing the research tools in this study. Institutional assessments of e-learning rely on similar attributes, they are:

(1) Access to technology

(2) Knowledge and skills regarding internet and its usage

(3) Personal learning styles, and

(4) Student perception regarding e-learning including cognitive presence, teacher presence and social presence in an e-learning environment.

A study of the literature shows that such practical applications of assessing learner readiness are based on theoretical underpinnings that could be categorized into key dimensions. In this study, we propose the following dimensions to formulate a conceptual framework: (1) pedagogical, (2) technological, and (3) cognitive.

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1.1.1 Pedagogical Dimension

Pedagogical aspects relating to e-learning readiness include issues such as students' learning style, self-directed learning [19], and personal attributes such as valuing of independence, freedom, and personal responsibility for learning [20]. Factors that help to form learning style could include socialization and prior learning experiences, including the type of classroom-based learning offered to students during primary and secondary schooling. Within learning style categorization self-directed learning is considered as a pre-requisite to e-learning, online learning and distance education.

Numerous studies have shown that students need certain degree of self-discipline, self-directedness and personal initiative to succeed in e-learning [21]. Students with autonomous, or self-directed, and innovative learning styles are more likely to find e-learning as an effective approach. Gollady [15] and Serwarka [22] consider self-directed learning as a clear indicator of student readiness for e-learning. As suggested by Mercado [3], given that e-learning places considerable initiative with limited guidance on the shoulders of the learners, those who feel that they alone are responsible for their own learning are more likely to succeed. Confidence in oneself as a competent and effective learner, accepting of responsibility for one's own learning, and viewing problems as challenges are integral to success in e-learning. Furthermore, Greaves also consider creativity and independence in learning as traits that

assist in e-learning success [23].

E-learning, by its very nature, works well with those learners who take initiative and who desire to be in control of their own learning. Internet based instruction permits certain level of freedom in choice of learning materials, freedom of place and time of learning, and also allow students to set one's own pace of learning [24]. In a general sense, what is considered learner control is the degree to which a learner can direct one's own learning and process, making decisions on his or her own on the way [25]. While e-learning is an amicable process of learning for those who enjoy learning freedom, and who direct their own learning, one of the potential drawbacks of e-learning is a sense of isolation for those who do not hold such attributes.

1.1.2 Technological Dimension

Technological readiness includes diverse aspects such as technical literacy and skills [26], and student access to internet and other technological applications [27]. In that paper, Fathaigh argues that a basic prerequisite of online learning is the access to a stable internet connection and a dependable computer. Greaves also 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 e-learning readiness. As mentioned earlier, access to technology is one component that is often included in student readiness assessment tools, as used in the North Western State University in its self-assessment tool asking students if they could regularly access internet, email and if they could gain access to a computer multiple times a week.

Students' technological skills related to computer and internet usage are also considered as important factors in successful engagement in e-learning. For example, The Louisiana Board of Regents that developed Student Online Readiness Tool (SORT), says that students must have some familiarity and comfort with using a computer for personal or work-related activities, but they do not have to be "techies". SORT as an assessment tool measures students' basic computer skills, hardware and software knowledge, basic functions of modern computer usage, and ability to utilize internet and modern communication applications. Similarly, Washington Online Learning (WAOL) operated by Washington State Community and Technical Colleges, in its self-assessment tool for online learning has included similar technical skills. This tool assess if students can use e-mail, browse internet, undertake word-processing, download and upload files, and use video and audio online, and finally verify if students are able to solve computer and technology related problems without getting too frustrated. Therefore, some have suggested that it is important to assess technical readiness, and provide remedial training, before students embark on e-learning [28].

1.1.3 Cognitive Dimension

The cognitive dimension is related to the pedagogical dimensions as actions are very often manifestations of thoughts and beliefs. Cognitive issues relate to students perception and attitude towards use of technology and internet in learning, and willingness to interact in cyber-medium [11].

Technical skills alone are inadequate for succeeding in e-learning. Research shows [29] that it is equally important for students to have a willing attitude to using internet for learning. In their survey of 27,864 students at 103 two-and four-year colleges and universities in the United States found that most undergraduate students are "digital natives", having grown up with technology, yet they were not entirely ready to use certain internet applications for learning. In Caruso and Salaway's study, students agreed that e-mail, websites, and applications such as message boards are reasonable ways to communicate with professors and other students, but they felt that instant messaging and social networking sites are personal and should not be used for classroom interaction [29].

The individuals' perceptions of using a given technology, or the attitude towards using a particular technology for e-learning, can be explained using the concept of self-efficacy, a concept widely used in cognitive learning theory. Within social cognitive theory ([30][31]) defines self-efficacy as a form of self-evaluation that influences decisions about what behaviors to undertake, including the amount of effort and persistence put forth when faced with obstacles, and the interest to excel and master a particular behavior. Self-efficacy is, therefore, about what individuals believe they can do, and want to do, with the skills they possess.

Compeau and Higgins [32] empirically verified the positive relationship between computer self-efficacy and computer use. Wu and Tsai [33] found that those with high levels of self-efficacy in remote computing situations were more productive and satisfied, and better able to cope when working remotely. Tsai [34], in a study of 365 college students in Taiwan, found that students with higher

general internet self-efficacy clearly showed more preferences toward Internet learning environments where they can use with ease, explore real-life problems, display multiple sources of information, conduct open-ended inquiry learning activities, and elaborate the nature of knowledge.

An important aspect of internet efficacy is the learner's attitude towards communicating online, in an online environment. This could be conceived as computer efficacy. Barnard *et al.* [18], highlighted the importance of students participation in e-learning with positive perceptions of online communication, be willing to interact with others on the internet. Effective communication online is essential for active learning to take place. Studies have shown that students who are willing to communicate online become actively involved in the process of learning, referred to as active learning ([35], [36]). Therefore, as some researchers have considered, e-learning has the potential to create an interactive environment for deeper learning [37], provided students are keen to use the interactive power of e-learning. The three factors included in the community of inquiry, cognitive presence, teacher presence and social presence were included in the study to measure the importance of these presences in an on-line learning environment for the participants in the study.

Cognitive presence is defined by Anderson and Garrison as 'the extent to which the participants in any particular configuration of a community are able to construct meaning through sustained communication'. In an online community it is important to sustain continued communication to keep the momentum and for learning to be successful. Cognitive presence of learners are sometimes used in assessing the learners' subject matter. Garrison and Anderson define teaching presence as 'the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educational worthwhile learning outcomes'. Social presence 'is the ability of learners to project their personal characteristics into the community of inquiry, thereby presenting themselves as 'real people' [38]. This is essential in the learning community of online learners as it makes it easier and more user-friendly for learners to contribute to the learning forum or community.

1.1.4 The research context

The proposed research will be conducted in the island nation of Maldives, a national setting that would benefit immensely from e-learning due to its geography and the high proportion of students seeking higher education. Maldives is an archipelago of 1190 coral islands situated in the Indian Ocean, of which 199 are inhabited. The country covers about 90,000 square kilometres of ocean, with 300 square kilometres of land. The islands are grouped into 24 natural atolls. The islands are small, averaging 16 hectares among those surveyed. Only 3 islands have a land area greater than 3 sq. km and 33 islands have a land area in excess of 1 square km. All islands are low-lying and the total population among them is estimated at 350,000, over 100,000 live on the capital island, which is one of the world's most densely populated areas of land. Among the remaining islands only 30% of the islands have a population of more than 1,000. The two selected colleges are located on the capital island Male.

Providing education in such a geographically dispersed population is challenging, and costly in terms of unit cost per student. Innovative and cost effective ways of providing all levels of education are essential for Maldives. Information technology does offer opportunities for further development in the context of education in the Maldives. Maldives education systems consist of a primary school sector that follows a national curriculum, and secondary sector that follows the British GCE O' level examination curriculum. English is the medium of instruction. According to recent statistics available from Ministry of Education (2014), the total student population of Maldives in 2013 is 86,068, of which 27,191 students were studying in the capital island, Male'. Maldives has a high literacy rate of 98%, and high enrolment rate in both primary and secondary schools, when compared to other developing nations. The net enrolment ratio is primary education is 94.4%, with 93.8 for boys and 95.0 for girls. For lower secondary education, the net enrolment ratio is 92.3%, for boys it is 91.4 and for girls it is 93.3. For higher secondary net enrolment is 23.9% of which 21.6 are male and 26.5 female. This level of primary and secondary education enrolment I believe provides a strong base for e-learning to be successful as a developing nation. Availability of tertiary education is limited in the Maldives with a single university. Several private colleges offer certificate, advanced certificate, diploma, first degree and masters level courses, primarily out of the capital island in Male' where it is economically sustainable to do so [39].

2   METHODS

Based on the review of literature, we have constructed the study to measure access to technology,

technological skills, learning styles, lifestyle factors, cognitive presence, teaching presence and social presence as contributing elements to a holistic assessment of student readiness for e-learning. A Likert Scale questionnaire was developed using some of the institutional tools used in studies in the Europe and the United States. Student responses to question items on this questionnaire were categorized and summative statistics derived to make evaluative verdicts regarding how ready students are for e-learning. We have also incorporated an additional dimension, i.e. lecturer readiness. It is understood that teachers are the most important partners/stakeholders who work with students in e-learning success. If lecturers are not ready, it is believed that it would have a negative effect on the students' e-learning readiness. Incorporation of lecturer readiness is an attempt to broaden the framework of the study beyond what has been included in the assessment tools reviewed in this study. Institutional factors such as leadership, commitment, institutional policy could also be taken as having an effect on e-learner readiness. However, this aspect has been left out of the study to limit its scope.

The study is based on two private higher education colleges in the Maldives. This paper reports the quantitative part of the study which involves questionnaires filled by 111 student participants and 45 lecturers from both colleges. The rationale for conducting mixed-method research in this study relates to the research question and existing body of knowledge on the subject. Previous research on the subject of students' readiness in e-learning has been primarily in the quantitative domain. Several researchers to study student readiness have used quantitative questionnaires and survey research. The study reported here builds upon such research, and also expand this by exploring the same factors (or constructs) that encompass students' e-learning readiness. Creswell, Plano and Clark [40] says that mixed method study that combines both qualitative and quantitative techniques has become popular because it can deepen the understanding of processes, attitudes, and motives explored within a study. With this rationale, I have decided to first explore Maldivian students' e-learning readiness using a quantitative questionnaire as in similar related research, and then also to further expand by exploring the same issues qualitatively to develop a better and deeper understanding.

Bryman proposed that adopting a mixed method may be a strategy in its own right or it may be subsumed within another research strategy [41]. In this study I have used mixed method subsumed within a case study, a strategy used by other researchers. The quantitative data set includes data collected from a Likert Scale questionnaire. The qualitative data set includes semi-structured interviews conducted with 10 participants. For the purpose of this paper the quantitative results will be used.

While mixed-method research is used as the approach, I believe it is important to ground the study within an established tradition. Given the study's purpose of understanding Maldivian students' readiness for e-learning, I decided to focus on two private higher education colleges, hoping that the findings will be representative of other similar colleges. It is important to obtain data from several sources to enrich findings of the study. While data is gathered primarily from students, additional supportive data was also collected from lecturers.

Furthermore, the study was conducted to fit the category called the instrumental case study. Instrumental case study is said to select small groups of subjects in order to examine patterns of behavior or themes within a particular phenomenon. The findings of such a study could be transferable to other settings with similar characteristics, meaning that the study is instrumental in understanding an issue of interest. This study is meant to be instrumental in that its findings could be transferable to similar set of students in similar higher education colleges in the Maldives.

Students in the selected colleges are typical of young adults who attend such colleges in the Maldives. Most of them would have completed secondary education in English medium. They would have some knowledge of computer usage, but unlikely to be exposed to online learning. Many of them would use the internet, and some would be well versed in using social networking media.

2.1 Selection of Participants

The participant selection was guided by representative sampling approach [42]. Miles and Huberman also offered a strategy for sampling that consisted of (1) criterion selection and (2) maximum variation selection. The criterion selection is made when all cases selected meet particular criteria useful for assuring the quality of the study and maximum variation within the sample is used to represent diverse cases to fully capture the multiple perspectives.

The common criterion used for the selection of participants was that students in the case had to be students in particular colleges at the given time. Other common characteristics are that all participants had attended schooling in Maldives that provides a standardized national curriculum and similar

teaching and assessment practices. For maximum variation, a group of participants with a gender mix that represented the student population in the college was chosen. All participants were well informed about the purpose of the research that they are being asked to participate. Accurate information about the researcher and the use of research findings were communicated to the participants. 111 participants were chosen from various levels of courses, and they reflect the gender mix, and rural and urban upbringing. Among the 111 student participants 57 are male and 54 females.

As suggested by Tellis, a clear protocol was used in selecting the participants [43]. First, we obtained consent from the college authorities to conduct the study. The Colleges assigned a staff member to assist in selecting participants and data collection. It was agreed that staff assigned would first go through the research design and assist to select the participants based on the considerations outlined above. Faculty members were also selected similarly.

2.2 Data Collection

The data collection method used was online Likert scale questionnaires. The rationale for using this is discussed below. Questionnaires are not prominently used in qualitative research. However, Woods says that questionnaires "have their uses, especially as a means of collecting information from a wider sample than can be reached by personal interview" [44]. Woods further asserts that when clearly defined facts or opinions are required a questionnaire can explore how generally these apply, if such a case is of matter of interest for the study [44]. O'Brien also states that questionnaires could be either quantitative or qualitative. As suggested by O'Brien, student questionnaire was used to corroborate findings with those of other researchers [45]. The questionnaire was developed by using previous research instruments used by other researchers to study e-learning readiness among students. The "Readiness Assessment Tool for An e-Learning Environment Implementation", developed by Mercado was used to borrow ideas for developing the questionnaire. Another such instrument that informed the development of the questionnaire was North Western State University's questionnaire to assess e-learning readiness titled "Are You Ready for Online Learning". The Student Online Readiness Tool (SORT) developed by Louisiana Board of Regents was also used in developing the questionnaire. Based on the type of questions asked in these previous studies and assessment instruments, a modified questionnaire based on Likert Scale was developed for the study [4].

Two different Likert Scale questionnaires were developed and used for data collection, one for students and the other for lecturers. Likert Scales are commonly used to measure attitude, providing a range of responses to a given question or statement [46]. Five categories of responses were sought in the questionnaire: (1) strongly disagree, (2) agree, (3) neither agree nor disagree, (4) agree and (5) strongly agree. In total 111 student participants and 45 lecturers completed the questionnaires. The questionnaires were sent to the college administrator to distribute to the participants. Some of them filled it online and emailed them back while others filled a hard copy, scanned and emailed them back.

Given the nature of the research, the only risk to the participants is that information about a participant, or his or her opinion given on a questionnaire become available to others. Participants were provided in writing about the steps taken to protect their confidentiality. Participant consent was sought in writing after explaining any potential risks they may face as a result of being part of the research. Efforts were made to ensure that each participants make independent decision without fear of negative consequences.

For the Likert Scale questionnaire, it was important that the individual questions measure the construct that it intended to measure or assess. As mentioned above, in formulating the questionnaire we modified questions used for the same purpose in previous research, and some instruments that are used in universities to assess student readiness. We reviewed literature on these, and ensured that the items that we have identified and modified are those that have been tested for reliability and validity.

2.3 Data Analysis

Data obtained from questionnaires were digitized using Microsoft Excel. Using the master table of data for each participant, various relevant tables were developed. These table included mean, median and mode for each item on the questionnaire. The items were grouped according to various constructs explored in the study. Aggregate responses for such grouping were calculated and tabulated. In presenting and interpreting Likert Scale data, we have considered that fact that while the response categories in Likert scales have a rank order, the intervals between values cannot be presumed equal. Therefore, Likert scales fall within the ordinal level of measurement. We have also kept in mind that appropriate descriptive and inferential statistics differ for ordinal and interval variables. Given that

mean (and standard deviation) are inappropriate for ordinal data we have avoided using them in the analysis. Instead, we have relied on median, mode and percentages in conducting and reporting analysis.

Likert Scale is also considered by some as a summative scale where the resulting score for an individual is the sum of the individual item scores. Summative scores were therefore obtained in the analysis. Given the perfect correlations between mean and sum of items, mean summative score is calculated because interpretation of the mean is clearer than the sum of all items.

3 RESEARCH OUTCOMES

3.1 Student readiness

The following table summarises the student responses to the questionnaire.

Table 1: Student Readiness scores

	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

Student responses show that, as shown in Table 1, 83% of students have reliable access to technology to engage in successful e-learning if offered. Their technology skills have an overall percentage of 80.7%, which suggests that their technological skill levels are excellent. In regards to study habits and life style factors, the overall percentages are 67.96% and 48.7% respectively. The lifestyle factors fall a bit below fifty percent and this could be an indication some of the questions such as 'at home my internet connection tie up the phone and cause inconvenience to others'. In Maldives WiFi is widely available and it would be unlikely that a home internet connection would cause inconvenience. Also, some of the students are studying part-time and working full- or part-time, which might better indicate the reason why family and work obligations would affect their learning. Students are very much reliable on teachers and face to face teaching and it might take time and their mindset about e-learning to shift positively towards online learning for learning to be successful.

Since most of the students have not undergone any type of e-learning or participated in any online forum or conference, it might have been difficult for them to comprehend the importance of social, and cognitive presence in an online environment. Despite the fact that they have not undertaken any e-learning activities, more than 75% responded positively to the importance of teaching presence.

3.2 Lecturer readiness

In the research design, lecturer responses were included because lecturers' readiness to support e-learning is considered integral to student readiness. In other words, unless lecturers are skilled and willing to engage in e-learning, students are unlikely to succeed.

Table 2: Lecturer Readiness Scores

	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

Lecturers' technological skills, teaching style, time management, view on cognitive presence, teaching presence and social presence were assessed to measure their readiness, using a Likert scale questionnaire. As shown in Table 2, lecturers' access to technology was 78.15% with an overall technological skill measurement of 81.11%. Teaching styles in favor of readiness for online teaching has a score of 87.47% and time management factors measured to an overall score of 59.4%. The view on cognitive presence, teaching presence and social presence measured to an overall score of 67.8, 84.4 and 65.8 respectively. With all the overall scores over 60% it shows an overall readiness for e-learning for the lecturers.

4 DISCUSSION

This study has been conducted to explore readiness of higher education students in the Maldives. Students and lecturers' views on the importance of Garrison and Anderson's community of inquiry framework (cognitive presence, teaching presence and social presence) in an e-learning environment are explored [38]. The research has used a case study of college students at two private higher education colleges in the Maldives, where reasonable internet access with adequate speed is now available on all islands, including mobile phone access. Yet, Maldives has limited experience of distance and online learning and no studies on student readiness have been conducted. Maldives is also selected because the primary author is from the Maldives, and has pioneering experience in developing and implementing distance learning in the country.

Students' access to reliable technology, their technological skills, study habits, lifestyle factors are explored, along with lecturers' abilities and skills to support students in e-learning. We are unable to comment on one key issue: the level of 'drop out' of students from e-learning courses, not least because it is notoriously difficult to access reasons why students leave a programme.

As discussed in the results, the students in the study show that overall they are ready for e-learning. Access to technology and technological skills are higher than previously assumed. It is important to note that even though the results of the study shows that both the students and lecturers shows a positive readiness for e-learning, the policy makers and institutes should also be ready to offer e-learning. More research needs to be done in this regard.

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