

Students' Attitudes and Readiness Assessment towards E-Learning in Higher Learning Institutions

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Learning institutions particularly in developing countries such as Tanzania have been adopting teaching and knowledge exchange and sharing digital solutions without much consideration of the actual needs and readiness of users. E-learning technologies in particular have been adopted in many universities through purchase and installation mostly imported from abroad or customized from open sources. However, the success rate has proven to be very low particularly when looking into ratio of students using these technologies for intended purposes. It is not clear whether the readiness and attitudes of students towards those technologies is supportive enough. This paper assesses the readiness and attitudes of students in higher learning institutions in Tanzania in comparisons with the adoption speed of the e-learning technologies.

Keywords: E-learning, technology access readiness, technology access attitudes

1. Introduction

The world has witnessed massive evolution both in development advancement and adoption rate for the digital technologies in daily human life. The academic and learning institution is one area which has also seen such changes. An important aspect in successfully implementing instructional technology is user acceptance, which may be influenced a great deal by users' attitude. Various studies have addressed the issue of student attitude toward instructional technology and specifically toward computer technology and technologically enriched learning environments [1]. Electronic learning (E-Learning) is one most famous technology being adopted in higher learning institutions as a teaching and learning platform and other various activities between lecturers and students. The use of electronic media and tools is central to many higher education teaching and learning strategies, but adoption of new technology is more often negatively received by staff, although enthusiastically embraced by students. Longer term, it has been questioned whether universities will

meet the needs of shifting knowledge-based societies and increasingly diverse student populations [2].

The pace of change and the uncertainty about how transfer of knowledge will evolve has made it increasingly important for higher learning institutions to be aware of the students they participate in and to understand the roles of e-learning in transferring and exchanging knowledge. The discourse on e-learning has focused on topics such as the effectiveness of e-learning [3]. [4] Suggest that the current discussion on the use of information and communication technology in learning, or what is now more commonly known as e-learning, has primarily focused on ways in which the teacher incorporates new technology into their teaching. It has been observed that while there is indication of students overwhelming preferring to take class using e-learning than a traditional course [4] but very few studies explore e-learning from the students' point of view considering readiness and their attitudes.

It is a fact that the specific organization's learning needs and its

available human resources has potential influence on successes of adopting the targeted technology which also is influenced by social, and economic forces within the organization (Al-Khashab, 2007). It is argued that, though not exclusive, and with little synthesis existing among these topics, the importance and challenges of e-learning is omnipresent [3]. The ability to continuously learn the altitudes of students in e-learning, coupled with competence in aligning e-learning to changing the way of transferring knowledge to remote students is one of the key sources of competitive advantage in present context.

But sometimes, despite the ability and competence, the higher learning institutions fail to align e-learning with student's attitudes due to a number of context specific factors like program studying, area of study that many researchers didn't consider to be a problem that may affect students attitudes towards e-learning in higher learning institutions specifically in Tanzania (Al-[3]. It has been observed that the higher learning institutions spend a huge amount of money for implementing e-learning on managing their activities in delivering knowledge to students remotely but still not in position to deliver strategic benefits from e-learning due to not considering the factors like area of the study as well as program of study specialized by the students in higher learning institutions that may affects the students attitudes towards e-learning in higher learning [3].

Different researchers from different parts of the world have discussed attitudes towards e-learning by considering age, educational level as well as gender within the society [3]. However, we find that there is a lack of research of student's attitudes and readiness towards e-learning application specifically in the area of education in

higher learning institutions in Tanzania. It is argued further that, e-learning application can be perceived differently to students due to some factors based on the area of study as well as the program of study that students are taking. These differences may bring impacts on students' attitudes and readiness of e-learning application in higher learning institution causing ineffective teaching and learning process. This research critical assess the attitudes and readiness of students towards e-learning in higher learning Institutions in Tanzania by considering the area of specializations and program of study of the students and explored the possible ways on how higher learning institutions can respond to the challenges in attaining the best way of using e-learning.

2. Technologies in Teaching and Learning

The teaching and learning process has seen a dramatically changes a way towards being supported by variety of instructional, and pedagogical that are friendly to digital technologies' developments in today's world [3]. Technologies supporting learning that can apply at instructional level has proved to be a potential influencing factor in education provision in many ways. Although education is clearly seen as an amenable enabling factor to human life growth and thus a potential way to bringing significant contributions to society, it has remained elusive to many people in developing countries [1]. This is mostly due to lack of closer access points of education services and lack of enough qualified educators. Instructional technology that support education provision such as e-learning can significantly bridge this convenience gap by permeating the walls and opening doors for as many people as wish to contribute in learning [5].

However, there is still unclear picture on a number of related questions such as what makes a learner successful in an online environment or what creates barriers or challenges. The need for looking for required answers to these questions, among others, gain increasing importance as internet technologies become more readily available and accessible, in formal and informal contexts [6]. E-learning, which has promised as potential instructional technology, is also influencing the way learners make choices such as when to learn, how to learn, and where to learn [3].

E-learning as a pedagogical issue has brought many benefits to students including it has been found to be convenient and can enable students to access educational material with ease irrespective of time, and location [3]. It can also facilitate enhanced communication between and among students and lecturers. Among the most visible and valuable attributes of e-learning techniques and delivery are that they potentially give students greater access to education, in comparison to more traditional less flexible educational methods [7]. It has been argued that if universities are to maximize the potential of e-learning as a means of delivering higher education, they must be fully aware of the critical success factors concerned with introducing online models of education. All these are issues that Higher Education Institutions (HEIs) have to contend with in their endeavors to adopt e-learning.

Despite the desire to implement e-learning within HEIs, the role of the academic staff and students is significant. E-learning is now considered the backbone of continuing education and is enabling educators to reach populations that would be otherwise inaccessible [3]. The technologies have also expanded opportunities for the

increasing information to enhance the traditional classroom instruction for remote students. Therefore, preparatory work should be done to incorporate these by creating conducive environment for the adoption of e-learning. [8] Contends that university structures are rigid and unproven, regarding the incorporation of technological advancements. It is not surprising that institutions of higher learning are forming partnerships and creating virtual higher learning institutions to foster resource sharing in the learning environment.

Nevertheless, it has been observed in different research work that students have lower expectations from educational technology and they don't believe in the benefits of e-learning. Students don't use ICT as a learning tool, they are not well-skilled in ICT and get anxious by the use of computers, they assume that both faculty and students will fail to meet the requirements of e-learning, they consider that e-learning is appropriate for graduate studies and lifelong learning and less suitable for first degree studies, they prefer in-the classroom education and doubt that educational technology may substitute traditional instruction [9].

With necessary systems in place, like organized bodies of knowledge on the Internet, electronic books, web-based libraries, and schools, willing to facilitate the learning process, knowledge can be shared effectively irrespective of distance, locality, and time. [3]. On the other hand E-learning in teaching and learning in universities is now here to stay. It is part of the strategies to reforms in higher education.

3. Readiness and Attitudes towards e-learning

3.1 Attitudes towards e-learning

On one hand attitude has been defined in literature as a point of view about a situation or event and on other hand attitudes can be defined in general as evaluated beliefs which predispose the individual to respond in a preferential way [10]. It is argued that an attitude a mental and neural state of readiness, organized through experience, exerting a directives or dynamic influence upon the individual's response to all objects and situations with it is related [11]. Previous research has found by and large a favorable attitude towards e-learning and particularly those that explored the possible benefits provided by e-learning [12].

Results show great conformity to deriving benefits of e-learning in both teaching and research. However, faculty members as reported in various studies have expressed certain reservations regarding the future implementation of e-learning at the university; for example, assuming that in future all learning processes shall be electronically supported and such trends will help faculty members develop better teamwork and inter-personal skills which will result into lecturers move to sophisticated technologies in teaching". From such reservations, it can be deduced that the attitudes reflect academic staff might be lacking trust in one another in relation to their abilities in using advanced technologies in teaching as well as in building up teamwork spirit in the workplace. Studies focusing specifically on communication have revealed that online classes can alter the flow of communication from student-teacher-student to student-student. [13] Discovered that in the in person classroom, students tended to address their comments toward the instructor or

other identified expert. E-learning offers individual empowerment with greater control over learning. A learner who is comfortable with a technology and has a positive attitude towards it is more likely to succeed with e-learning environment [14].

Generally, the experience of applying e-learning has been found to play an important role in enhancing and facilitating education service delivery even to remote areas irrespective of time and location. For example, in one study [15] the survey results indicated that the students who opted e-learning for business courses were found to be much more willing to utilize e-learning again.

3.2 Readiness towards e-learning

Success in e-learning can be achieved by understanding the needs as well as the readiness of all stakeholders in a particular e-learning environment [16]. In addition to that, students' readiness towards e-learning is very important aspect to consider before implementation of e-learning in any institutions. Moreover, e-learning also helps the institution capable to train their geographically scattered workforce and make them eligible with the dynamic knowledge and skill demands with greater efficiency but at less cost. It is argued that for successful deployment of e-Learning in any institution as a modern teaching method, at first we need to assess students' readiness both quantitatively and qualitatively [17].

Readiness for an organization intending to adopt e-Learning can be defined as the "mental or physical preparedness for that organization for some e-Learning experience or action" [17]. On the other hand e-readiness is defined as the degree to which an economy or community is prepared to participate in the digital economy [18]. In additional to that, apart from the general definition of e-readiness, student's readiness

towards e-learning is one of the factors that should be considered before making decision for implementation of e-learning in any particular institution for a great success. Nevertheless many students in many institutions differ in readiness towards e-learning due to the following factors.

4. Assessment of attitudes and readiness towards e-learning

4.1 Assessment of readiness

Readiness is fortified by the ability to work independently, have self-motivation, mature reading and writing skills, and a proactive approach to learning, as well as a positive attitude about the learning experience in general [19]. An e-learning readiness assessment is critical to the achievement of an e-learning plan, identifying issues that should be measured before and during an e-learning involvement. While aptitude to adapt e-Learning may be anchored on several scope, the most obvious can be readily and practically measured are along these two area, Technological access and Technological skills [20]. Access refers to the ability/inability of persons, to avail of, and participate in, a widely available service [21]. A basic requirement for online learning is the access to a stable Internet connection and dependable computer.

For online learner and teachers, their computer and Internet access are the primary instruments of learning /teaching. To probe for readiness along technology access, the corresponding questions are asked for both teachers and students [20]. On the other hand more than access, the student's teachers and the administrative staff who would technically support the e-learning environment implementation must have the technology skills to be ready to venture into e-Learning. These involve basic computer skills, online skills and computer application

literacy. Success in an e-learning world demands new forms of literacy and expertise of students [22]. It is argued that, in the development of the student readiness assessment tool several existing tool have been considered, SORT Student Online Readiness Tool and Technical Skills Self-Evaluation [20].

4.2 Assessment of attitudes

According to [23], measuring attitudes has an important role in analyzing consumer behavior because it is known the fact that there is a strong connection between attitude and behavior. It is argued that' student's attitude towards e-Learning may be measured along the following dimensions: study habits, abilities, motivation and their time management behavior [20]. There are two models which measure attitude, one developed by Rosenberg and the other by Fishbein. The Rosenberg model is built on two variables: the perceived utility of the object and the value of importance, which refers to the extent to which is important for the consumer to obtain the advantages expected from using the object. Adapting the Rosenberg model to the case of students' attitude towards e-learning, we can acquire a full indicator of a probable behaviour using the utility perceived by the consumer – in this situation the student using an e-learning system – and the importance given by the consumer to this utility. The Fishbein model offers a different perspective, proposing an analysis of attitudes through the consumer's beliefs and evaluations. The consumer's beliefs refer to the probability accepted that the object has certain features, whereas evaluations stand for the extent to which these features are important or not. The perceived utility from the Rosenberg model corresponds to the consumer belief in the Fishbein model [23].

5. Methodological framework

5.1 Subject

The study was conducted in Tanzania higher learning institutions specifically at the Dar-Esalaam Institute of Technology and the Mzumbe University as case study. Before conducting the comprehensive survey, a test with 50 students from Mzumbe University and 50 from Dar-es-salaam Institute of Technology was conducted.

5.2 Procedure

The e-learning facilities were available for all the students in all levels at the Mzumbe University and at the Dar-es-salaam Institute of Science and Technology to use anytime and from anywhere. At end of the semester the students were asked to complete a questionnaire to investigate their readiness and attitudes to e-learning. Students responded voluntarily and were not compensated for their participation.

5.3 Assessment Tools

A questionnaire was constructed for the purpose assessing readiness towards e-learning on the aspect of “*Application skills*” with Computer application skills, software application skills and internet skills, where respondents has to put a tick either **N0** or **YES**. On the part of “*Technological access*” it has a Computer application skill, software application skills and e-learning tools, where respondent has to put a tick either **N0** or **YES**. On the other hand the assessment of attitudes towards e-learning was done using the Likert Scale; (**A=Strongly Agree**, **B= Agree**, **C= Neutral**, **D = Disagree**, **E= strongly disagree**) where the tool has two

characteristics (abilities and Study Habits) which assisted to assess attitudes toward e-learning

5.4 Results/output

Responses to the survey questions at both Mzumbe University and Dar-Es-salaam Institute of Technology are summarized in table 1, 2 and 3.

Students’ readiness towards e-learning: Application skills

The results showed that the students with the application skills on functions of computer hardware components, Ms-Office operations, operation of computer, e-mail services, how to use web browser, and program utilities were more than 60%. On the other hand the students with the application skills on how to access an online library and other resource database and attended online classes before were less than 50%. However, students readiness was reported as favorable more often than expected on regarding to the technological access as per the results presented (Table 1).

Table 1: Assessment of readiness towards e-learning: Application skill students' responses, answered by students who used e-learning.

| NO | Questions | Application skill % | |
|----|--|---------------------|----|
| | | YES | NO |
| 1 | I know the basic functions of computer hardware components | 72 | 28 |
| 2 | I know how to use Ms. Word, access, PowerPoint etc | 83 | 17 |
| 3 | I know how to operate computer to put on/off | 99 | 1 |
| 4 | I have an e-mail account | 96 | 4 |
| 5 | can open / send an email with file attachments | 88 | 12 |
| 6 | I know how to use web browser | 90 | 10 |
| 7 | I know how to access an online library and other resource database | 38 | 62 |
| 8 | I have attended online classes before | 47 | 53 |
| 9 | I know how to use program utilities example ant-virus | 96 | 4 |

Students' readiness towards e-learning: Technological Access

The results showed students with access to important technology for e-learning (i.e. printing, computer and internet connections, application of e-learning software and availability of computer at their campus or internet café with stable internet) were more than 65%. On the other hand the students with computer with

necessary software installed and available printers connected to their computers were less than 50%. However, students' readiness was reported as favorable more often than expected on regarding to the technological access as shown in Table 2.

Table 2: Assessment of readiness towards e-learning: Technological access students' responses, answered by students who used e-learning

| NO | Questions | Technological Access % | |
|----|---|------------------------|------|
| | | YES | NO |
| 1 | I have my own computer | 88 | 12 |
| 2 | I never interact with the computer | 2 | 98 |
| 3 | I have access to a computer with the necessary software installed | 30 | 70 |
| 4 | I have printing access | 88 | 12 |
| 5 | I am ready to obtain access to a computer and Internet connection. | 98 | 2 |
| 6 | I have access to a computer in campus or Internet cafes with stable Internet connection | 81 | 29 |
| 7 | A printer is attached to my computer | 2.5 | 97.5 |
| 8 | E-learning makes me more interested in my program | 92 | 8 |
| 9 | I know e-learning and how to apply it in my program | 68 | 32 |

Students' attitudes towards e-learning: Habits and Study ability

The results revealed that a large proportion of students agree followed by those who strongly agree on the habit statement towards e-learning compared to those students who were neutral, disagree and strongly disagree (Table 3). In terms study ability, students who strongly agree contributed largely followed by those who agree, whereby neutral, disagree and strongly disagree contributed less (Table 3).

Table 3: Assessment of attitudes towards e-learning: Habits and Study ability characteristics of students' responses, answered by students who used e-learning

| No | | Strongly Agree | Agree | Neutral | Disagree | Strong Disagree |
|----|--|----------------|-------|---------|----------|-----------------|
| | <i>Statements on Habits</i> | % | % | % | % | % |
| 1 | When I have an important assignment , I get it done ahead of time | 25.0 | 50.0 | 25.0 | 0.0 | 0.0 |
| 2 | I usually apply e-learning in my studies | 47.5 | 42.4 | 7.1 | 2.0 | 1.0 |
| 3 | I am in favor of applying e-learning for my course | 50.6 | 40.5 | 5.2 | 2.5 | 1.3 |
| 4 | I think lecturer's application of e-learning in teaching my course helps me a lot | 33.3 | 50 | 16.7 | 0.0 | 0.0 |
| 5 | By applying e-learning in my program the chance of interaction with classmate is more enhanced | 0.0 | 16.7 | 33.3 | 16.7 | 33.3 |
| | <i>Statements on study ability</i> | | | | | |
| 7 | I will find my course easier if the lecturers applies e-learning | 29.0 | 47.0 | 14.0 | 7.0 | 3.0 |
| 8 | By means of e-learning , I like my program more and more | 71.4 | 14.3 | 7.1 | 7.1 | 0.0 |
| 9 | Applying e-learning in any higher learning institutions is more relaxing and delighting | 45.0 | 32.0 | 3.8 | 13.8 | 5.0 |
| 10 | Applying e-learning in any program in higher learning institutions is more sprightly and lively for curriculum | 40.0 | 20.0 | 40.0 | 0.0 | 0.0 |
| 11 | E-learning makes me more interested in my program | 80.0 | 20.0 | 0.0 | 0.0 | 0.0 |
| | I am able to communicate effectively with others using online technologies | 50.0 | 25.0 | 25.0 | 0.0 | 0.0 |
| 12 | Taking responsibility for staying in contact with my instructor would be easy for me | 50.0 | 50.0 | 0.0 | 0.0 | 0.0 |

6. Discussion

From the results it was found that Students have positive readiness to use an e-learning revealed from aspects of *application skills* and *technological skills* as tools for assessment. On the other hand from the results, it is found that students have

positive attitudes towards e-learning by considering *habits* and *study ability* used in the assessment. Due to some drawbacks and dissatisfaction, few students out of 100 students surveyed have negative readiness and attitudes towards e-learning. By considering assessment of student's

readiness towards e-learning more than 60% students responded positively on the application skills assessments against less than 50% of students responded negatively. However, on the technological access assessment more than 65% students responded positively against less than 50% of students responded negatively to the assessment tool. This variation could be caused by lack of e-learning resources in higher learning institutions that could help students to have positive readiness towards e-learning. For example only 38% responded positively said that, they don't have access on on-line library and other database resources. Moreover, only 97.5% of students responded negatively said they have inefficiencies of printers which are connected directly to their computers. Furthermore, 70% of students responded negatively on the assessment by saying they don't have access to the computer with necessary software installed.

Coming to students attitudes towards e-learning, it was found that students' is more favorable positively towards e-learning in higher learning institutions in respect to habits and study abilities tools used in the assessments. In addition, large proportional of students agree followed by strongly agree on the '*habits statements*' during the assessments while few students were neutral, disagree and strongly disagree. On the other hand large proportional of students strongly agree followed by agree on the '*study ability*' statements during the assessments while few students were neutral, disagree and strongly disagree.

These discrepancies could be due to lack of awareness of e-learning technology among the students in higher learning institutions in Tanzania which is a developing country. Moreover unlike to developed countries e-learning could be implemented from primary schools which could assists awareness to students when they join in higher learning institutions. In addition, during implantation of e-learning in higher learning institution in Tanzania could probably accompanied by training and awareness to e-learning stakeholders within the institutions before using applying it. On so doing they will be aware on the advantages and benefits of e-learning in teaching and learning process. For example in table 3 above, large proportions of student responded neutral, disagree and strongly disagree on the statement "by applying e-learning to my program the chance to interact to my classmate is more enhanced".

6.1 Implications

This survey indicates that while students prefer having a choice of aspect of application skills and technical supports as well both e-learning tools. Students also need to know more fully the benefits and limitations of e-learning in order to have a strong readiness and attitudes of e-learning on the process of teaching and learning. While some of the students' frustration could be due to the lack of particular awareness and e-learning supporting tools. Institution should create awareness and provide good e-learning infrastructure when adopting /implementing an e-learning for teaching and learning processes.

7. Conclusion

We look forward to publishers that they will continue to make changes to students' readiness and attitudes towards e-learning. The insights from this survey should help to figure those changes for the benefit of students' teaching and learning processes. This study has demonstrated unique situations in Tanzania that lead students in

higher learning institutions to perceive e-learning system as helpful and therefore have a positive readiness and attitude towards adopting the e-learning in teaching and learning process. Similarly the study has shown the drawback needs to be addressed in order to lead students to have a positive readiness and attitudes towards e-learning in institutions in Tanzania.

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