CHALLENGES OF ADAPTIVE ELEARNING AT HIGHER LEARNING INSTITUTIONS: A CASE STUDY IN TANZANIA

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ABSTRACT

This paper reports on the research conducted with the purpose of establishing the acceptance of eLearning, analyses the challenges of eLearning and designs an assistive tool for people with disability at higher learning institutions in Tanzania. The information was gathered through documentary review. Primary data was collected from a sample survey by means of structured questionnaires and interviews. Study population was carried out at higher learning institutions conducting eLeaning. The research identified several factors that challenge the implementation of adaptive eLearning at higher learning institutions. These include management support, methodology, technology, resource accessibility and availability, culture of education and learning styles, design of assistive tools, intellectual investment, and global business. It was concluded that eLearning is more highly accepted in higher learning institutions than in basic education. However, there are doubts about the certificates obtained from online courses**.** The factors that challenge implementation of eLearning are very interrelated in bringing the success or failure of eLearning projects. However, accessibility of resources of eLearning was found to affect disabled people more than normal person.

Key words: eLearning, Adaptive Learning, Adaptive computing, eLectronic for Visual impairments, Learning Management System.

1. INTRODUCTION

The recent increase of up to 83.5% of primary school enrollment in Tanzanian education is a signal to call for innovative thinking for enlarging the means of education at secondary schools and then at tertiary levels (BEST, 2006). The government of Tanzania has attempted to solve this problem mostly by traditional means without much success. The government is challenged with a limited number of teachers, teaching materials, and accommodation for both teachers and students, and tools that assist disabilities in primary and secondary schools. Other challenges are defined in the Secondary Master Plan (SEMP, 2005) as access beneficiaries of public spending on education, gender access, family financial constrains, equity, boarding system and social cost for pupils being away from home. Therefore one possible way of solving this problem is to adapt eLearning in education system.

2. THEORETICAL BACKGROUND

2.1 Concept of Adaptive Computing and Adaptive eLearning

There are many definitions of adaptations in eLearning system (Henze & Nejdl 2004). Usually the definition is focused on the student, although it sometimes involves tutors. Adaptive eLearning can be defined as a method to create a learning experience for students, but also for teachers, based on the configuration of a set of elements in a specific period aiming to increase performance of predefined criteria (Burgos, 2006). These criteria could be education, economic, time based, user satisfaction base, or others involved in e-Learning. The elements to adopt could be based on content; time orders assessments and interface.

The application of adaptive eLearning to education is mainly structured mainly into four issues. First, what part of the components of the learning process is adapted (pace of instructions, sequence of contents that can be modified). Second, what information does the system use for adaptation (user knowledge, preference, cognitive capabilities and learning goals). Third, how does the system gather the information to adapt to (didactics rules & layout standards). And last, what does the system adapt (pedagogical model), (Burgos, 2006; Burgos & Colin, 2005).

The traditional problems involved in authoring adaptive eLearning contents have been nearly resolved by the new generation of powerful authoring tools most of them being proprietary instead of Open Source Software (Brusilvsky, 2004). But not all modern authoring kits address the need of universities, teachers and administration. It is important to realize that the design of adaptive eLearning is not "One *size fits all paradigms*". The resource developed in one environment will not fit all other environments in terms of hardware utilization, social perspective and outcomes based. The design of any adaptive eLearning tool should take into account both social aspects, and technology existing at learner's site (Alessi, & Trolip, 2001).

In many eLearning projects including students face some challenges of bad perception during their studies; lack of pedagogy in their curriculum, lack of resources, lack of user touch and feel in their eLearning platform (Allen, 2003; Ostlund, 2005). Also most eLearners can't manage to study at home as they are responsible for domestic activities like caring for their children and solving some household chores (Ostlund, 2005). Further, some instructors are not knowledgeable enough in coaching or use of multimedia tools hence making learners bored during the lessons; they lack Tele-Coaching skill (Pal, 2006). It is again to these challenges that adaptive computing becomes a challenge in designing a tool that motivates learning process.

2.2   Perception on eLearning

To successfully create eLearning program, we need to ensure that value really is there and it is in concrete terms. That means we need to sell learners on the truthful proposition that participation will provide benefits worth the time and effort. The curriculum needs to be the point of reference for creating an effective e-Learning. Doing so will stimulate vital motivation and give the program a chance to succeed (Allen, 2003).

Bad eLearning perception may be due to lack of understanding, lack of communication, and lack of trust or conflicting agendas in appropriate use technology. Some goal coaching and awareness exercises are probably needed to strengthen people's perception (Allen, 2003; Ajzen, 1988; Bebee, 2004). It is important to realize that learners are both emotional and intellectual; and emotions have much effect on people's perception and what they do.

In some eLearning studies conducted in developing countries, it was found that lack of vision and framework in implementing eLearning lead to a failure of these eLearning projects (Kizito and Bijan, 2006; Pal, 2006). Lack of both technical and social skills required for implementation contributes to the failure of some projects. If learners cannot use adaptive tools they might feel ashamed and this affects perception. When learners feel ashamed and guilt it is because they are sent in environment in which they are not entirely pleased. The feeling will influence their study situation, as well as the whole learning process and this results in negative feedback, which may reduce concentration and motivation (Ostlund, 2005).

2.3 Contribution of eLearning in African Economy

Education is a root of development in a country. A number of studies have shown that primary education and vocation training have a significant positive effect on economic growth, earning and productivity (LaRocque, 2003). Even though introducing eLearning in African education system may

present challenges including financial skills and capacity but it can help developing countries to meet development challenges.

3. METHODOLGY

3.1 Research instruments

Research instruments were designed and categorized into two parts. Part one was designed to measure people's perception on a phenomenon and identify factors that challenge eLearning. This could be done into two major categories, namely direct assessment or indirect assessment (Likert, 1932). In this part, rating scale questionnaires were designed with five numerical values (1-5) corresponding to a scaling "Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree".

The scoring key for each item was taken from scale 1 to 5. Positive items were scored from 5-1 while negative items were scored from 1 to 5. Part two of the questionnaires was designed to examine factors affecting eLearning from the disabilities perspective.

3.2 Data analysis

In order to identify principal component factors, which challenge eLearning, new variables were computed by summing up all items in each group. For each group, data reduction by factor analysis was carried out in order to extract principal components. A rotated component matrix was identified using varimax with Kasiser Normalization. Some rotated convergences were found after 8 iterations and others after 5 iterations. In a component, percentage of variance ranged from 45% to 0.9%. In order to identify contribution of each item, correlation analysis was carried out. The correlation factors ranged from 0.87 to 0.45 and it was significant at 0.05.

4. RESULTS, ANALYSIS AND DISCUSSION

4.1.1 People's Perception of eLearning

People's perception of eLearning was analysed in different ways, including asking questions, whose answers revealed personal traits as well as a person's perception of social pressure as to whether to engage in eLearning or not. The analysis focused on personal acceptance of eLearning, acceptance of the certificate obtained through an online program as well as acceptance of eLearning at various education levels. The results showed that the majority accept eLearning (Figure 1.1), 75% accept that eLearning is as good as traditional learning, 10% did not accept while 15% remained undecided.
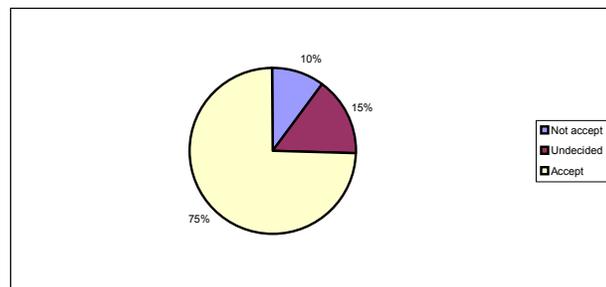

Figure 1.1: Personal perception of eLearning

Respondents were also asked to give their opinion on whether eLearning could be applied to the Tanzanian education system (Figure 1.2); 75% accepted that eLearning could be applied to Tanzanian education, 8% did not accept while 17% remained undecided.
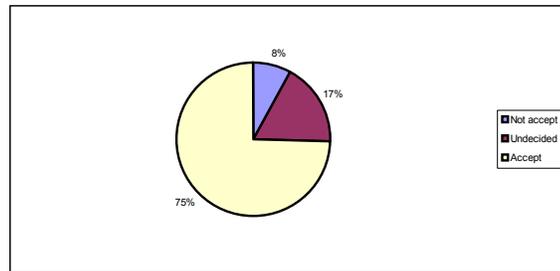
Figure 1.2: Acceptance of eLearning in Tanzania education

4.1.2 Trust, Quality and Certification of eLearning

The quality of eLearning courses builds trust in stakeholders. Quality and trust are crucial, not only for economic benefits, but also in restoring the confidence of learners and their sponsors in the education system as it addresses the issue of value for money. In this research the issue of quality and certification was examined. Respondents were asked to give their opinions on whether a certificate obtained from an eLearning program is as respected as the one obtained from traditional programmes. The results showed (Figure 1.3) that people still have doubts about the certificate of eLearning courses, as only 40% accepted that eLearning certification is valued the same as traditional programme certifications, 37% did not accept   while 23 % remained undecided.
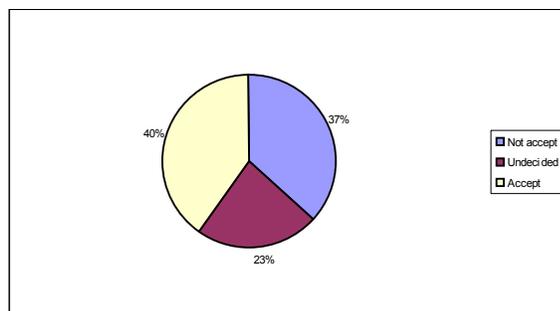

Figure 1.3: Recognition of eLearning certificates.

From the interview, the response showed that the trust, quality and value of the certificate for employment was not a question of how the students obtained the certificates but from which university or college they graduated. It is the responsibility of the institution to ensure the quality, and to build the trust and confidence of the public regarding their certifications.

The source of the problem of untrustworthy certificates from online programs is due to unregistered institutions, which market online degrees for business purposes. The public is worried about having many graduates from such unregistered institutions. In Tanzania there is some control, as the Tanzania Commission for Science (TCU) is always undertaking technical auditing of the universities to examine their staff and their qualifications. Others reasons for untrustworthy of online certificates includes security and quality assurance, dishonest and possibility of cheating on online examinations.

4.1.3   Acceptance of eLearning at Various Levels of Education

The research showed that eLearning is accepted in the Tanzanian education system. However, its acceptance varies widely from basic to tertiary education. Results showed (Figure 1.4) that 86 % recommend eLearning to be applied at degree level while only 9% accept it at nursery school. Results also showed that 20% accept eLearning at primary school, 31% accept it at secondary school and 50% accept it at advanced secondary.
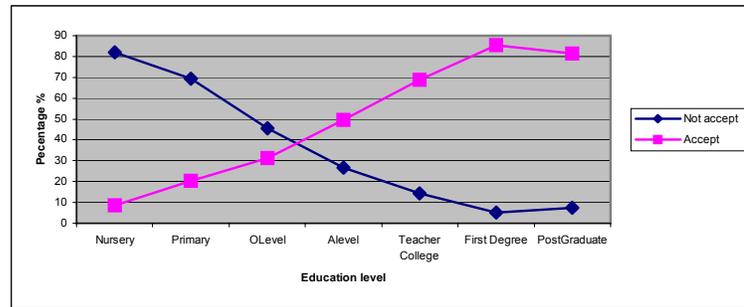
Figure 1.4: Acceptance of eLearning at various levels of education in Tanzania

Figure 1.4 indicates that eLearning is acceptable to be applied from secondary schools (A-Level) to tertiary education. From the interviews, the reasons given for not accepting eLearning in basic education is maturity level, experience of computer learning, culture dilution and the IT infrastructure. People believe that at A-Level, students are mature enough and they start being responsible for self-learning. Some indicated that at nursery school, pupils might get lost in information searching especially when using web-based learning because they have no ability to filter out information from websites. From the interview it was also observed that students prefer eLearning because of the global employment market competition.

4.2 Factors Challenging Adaptive eLearning in Tanzania

Several factors that challenge the implementation of adaptive eLearning were identified. These include management support, methodology, technology, resource accessibility and availability, culture of education and learning styles, design of assistive tools, intellectual investment, and global business.

4.2.1 Intellectual Investment

The quality of online programs depends on the intellectual investment in the course. The research result (Figure 1.5) showed that 63% agreed that the courses that they had taken had focused on skills, 15% disagreed, while 22% remained undecided. Responses from students taking eLearning courses (Figure 1.5) showed that 66% agreed that the learning objective in the eLearning courses that they took had had a positive impact on them personally and on their organization's needs, 11% disagreed while 23% remained undecided. Concerning the contribution of course materials to their job performance, 60% agreed that the learning materials were focused on the actual job, 17% disagreed, while 23% were uncertain. Students were also asked about the methodology used in the delivery of their program; 54% agreed that the learning methodology enabled them to solve their problems and things were as they had expected, 14% disagreed, while 31% remained undecided (Figure 1.5).

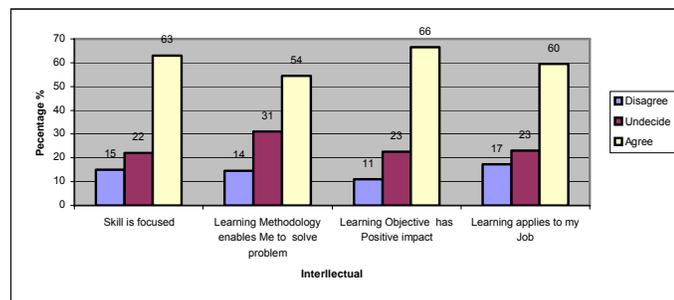Figure 1.5: Influence of skills obtained from eLearning courses

4.2.2. Didactic Rules and Application of eLearning Tools

The design, development, integration and uses of technology in the classroom are driven by individual and institutional ideologies, which are based on the vision and mission of the institute. Designing didactic rules in eLearning platforms is a challenge for most designers. The result (Figure

1.6) shows that 73% agreed that the layout, i.e. colour, font size and animations, was well structured in the content, 9% disagreed while 18% remained uncertain.
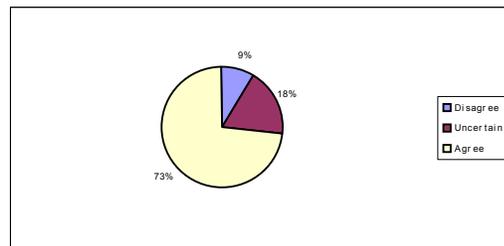

Figure 1.6: Layout standards of eContent

The authors analysed the model of assessment in online programs (Figure 4.7). Results showed that students are very eager to track their progress. 88% found this tool very useful during their studies, 7% found it useless and 5% were uncertain. The result also shows that 75% found self-assessment very useful, 14% found it to be useless while 11% were uncertain. 75% found the online test, or quizzes for academic records to be useful, 7% found them useless while 18% were uncertain. On the same lines, 79% found the use of DVD, CDROM, and TV in accessing online courses to be useful, 16% found it useless while 5% were uncertain. About 55% were interested in online tests for fun and found them useful, 20% found them to be useless while 25% were uncertain.
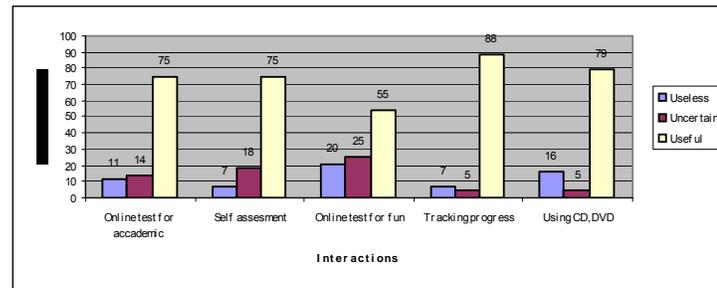

Figure 4.7: Model of assessment in online courses

The interaction between students and the instructor was mainly though email and message boards (Figure 1.8). Many students used email to send their assignments and 91% found this tool very useful. 54% found the message board very useful tool for interaction, 16% found it useless, while 30 % were uncertain. From the interviews, students clarified that email is readily available and easier to use than the message boards.
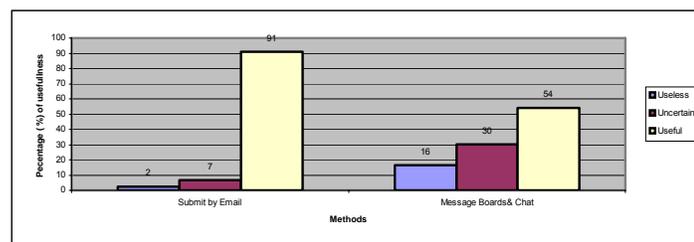
Figure 1.8: Interaction method in eLearning courses

4.2.3 Management Support

Asked about the support they got from management, 69% agreed that there was high motivation during their course program, 11% disagreed, while 20% were uncertain. They were also asked to evaluate the instructor's knowledge of the program (Figure 1.9). It was found that 62 % agreed that instructors were knowledgeable of their respective courses, 20 % disagreed, while 18% were undecided.
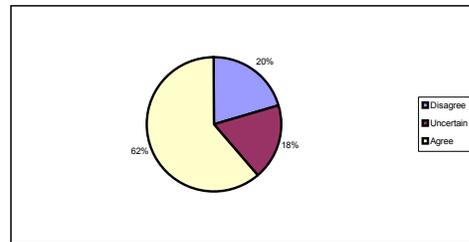
Figure 1.9: Instructor Knowledge

4.2.4.   Self-Learning and Personal Time Management in Online Programs

From this research it was observed that there are disruptions to online learners at workplaces as well as at family level. Further, the results show that online learners were able to manage their time well irrespective of social disruptions. 68% disagreed that they had the problem of a time conflict with family problem, 18% agreed having family disruptions while 14% were undecided (Figure 1.10). Concerning time conflict at the workplace, 66% disagreed that they had a conflict with the office's working plan, 27% agreed having conflicting schedule with the working plan, while 7% were undecided (Figure 1.10).
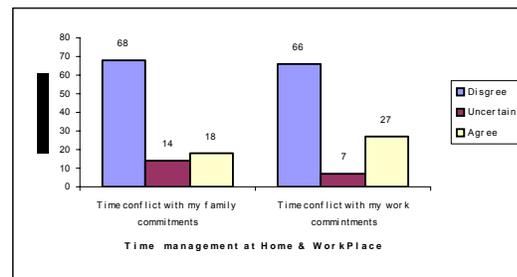

Figure 1.10: Family and work disruption to Learners

Respondents were asked to indicate whether they had time limitations during the program. The results showed that 68% agreed that they had very limited time to do their self-studies while 32% disagreed (Figure 1.10). However, from the interviews, it is observed that it was difficult to tolerate the social conflict in the family, as people do not understand why learners do not socialise because they are at school.

Another disrupting factor for eLearning in Tanzania is the availability of a stable supply of electricity. 45% of respondents agreed that during the learning period, they were very much affected by electric power cuts, 32% disagreed, while 23% were undecided. From the interviews, it was observed that some people were using generators at home or at the office in case the power is cut off. Some had installed solar panels for home use.

4.2.5.   Resources Availability and Accessibility

From this research it was discovered that the design of eLearning tools must ensure reliability, accessibility and sustainability of the program. Tools designed for eLearning must also create room for expansion and must be affordable for any type of education service. Prior to launching eLearning, management needs to ensure that there are enough resources needed by learners and that they are accessible anywhere and at any time. This research reveals that 57% agreed and were satisfied with the number of PCs available at the institute for their use, 30% disagreed, while 14% were uncertain. Respondents were asked whether they were able to access computers at home or at the office, and 75% said that they were able to access computers at home or at the office, 11% were not able to access computers at home and 14% remained uncertain. Respondents were also asked if they were able to access the LMS/LCMS from home or at the office; 73 % agreed that the LMS was accessible at home and at the office, 16% disagreed, while 11% were uncertain.

The authors also examined the accessibility and availability of the Internet, computers, and printers for learners during their study. Concerning security in connecting to the Internet, the results showed that 32% agreed that they faced a lot of problems of security, but 68% did not face problems of

security (Figure 1.11). At the same time responses showed that 34% agreed that they faced the problem of access to the Internet, while 66% did not face that problem (Figure 1.11), which indicates that Internet connection in Tanzania is still a problem. From the research it is observed that 52% face slow Internet connection and 48% did not face that problem (Figure 1.11). From the interviews it was also observed that some organizations have wireless Internet connection but the majority have cable connection of 128Kbps shared or dedicated. Some people are also able to own wireless broadband connection offered by Tanzania Telecommunication Company (TTCL) or by Zanzibar Telecommunication (ZANTEL).
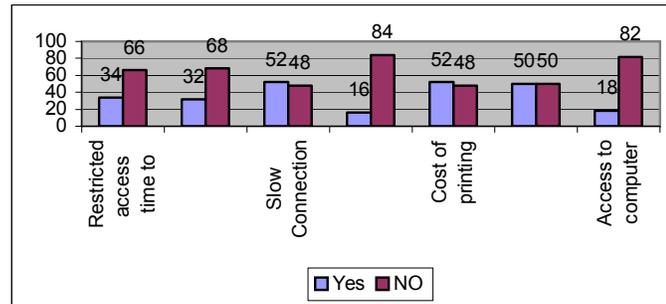

Figure 1.11: Accessibility of resources

The research also revealed that most of the eLearners had access to computers. Responses showed that 82% had access to computers while 18% had no access to computers (Figure 1.12). The reason for this is that the cost of computers is coming down every day and therefore people can afford to own a PC at home.

4.2.7. Application of Technology

Technology usage and application is a must for online instructors. Proper usage and control of the tools by instructors motivates the learning process.
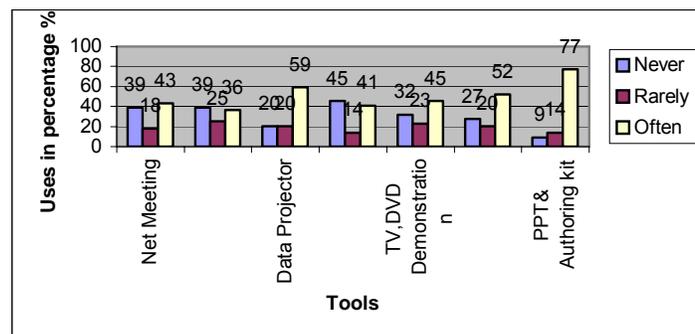
Figure 1.12: Application of various tools by instructor

The research revealed that 77% of instructors (Figure 1.12) often used power point presentation for demonstration, projecting the material on the boards. Virtual Classrooms with web camera, or virtual learning software in the lab were less often used; only up to 36%. Video conferencing was also used, up to 44% (Figure 1.12).

4.2.8   Method of Delivering eLearning Programs

In a situation where eLearning is not yet popular, a step-by-step approach to implementation is needed. Learners need to familiarise themselves with the eLearning style. In order to do so, different methodologies may be used including Computer Based Learning (CBL) or Web-Based Learning (WBL). This research reveals that eLearning could be used and supported with face-to-face training.

60% of responses recommended strongly that face-to-face training should support eLearning, 17% did not recommendation this while 23 % were uncertain (Figure 1.13).

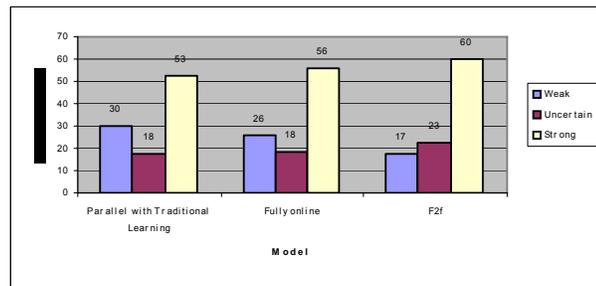Figure 4.13: Various models for delivering eLearning Program

Concerning the mixed mode of eLearning with traditional learning, 52% recommended strongly that eLearning could be used with traditional learning, 30% did not recommend this while 18% were uncertain (Figure 1.13).

4.2.9.   Global Business

Effective eLearning develops learners' interests, attracts learners globally, and enhances learners' self-esteem and confidence. It builds competitive performance and is meaningful to both individuals and employers. Students were asked whether eLearning is relevant to their career needs and the needs of their organization (Figure 1.14). Concerning the relevance of eLearning to personal needs, 95% agreed that eLearning is valid for personal needs, 5% were uncertain (Figure 1.14). 89% agreed that eLearning is good for their future career, 5% disagreed while 7% were uncertain (figure 1.15). Also 77% agreed that eLearning is relevant to their organization's needs, 2% disagreed while 20% were uncertain (Figure 1.14).
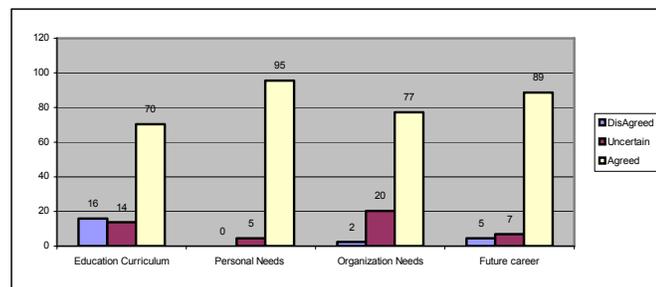
Figure 1.14: Relevance of eLearning to global market employment

4.2.10   Culture, Environment, and Learning Style

The authors also analysed the perception of people's culture as well as their interests when taking the online courses (Figure 1.15). The result showed that 71% agreed that eLearning is not against their culture, 11% believed (agreed) that it is against their culture while 18% were uncertain. The respondents were asked whether the scholarly and academic status of online learning is less respected in the country (Figure 1.15). The results showed that 47% agreed that it is not less respected in the country, 23% accepted that eLearning is less respected while 30% were undecided.

Figure 1.15: eLearning against education culture

5. DISCUSSION

5.1 Credibility of eLearning

From figure 4.5, it is observed that credibility of eLearning is greatly influenced by the learning objectives and learning outcomes, which resulted in skills being obtained by the learner. In order for an eLearning course to have "learning" in it, the value must be there and it must enhance the learning process. The value of an eLearning progr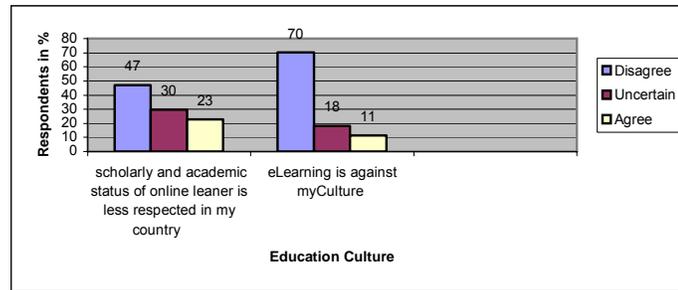am can be measured by the expected skills that a learner gets from the program. In any training, the objective of a course and methodology should ensure that the quality and relevance of the required skills are there, and they must help learners to solve their problems.

Knowledge of the instructor is a catalyst in creating an intellectual eLearning program. Higher learning institutions planning to implement eLearning will not be able to escape from continued training of staff. In many higher learning institutions there are no up-to-date laboratories, teachers get comparatively low renumeration and even suffer from lack of status, and so it is little wonder that few practitioners are attracted to take up teaching as a career. Moreover, teachers and trainers today need a much wider range of skills and competencies than in previous years if they want to survive in the globalisation of the economy.

5.2. Adaptability of eLearning Tools

Developing eLearning platforms or eContent requires innovation and skill in the selection of LMS/LCMS, or authoring tools. The platforms need to be designed with accessibility and adaptability in mind. The features integrated in the platform must ensure that learners participate fully in learning. Instructors should be equipped with the necessary tools for content authoring and ensure that the administrator of the platform has a full set of administration tools.

In order for an eLearning course to be recognized worldwide, it must be accredited by value, which leads to recognition of the awards. Students taking eLearning courses need to be under the same rules of tests, quizzes, assignments and examinations as in traditional classroom learning. From the findings of this research all centres of eLearning were conducting offline examinations. There were online tests for self-test or for fun. Only assignments and examinations were awarded marks for academic purposes. In almost all centres assignments were submitted by email, and students were able to join in the class by means of a forum. At the Dar Es Salaam Institute of Technology (DIT) and at the University of Dar Es Salaam (UDSM) students were able to take part in video conferencing.

It is important for the designers of eLearning tools to also address the issues of equity in terms of gender, socio-economic status of the country, physical and mental disabilities, culture and geographical considerations. It is also important for designers to design efficient systems, which ensure suitability and relevance of the lessons needed by learners.

5.3. Security and Quality Assurance for Online Programs

For online programs there is a need to develop quality assurance to ensure that learners are effectively trained for today's competitive job market. The university academic quality assessment and grading criteria must be used for the judgment of online programs as done in traditional classrooms. The learner's use of self-test should not influence the assessment decision. There is a need for instructors to give out authentic assessments (real world tasks). However the integration of self-tests, and fun quizzes is still important to motivate learners.

If online assessment is to be done, then the institution should ensure that there is appropriate infrastructure to facilitate the process. Research into and study of the latest techniques and processes for online assessment must be carried out, evaluated and tested to ensure that no cheating can be done by learners. System security, registration of the learners with unique identification and the overall administration of the online assessment by system administrators are foremost means of online quality assurance.

Dishonesty and cheating are very challenging in online assessment. It is easier to prevent learners from cheating when assessment is done in the traditional classroom or in examination centres. However, in online assessment it is difficult to prevent cheating. It is advised to have virtual laboratories for online assessment; otherwise the use of examination centres becomes necessary in conducting online programs. Again, what to be assessed is the question; assessing knowledge through online assessment might be easier than assessing skills.

5.4. Management of eLearning

From figure 1.9, we can argue that in order to make eLearning successful, three areas of management need to be considered: access, motivation, and competence. It is the management which should create an environment for good access to resource, which should motivate students and ensure the quality of eLearning for students to gain competence from the course.

Experience has shown that introducing new technology needs new skills to operate and maintain that new technology. It also needs the development of organizational infrastructure in which the newly acquired skills become embedded. For that reason, capacity development of instructors, technicians and managers of eLearning centres becomes necessary in any institution, which wants to introduce eLearning.

5.5. Time and Personal Management During eLearning

Unlike traditional learning where students in universities have full accommodation and have full control of the time plan, online learners are with the family or with staff at the workplace. Therefore sometimes a learner's schedule may conflict with social factors. From Figure 1.10 it is observed that it is not enough to have a well designed eLearning system, effective content or good technology for an online learner to learn. Learners need to organize their time, and control activities like responding to Email, chatting with friends, work pressure, and social issues in the family. The environment in which the learners' work has to allow the concentration required for effective learning to take place. Management support and good relationships among learners are important for success in the course. Support for the course from within the employing organization, University Management, and even the family is critical for the success of eLearning in an organization.

In some cases staff enrol in an eLearning program without prior acknowledgement and authorization of his/her employer and, as a result, many learners experience difficulties with their bosses. They had no time set aside specifically for their eLearning course. They spend their working time on training, and sometimes this ends up with learners being pulled from their computers by their employers to deal with production-related activities. In order to address the issues of time conflicts, the organization's training managers, work supervisors and the learner should play a coordinated role in the eLearning initiative, bringing together learners, superiors, technical support and financial matters that create the chance of success. It is recommended that these actors should jointly create a training plan that is transparent to all of them. Such a plan should clearly identify the needs of learning, the hardware support required for learning, and the time and financial support needed by learners. Lack of management has been blamed for many eLearning failures, and this research has found that some improvement and management support is still needed.

5.6 Technology Support for Learning Processes

Technology is one of eLearning's enablers whose proper application and usage facilitate learning. In traditional learning, learners are equipped with books and pens to copy written notes from the traditional black board. In eLearning it is the reverse; learners are happy with summarised notes projected on the boards, simulation and animations, provoking video images and stimulating sounds. These techniques enable learners to have cognitive learning.

From Figure 1.11 it is observed that the growth of technology means that resources are more available to organizations, academic institutions and individual people. Today it is possible to see privately owned laptops, desktops, printers and wireless broadband connections at home. However, in

Africa in general, the cost of Internet connection is still high. The range of payment varies from $ 4.5 per Kbps per month (Kbps) up to $ 36 per Kbps for bandwidth. The direct impact of the lack of affordable connectivity in the country has created a digital divide between rural and urban people within the country. From this research it is observed that students from Mufindi in Iringa region (registered for Postgraduate diploma at ESRF), Geita in Mwanza region (registered for a Masters degree at DIT) had experienced serious problems of Internet connectivity.

5.7 Cultural Influence on eLearning

People's behaviour towards an object is a function of intention. According to the theory of reasoned action, intention is a function of personal nature and social influence (Ajzen, 1988). Generally, people intend to perform a certain function when they evaluate it positively and when they believe that others think that they should perform it. A single failure of performance may influence others too. It is important to evaluate people's culture, identify their interests and also their needs prior to commencing eLearning for them. A designer of an eLearning program needs to design online courses that reflect the learning culture of the students, and the cultural pedagogy of the nation, as well as having cultural flexibility and the inclusion of the online environment of the learners.

Results also reveal that, despite a general unfamiliarity with computer applications and, in particular, eLearning tools, students registered for online programs without prior knowledge can still cope easily with eLearning tools and search for information from the Internet. Online students can easily adapt to the online learning environment and prove to be very flexible in terms of learning methodology and pedagogy approaches. The constructivist activities, which emphasise authentic exercises (real world tasks), social negotiation of meaning, and knowledge presented and applied in context, are well suited to the learning style of many students who prefer practical knowledge acquisition that can readily be applied to their personal or professional lives. The close contact maintained between learner and instructor, and between course coordinator and learner through chat forums, proves to be important and reduces the dropout rate of students.

6. CONCLUSION AND RECOMMENDATIONS

From the results we make the following conclusions:
People's perception of relearning is greater at the tertiary level of education that at the basic education. However, there are still doubts about the certificate obtained from online programs.

Concerning factors challenging implementation of eLearning, several were identified and found to be interrelated in affecting eLearning. It is important to note that, before commencing an eLearning program, capacity analysis needs to be done first.

It was found that the learning culture is also one of the obstacles in adapting eLearning. Therefore, implementers must be careful and sensitive in how to promote eLearning as a phenomenon for development. However, it is not easy to please everybody's feelings concerning eLearning, and so it is important for the government to take action to implement eLearning as long as the majority accept it.

The analysis of the technology, resource accessibility and availability revealed that there is an existing initiative by the government, private companies, and NGOs to improve IT infrastructure. Even though power interruption is a problem for implementing eLearning, people still can get other means of power sources such as using generators or solar energy. It was observed that the reduction of taxes on computer items has enabled some people to afford their own personal computers or laptops.

Regarding the global market and intellectual investment, it was found that in order for eLearning courses to produce an outcome that is competitive in the global employment market, universities need to invest carefully in online courses.

Based on the findings and conclusions the author makes the following recommendations for further research.

- There is a need for further comparative research to be carried out on people's perception of eLearning in years to come.
- Additional research should be carried out to outline the significance of each factor in influencing the implementation of eLearning.
- There is a need for a market and regulatory survey of eLearning in to be carried out in order to guide the eLearning investment decisions of both private and government institutions.
- There is need to develop tools for information access and learning for people with disabilities.

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