E-learning Opens Door to the Global Community: Novice Users' Experiences of E-learning in a Somali University

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Abstract

E-learning has become one of the primary ways of delivering education around the globe. In Somalia, which is a country torn within and from the global community by a prolonged civil war, University of Hargeisa has in collaboration with Dalarna University in Sweden adopted, for the first time, e-learning. This study explores barriers and facilitators to e-learning usage, experienced by students in Somalia's higher education, using the University of Hargeisa as case study. Interviews were conducted with students to explore how University of Hargeisa's novice users perceived e-learning, and what factors positively and negatively affected their e-learning experiences. The Unified Theory of Acceptance and Use of Technology (UTAUT) model was used as a framework for interpreting the results. The findings show that, in general, the students have a very positive attitude towards e-learning, and they perceived that e-learning enhanced their educational experience. The communication aspect was found to be especially important for Somali students, as it facilitated a feeling of belonging to the global community of students and scholars and alleviated the war-torn country's isolation. However, some socio-cultural aspects of students' communities negatively affected their e-learning experience. This study ends with recommendations based on the empirical findings to promote the use and enhance the experience of e-learning in post conflict Somali educational institutions.

Keywords: *Somalia higher education, Post conflict setting E-learning, Novice users,*

New technology acceptance and adoption, Learning experience

Introduction

Education empowers people by giving them critical skills and means to create opportunities for sustainable and viable personal and economic growth. One of the most significant changes in educational practice is the shift from traditional teacher-centered pedagogy to learner-centered pedagogy (Sandholtz, 1997). Often learner-centered teaching approaches acknowledge students' needs, abilities and learning styles by including the students in decision-making processes, which in turn may motivate and engage students in their learning activities (Weimer, 2013). It is widely believed that the advent of modern technology in education and the emergence of electronic learning (here after 'e-learning') have played a great role in facilitating the vast adoption of learner-centered techniques in educational settings (Sandholtz, 1997).

E-learning uses numerous types of electronic media, educational technology, and information and communication technology (ICT) to deliver education. E-learning provides unprecedented opportunities for people to learn in a more personalized, flexible, and portable manner without the restriction of time and space (Zhang, Zhao, Zhou, & Nunamaker Jr., 2004). There is no unified or explicit definition of 'e-learning', but its descriptions often emphasizes change in the mode of delivery, such as "a technology-based learning in which learning materials are delivered electronically to remote learners." (Tavangarian, Leypold, Nölting, Röser, & Voigt, 2004). The definition mentioned above of e-learning resonates well with the situation in Somalia, where a major benefit of e-learning is that it offers educational opportunities to the hard to reach areas.

E-learning has become one of the primary alternatives for distributing education around the globe (Zhang et al., 2004). Many low-resource countries suffer from a shortage of teachers (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2014) and ICT can improve the access to education and improve the ability for marginalized groups to attend school (Gulati, 2008). In Africa, where many countries are struggling to meet the demand for primary, secondary and tertiary education, e-learning has become an integral tool to deliver education, as well as to improve the quality of education by facilitating access to educational content (Prakash, 2003; Adkins, 2014). A recently published report by UNESCO (2014) showed that 250 million children worldwide have no access to basic education, and many of these children are from disadvantaged communities.

Strengthening higher education, especially in post conflict setting, is crucial to meet the new Sustainable Development Goals (SDG) in order to ensure inclusive, equitable, quality education to promote life long learning opportunities. Higher education further plays a crucial role in capacity building, recovery, poverty eradication, development in a post conflict setting. It is suggested that educational programs by external organizations is necessary in the immediate aftermath of war but in the medium- to long term meaningful assistance such as physical infrastructure and institutional capacity is needed (Heleta, 2015).

As an attempt to address the increasing demand of education, University of Hargeisa (UoH), Somalia, has for the first time with the support of Dalarna University, adopted e-learning to provide flexibility in delivering education. However, in the adoption process of new technology, users' perceptions and preferences cannot be ignored (Tedre, Sutinen, Kähkönen, & Kommers, 2006). This study investigates factors that affect the acceptance and adoption of e-learning in Somalia's higher education, using UoH as case study. Understanding the nature of these factors is necessary in order for Somali universities to promote and to successfully adopt e-learning, as well as to improve the quality of education delivery. Two concrete objectives were put forward: 1) to identify factors affecting students' adoption of e-learning, and 2) to develop recommendations for promoting and adopting e-learning for UoH. The research questions of this study were: RQ1: How do novice students at UoH perceive e-learning? RQ2: What factors positively and negatively affect novice students' e-learning experience at UoH?

General Overview of the Educational System in Somalia

Somalia has one of the lowest school enrollment rates in Africa (United Nations International Children's Fund [UNICEF], 2013; Ministry of Human Development and Public Services [MOHDPS], 2013). With the fall of the Somali state in 1991, many educational institutions and resources were completely destroyed or lost. Since then, significant progress has been made in reconstructing and rebuilding educational institutions throughout the country. In the 1990s, Somali educated elite, with the help of citizens and local and international NGOs, began building privately-owned schools to meet the growing need for educational institutions in the country (Ministry of Education, Culture and Higher Education [MOE], 2011) In 1999, these privately-owned educational institutions started forming

umbrella organizations in order to achieve a common standard curriculum and examination system for their member schools.

Today there are more than 91 schools for primary and secondary education in the capital city Mogadishu, and more than 44 higher educational institutions throughout the country (MOE, 2011). Somalia is currently going through political and social transition for the first time after two decades of armed conflict. Rebuilding a sustainable education sector is one of the top priorities for the newly formed central government. During the last decade, Somalia has made great efforts reviving post-secondary education to meet the ever-growing number of high school graduates. Like many African countries, Somalia has fallen behind in the integration of technology enhanced education delivery such as e-learning.

Somalia's Higher Education

Before the collapse of the central government, Somalia had only one state-owned university located in Mogadishu, the capital city (Hoehne, 2010). Currently the country has more than 44 higher educational institutions and none of them are state-owned (The Heritage Institute for Policy Studies [HIPS], 2013). Those universities were established with the help of local businessmen and by international donors like European Union and Islamic NGOs (Cassanelli & Abdikadir, 2008). The quality of education offered by these institutions is not monitored nor regulated. A recent study published by HIPS (2013) showed that 86% of Somalia's higher educational institutions have low teaching and administrative capacity.

ICT in Somali Education

Like many other developing countries, Somalia confronts the challenge of delivering basic ICT services to its entire population. Most of the ICT infrastructure is invested in large cities like Mogadishu, Hargeisa, and Bosaso, leaving rural areas unconnected. Consequently, schools and universities located outside the big cities have no or limited access to ICT. Most educational institutions at secondary level use ICT as an administrative tool rather than for educational purposes (Hare, 2007).

The use of ICT in education is more widespread at the university level. However, the facilities are insufficient for it to be completely integrated into the educational system. Most of the major universities in Somalia have a campus network that is connected to the Internet through one of the local Internet Service Providers (ISP). Some of the universities have VSAT dish installed on the campus, which is connected directly to international satellite-based ISP. Projects to build national backbone infrastructure and connect all the major Somali universities are currently undergoing (Royal Institute of Technology [KTH], 2011).

Case Descriptions

Somalia has experienced a great amount of conflict and political instability over the past two decades. The education sector of Somalia has greatly suffered from the years of conflict in the country. Somalia has one of the least sustainable and poorly funded educational systems in the world. Only four out of ten children attend an educational institution, which is reflected in the literacy rate of 37.8% among the population (Central Intelligence Agency [CIA], 2014).

UoH was selected as case study because, unlike most other Somali universities, it offers e-learning courses. The University is located in Somaliland, the northern part of Somalia. Somaliland is a self-declared independent state, although its independence is not internationally recognized. Somaliland is more politically stable and safe than the rest of the country, and it has a functioning government.

UoH is one of the leading higher educational institutions in the northern part of Somalia. It has a student population of 5000, and offers various undergraduate and postgraduate programs (University of Hargeisa, 2011). In terms of e-learning, UoH is familiar with the concept of e-learning, though e-learning diffuses very slowly. UoH is currently offering, for the first time, a web-based master's degree in sexual and reproductive health in collaboration with Dalarna University (DU) in Sweden and funded by the Swedish International Development Cooperation Agency (SIDA). The master's degree is offered to students who hold a bachelor's degree in midwifery or nursing. The bachelor's degree program was provided using classroom learning. At the time of this study, 24 students – 21 female and 3 male – were enrolled in the master's program. When the students have live online lectures, they usually travel to the University campus where they can get good Internet connection since the Internet

speed in the country is very poor. The Internet backbone connection at the University is 2Mbps.

As web-based learning platform the students in the current education program have during the course of the program been introduced and applied the ICT tools offered at DU, which includes the following: Fronter is DUs web-based learning platform and is used for administrative purposes for all the courses and programs. Adobe Connect, or Meetings – facilitate for the teachers and students to meet, discuss, and share information during seminars and other group works. Adobe Presenter transforms PowerPoint presentations easily into lectures with recorded voice and video. Epos is live lecture streaming device with option to interact with the lecturer in real time. The students and the local staff at the UoH have had access to DU Open Education Resources (OER) as well as the library and ICT support. The pedagogical learning that had been used in the master program were in real-time communication

The Unified theory of Acceptance and Use Model (UTAUT)

User acceptance of new Information technology has been an important area of study within the field of information systems over the last two decades. Many models have been proposed in explaining and predicting users' acceptance of new technology. The Technology Acceptance Model (TAM) (Davis, Bagozzi & Warshaw, 1989; Davis, 1989) and its successor The Unified Theory of Acceptance and Use Model (UTAUT) also known as TAM2 (Venkatesh, Morris, Davis, & Davis, 2003; Venkatesh, 2000) have especially gained a great deal of attention for predicting users' adoption of new technology.

The Unified Theory of Acceptance and Use Model by Venkatesh et al. (2003) was chosen as the theoretical framework for this study in order to explore the factors affecting the acceptance of e-learning technology at UoH.

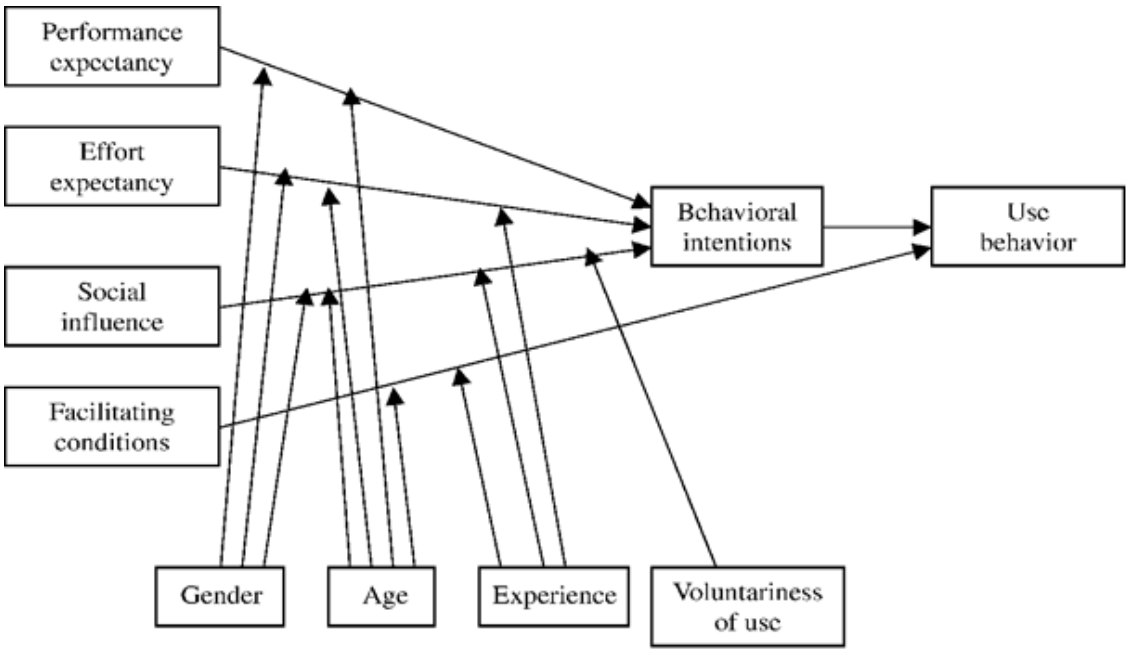

Figure 1. The research model UTAUT (Venkatesh et al., 2003).

The UTAUT model uses four core determinants to determine users behavioral intention (BI) to use a technology: Performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FC) (Venkatesh et al., 2003). Gender, age, experience, and voluntariness of use are moderating variables assumed to influence the four key variables on usage intention and behavior. The UTAUT theoretical model is derived from eight previous models of technology acceptance (Venkatesh et al., 2003), and has been used in many similar studies investigating users' technology acceptance (see Abdel-Wahab, 2008; Kasse & Balunywa; B. Lee, Yoon, & L. Lee 2009; Tagoe, 2012).

Many research studies show that the *usefulness of technology* and *ease of use* are considered to be the main factors affecting an individual's technology acceptance (Davis et al., 1989; Davis, 1989). These factors, perceived usefulness and perceived ease of use, are closely related to performance expectancy and effort expectancy, respectively. This study discussed, using UTAUT model, the ways in which the moderating variable *experience* influences individuals' core determinants to adopt e-learning in the context of Somali higher education. The factors *age* and *gender* were excluded in this

study due to the small number of participants. *Voluntariness of use* was also excluded since all the students participate in the master's program voluntarily. This study also shed light on other variables that might influence the students' perception of e-learning, and subsequently juxtaposed the variables with the ones found in Alkis et al.'s (2014) review of factors that affect the adoption of e-learning systems by end-users.

Methodology

Case study was chosen as research strategy because it offers insights to the phenomenon of e-learning at UoH that might otherwise not be achieved with other approaches (Creswell, 2009). The paucity of earlier research on the topic in this context makes case study a suitable strategy for this research (Rowley, 2002). Semi-structured interviews was chosen as the data collection method because it provides exploratory data and enables in-depth understanding of how students perceived e-learning technology, and what factors affected students' e-learning experience (Denscombe, 2007).

Data Collection

A written inquiry for research was sent to both the University of Hargeisa and Dalarna University. Respective universities granted the permission to conduct research. The data collection was performed in March 2014 when the student had passed 4 out of 7 program courses. In total 17 students consented to participate in the study. Eight semi-structured interviews were conducted: four interviews in groups and four interviews individually. The interviews were recorded using a portable recording device and field notes were taken throughout the study. The language used for the interviews was Somali.

Participants

The participants were selected through purposive sampling since this study is interested in a very specific population, namely students at UoH who attended the web-based masters program in sexual and reproductive health (Denscombe, 2007).

Seventeen students: 3 male and 14 female, from the sexual and reproductive health masters program agreed to take part in the interviews. The age of the participants ranged from 23 to 50 years old. However, most of the participants were in their twenties except for two female students who were 40 and 50 years old at the time of the interview. Half of the participants had moderate to high previous experience with ICT, while the other half of the participants had low to no previous experience with ICT. For all the participants, this was the first time they used an e-learning platform. At the time of this study, the students had used the platform for three semesters, and as the program is an on-line program, it required frequent use of the e-learning platform.

Data Analysis

The corresponding author translated all the data collected from the interviews. The management of data was done with the software Dedoose. Creswell's (2007) qualitative analysis spiral was followed as a data analysis protocol. The analysis of data was done in a cyclical and systematic manner, which, when combined with Dedoose, facilitated rigor in the analysis process. After the data were collected the authors read and reviewed the material several times before coding the data, and putting them into categories in order to give meaningful segments for interpretation, as recommended by (Creswell, 2007).

Research Ethics

The ethical measures employed in this study were aligned with the ethical principles of the scientific community (Bhattacherjee, 2012). A signed informed consent was received from every participant, and the identification of the participants was kept anonymous. The participants were adults and had the right to decide whether or not they wanted to participate in the study. The participants were guaranteed that the interview recordings would be protected from unauthorized access.

Results

This study investigates factors that affect the acceptance and adoption of e-learning in Somalia's higher education using UoH as case study. The Unified Theory of Acceptance and Use of Technology Model was applied as the theoretical framework to explore how the students at UoH perceived e-learning, and what factors affected their e-learning experience positively and negatively.

Positive Factors Affecting The Students' E-learning Experience

Performance Expectancy

The majority of students were positive about e-learning. They believed that e-learning enhanced their educational experience. *"The e-learning platform has everything you need like recorded lessons, assignment information, and course outline. And I can access these anytime I want."* (Female student, 26 years old). The students mentioned several other advantages with the e-learning system that accelerated their academic performance, including:

Communication

The students explained that e-learning facilitated their communication with the teachers and other people around the world. One female student (40 years old) said:

> *"The communication we had with our teacher was limited in traditional learning. We used to communicate with our teacher only in the classroom but with e-learning we can communicate with the teacher anytime. We just send an e-mail or post our question in the forum."*

Another male student (26 years old) explained a shift in learning strategies: "e-learning makes us aware of other system that people use to acquire knowledge. It broadens the mind when compared to traditional learning." Some of the students explained that the teachers felt more available on the e-learning platform, in the sense that they could contact the teachers anytime they had a question, and they would get a reply shortly after. On the e-learning platform, unlike in the classroom, the communication between students and teachers was not limited by time or space. Therefore, the absence of teachers in a physical sense did not affect some of the students' learning experience.

Global Community

The students stated that e-learning allowed them to be a part of the global community. According to the students, e-learning was not just a learning platform but also a way to get acquainted with other people around the world. They also stated that e-learning kept them updated on academic content in their field:

> *"In traditional learning, our knowledge was limited to lectures from our teacher and the old books that were available in our library. But with this new way of learning our knowledge has broadened. We can now browse e-books from world-class libraries." (Female student, 24 years old)*

The communication aspect was especially important for Somali students, as it facilitated a feeling of belonging to the global community of students and scholars. Technology helped to alleviate the academic isolation that aroused from very limited academic exchange into Somalia, and from the limited academic collaboration between Somali universities and foreign universities.

Information Literacy and Computer Skills

E-learning provided the students with the opportunity to browse the Internet in search for relevant information – which motivated the students to learn a set of Internet-related skills. E-learning also required students to evaluate information online, to send and share information on different platforms, and to download files from the Internet. Hence, the use of e-learning increased the students' information and computer literacy skills. Students explained that in traditional learning they could only access information through their teachers and libraries. The Internet, on the other hand, allowed them to get up-to-date information about anything they wanted.

Self-regulation

In the world of e-learning, the roles of teachers and students are slightly different. E-learning puts more responsibilities on the students than traditional teaching methods do (Sandholtz, 1997). The majority of students stated that they enjoyed being independent from their teachers: *"The real advantage is that we are totally independent from our teachers. We find knowledge in our own way."* (Female student, 25 years old). Another student continued on the same topic, emphasizing self-regulation strategies: *"with e-learning students have to take responsibility for their learning. Students have to make more effort reading and watching the lectures."* (Female student, 24 years old).

One student explained that with e-learning the discussions between students have increased. For the majority of students, being able to take responsibility for their own learning increased their motivation. Many students reported feeling more active and engaged in their studies. The online

medium allowed the students to discuss, share opinions and knowledge, and ask more questions than they could before.

Self-confidence

Some of the students mentioned that they gained self-confidence using e-learning: *"It (e-learning) gave me the opportunity to trust myself that I can learn without interacting face-to-face with a teacher."* (Female student, 27 years old). Many students reported that accomplishing the e-learning tasks made them feel more confident in the use of ICT.

Effort-Expectancy – Active Learning

Participants who had very little or no previous experience with computers struggled with e-learning at the beginning of the course. However, all of the students believed that, with the right kind of motivation, the system was easy to use:

> *"When we started e-learning, it was hard and it took time to learn the system. But after a few weeks we understood how the e-learning platform works. I think if a person is attentive it is very simple to learn and use the system. "* (Female student).

Students with moderate computer skills explained that low effort was expected to use the platform since they had previous experience with computers. Some of the students mentioned that the user-friendliness and flexibility of their e-learning platform encouraged them to pursue their education alongside their work. Those students argued that it would not have been possible or affordable without e-learning. Good Internet connection is crucial for the perceived amount of effort to accomplish a task on the platform.

There was a consensus that the e-learning platform was easy to use even though some effort was required to get familiar with the system at the beginning. The students believed that it was important to be active in the learning experience because the more one used the system, the easier it got, and the less effort was needed to adopt the system.

Facilitating Conditions and Organizational Support

Many teachers and administrators at UoH were in favor of e-learning. Students explained that they got moral and technical support from the University administration because it is the first time that a master's degree has been given entirely online. The University administration supported the e-learning program by providing resources to the students, such as classrooms, computer labs, and Internet connectivity. When the students had live lectures online, the entire bandwidth of UoH is dedicated to the students to maximize presentation quality. The University also had one trained technical assistant to help the students with technical issues. Yet, the students saw this as insufficient since the University did not replace the technical assistant when he/she was absent.

Negative Factors Affecting The Students' E-learning Experience

Poor Internet Connection

The students mentioned good Internet connection to be the most important facilitating condition. Poor Internet connectivity caused the students to miss online classes or assignment submission deadlines. The students mentioned that bad Internet connectivity caused communication disruptions between the students and teachers.

Inadequate Technical Support

The assigned technical support is, however, inadequate since the students only had one person to turn for help, and when that help was unavailable, the students were left to their own devices. This was reported to affect their learning experience negatively. The students also mentioned that there was a need for trained technical staff that could help them with specific e-learning issues.

Challenges in the Use of E-learning

Students with little or no previous experience with computers found the usage of e-learning platform challenging at the beginning of the program. These students reported that one week of system training was not enough, so instead of learning they had to figure out how the system worked.

Lack of Pedagogical Support

Some of the students stated that they sometimes lacked pedagogical support in terms of immediate interpersonal communication and feedback from the teachers. Since most of the teachers in the

master's program were in Dalarna University, Sweden, it was not possible to get pedagogical support directly when the students needed it for their studies. According to the students, the library is currently the only available pedagogical support.

Lack of Social Reinforcement

Students' friends and family members had different opinions about e-learning. The students explained that many people in Somalia are not familiar with the concept of e-learning, hence, they got asked a lot of questions:

> *"We have been asked a lot of questions like: what is electronic learning? How do you take lectures when there is no a teacher in front of you? When you encounter a problem in your study how do you solve it when there is no teacher beside you? Even now, people ask questions like this." (Male student, 25 years old)*

One of the female students (25 years old) said that her parents questioned her about e-learning. Another student explained that she had a hard time getting time off work to attend lectures: *"Since the system is new to our society, sometimes when we want to request a leave from our workplace to attend live lectures, our bosses always question whether we are really going to attend class"* (female student, 28 years old).

Also, the students admitted that sometimes people disbelieved them when they explained that they are studying a web-based masters program and that their teachers were giving lectures from another country. This made it difficult for the students to be credited for what they do.

The interviews also showed that there were some differences in terms of the academic calendar at the two universities. Students said that sometimes when UoH is closed because of a holiday, the students would still have scheduled lectures by Dalarna University, which they could not attend since the campus was closed.

Discussion and Conclusions

The findings show that students at UoH have, in general, a very positive attitude towards e-learning. This positive attitude is derived from the perceived benefits of e-learning, including facilitated communication with teachers and other people around the world, a sense of belonging to the global community, information literacy and enhanced computer skills, self-management, and increased self-confidence.

The results show that students with little or no previous experience with ICT had a difficult time adopting e-learning at the beginning of the course. However, the students managed to overcome this obstacle by interacting with the platform and being active in their learning process (self-regulation). This intrinsic motivation is related to the system's perceived ease of use, which in turn determined how the students' accepted and used the new system (Lee et al., 2009). The students concluded that the e-learning platform was easy to use once they understood how it functioned. The perceived usefulness of e-learning and the user-friendly interface played a significant role in the students' adoption of e-learning. This is aligned with the UTAUT model and confirms the findings of other research studies (Davis, 1989; Venkatesh et al., 2003).

The students reported that they were discussing and communicating more than ever before. This finding shows that the student-centered pedagogy employed in the master's program enhanced the students' educational experience, motivated them and increased their self-confidence. E-learning is learner-centered and self-paced; the students have unlimited access to information unlike in teacher-centered model, where the students have to rely on teachers as their sole source of knowledge delivery (Froyd & Simpson, 2008). All participants mentioned that they enjoy the independence from the teachers and the flexibility that came with e-learning. It seems that the e-learning success found in this study is linked to students' motivation and self-regulation, which confirms the results of previous research studies (Abel, 2005; Lammintakanen & Rissanen, 2005). It is important, however, to emphasize that the students in this study are older than 20 years old, which may affect their self-regulation skills and motivation.

The students had been using e-learning in their master studies for three semesters and were familiar with how the system worked. The students were required to, among other things, search, evaluate, save, reuse and share educational content, and this process developed their ICT skills and promoted them to become lifelong learners. Furthermore, the students developed a sense of global community; a feeling obtained through the interconnected world of the Internet, which they were now a part of. In

Somalia, with little academic exchange due to the insecure situation and traveling limitations, e-learning gave the students important feelings of belonging and self-confidence.

The students recognized that it would have been very difficult, if not impossible, to continue their studies, while working full-time, without e-learning. E-learning opened up a new world to the students where they could access educational content regardless of time and space. With only a couple of clicks away, the students could access up-to-date information about their field of profession. This finding is a clear example of how ICT empowers the participants.

The lack of technical support was a negative factor affecting, not only the students' behavior towards e-learning, but also their overall e-learning experience. This might be related to the students' inexperience with ICT, as it is hard to solve technical problems with little or no previous experience with ICT. According to previous studies Huggins & Izushi (2002), it is important that novice users' first experience with e-learning, like in this study, runs as smooth as possible in order for users to recognize the benefits of e-learning and continue their use. Therefore, this study advises UoH to provide students additional ICT training prior to course start, including basic computer troubleshooting techniques. In addition, the University should ensure replacement of technical assistant whenever he/she is absent. This would improve the students' experience with e-learning.

Poor Internet connection and inadequate pedagogical support were found to be the key negative factors affecting the students' learning experiences and behavior towards e-learning. According to Lee et al. (2009), immediate feedback is an important component in Internet-based learning medium because *"it can help students better understand the learning material and enhance their usage experience"* (p.1102). Also, the authors advise the University to provide students interpersonal support services in terms of a tutor, synchronized communication with the teachers, and occasional seminars or tutorials. This may alleviate the lack of pedagogical support, as perceived by the students. While Internet connectivity problems are reoccurring incidents in Somalia, it is predicted that Internet connectivity will improve in the near future, owing to fiber optic infrastructure installed at the end of 2013 ("Somalia in high speed", 2014). This will improve the overall Internet capacity in Somalia.

The results of this study show that socio-cultural influence, in terms of people's skepticism towards e-learning as an educational delivery method, affected the students' perception of e-learning negatively. Because e-learning is a new mode of learning and teaching in Somalia, many people are not familiar with the concept, and consequently many people question the credibility of the method. Some students reported lack of support to pursue e-learning from their family and workplace. Fortunately, the negative perceptions of e-learning have not discouraged the students to discontinue their studies. This may be a result of the positive organizational support from the University. Nevertheless, the authors believe that it is vital to discuss openly the negative impact of socio-cultural influence with the students in order to alleviate plausible problems.

Another problem related to socio-cultural differences was the different academic calendars of UoH and Dalarna University. Research study has shown that culture and traditions are strongly linked to acceptable e-learning practices (Al-Adwan & Smedley, 2012). Hence, Dalarna University should take into account the holiday calendar of Somalia to facilitate Internet access for the students.

A value map showing students' e-learning experience at University of Hargeisa

The analysis of this study revealed some positive and negative factors affecting the students' e-learning experiences at UoH. The figure below shows the facilitating conditions (white squares) and limiting conditions (dark squares) associated with the students' e-learning experiences at UoH. These are linked with contextual values (circles).

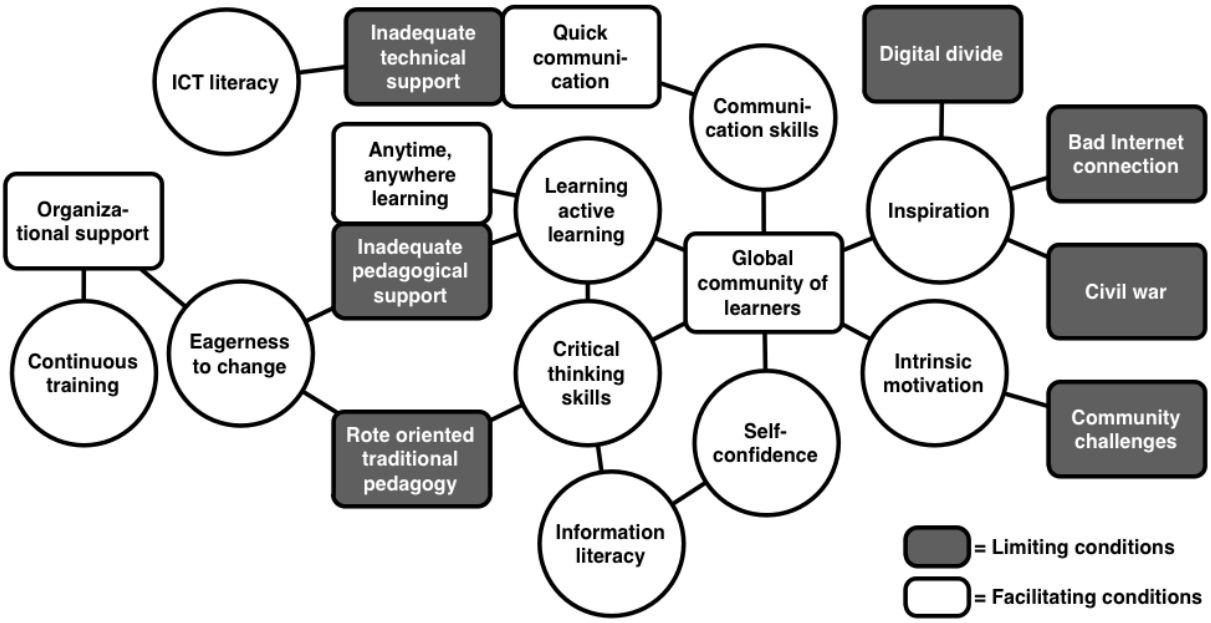

Figure 2. A value map showing facilitating conditions (white squares) and limiting conditions (dark squares) associated with the students' e-learning experiences at UoH. These are linked with contextual values (circles).

Similarities and differences with results of other studies

Too many studies have been conducted to empirically explore the factors affecting student's e-learning experience and acceptance of the technology. Similarly to this study, most of them use TAM, UTAUT model or variations of these and other models. Alkis et al. (2014) summarized the researches conducted between the year 2000 and 2014 and identified 80 constructs or effective factors in e-learning acceptance used in these studies. They grouped the constructs in six dimensions: social environment, belief dimension, individual characteristics, application characteristics, institutional factors and e-learning popularity. The large number of factors results from the fact that almost all of the investigations used questionnaire as an instrument for data collection. On the contrary, this study uses interviews with the students and as a result identifies factors derived from the words of the respondents. Table 1 shows identified factors that positively or negatively influence the future use of e-learning at UoH are very similar to those found in other studies. Although the wording is different, the meaning and the essence are very similar when the descriptions of the factors in sections 5.1 and 5. 2 are carefully analyzed.

Table 1.

Similarities and differences of the factors identified in this and other similar studies

Dimension based on factors 'perspective	**Factors identified in this study**	**Corresponding factors in other studies identified in Alkis et al. (2014)**
Social environment	Global community	Peer encouragement
Belief dimension	Performance expectancy, Effort expectancy	Perceived ease of use, Perceived usefulness, Perceived learning, Perceived behavioural control
Individual characteristics	Self-confidence, Self-regulations, Information literacy and computer skills, Technological challenges	Self-efficacy, Internet experience, Personal innovativeness in the domain of IT
Application characteristics	Communication, Poor Internet connection, Lack of pedagogical	Communicativeness, Accessibility, Pedagogical

	support	quality, Feedback
Institutional factors	Facilitating conditions and organizational support, Inadequate technical support	Learning goal orientation, Availability of technical support
E-learning popularity	Lack of social reinforcement	Diffusion

Conclusion

This study show that e-learning in combination with easy to use ICT tools, access to OER, and robust ICT support enhance the students educational experience and facilitate communication with the teachers, other students, and with the global community. Moving from classroom learning to e-learning has urged the students to shift in learning strategies which promoted their information literacy, computer skills, and active learning processes. In the light of future SDG, it is urgent to scale up the use of e-learning in post conflict setting such as Somaliland. In order to succeed with e-learning adoption, local institutions need to build capacity and structures to provide their students with technical and pedagogical support. The faculty staff needs to develop specific pedagogical skills adequate for using ICT based and self-directed learning that promote life-long learning. Community awareness of the use of ICT is needed to increase the social reinforcement of e-learning.

Limitations

This study was an important step to better understand the experiences of novice e-learners in Somalia higher education. The data were collected through interviews with students at a single program at master's level, which fulfilled the purpose of this study, but also limited the findings to these particular participants. Nevertheless, the results gave valuable insights into the perceptions of novice e-learning users in Somalia. Future research would benefit from a quantitative study to see how widely the e-learning experiences found in this study can be applied to the general student population who engage in similar technology-enhanced learning activities. The quantitative research would benefit from including demographic factors such as age and gender, which was excluded in this study due to the limited number of participants. Even though previous research studies have shown that demographic factors affect students' e-learning experiences differently, it would still be interesting to see if this relationship exists among Somali students as well. The paucity of research within the context of Somalia poses another limitation of this study. Somalia has a long history of internal conflicts and political instability, which as a consequence, results in a limited number of publications within the field of education and ICT. Most of the available literature about Somalia was related to conflicts and humanitarian crises, which reflects the country's history.

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