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- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

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ISSUES AND CHALLENGES IN INTEGRATING ICT INTO TEACHING AND LEARNING PRACTICES TO IMPROVE QUALITY OF EDUCATION

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ABSTRACT

Developments in Information and Communications Technology (ICT) and its applications in teaching and learning are calling for instructors to integrate ICT into instruction. It is the only option to accomplish the intended change in developing students. This study aims on exploring the process of integrating ICT into teaching and learning and its emerging challenges in University. The researcher used descriptive survey method to asses instructors' experiences in integrating ICT into instructional process. The results revealed that both the instructor and student respondents have positive attitudes towards ICT and considerable knowledge and positive understanding of ICT. However, the university fails to provide appropriate ICT-training courses for instructors to develop their technical ICT skills. Having said this, there are crucial examples of horizontal integration; that is, the instructors provide opportunities for the students to use ICT in meaningful contexts. The study suggest that there is a relationship between the practitioners' stages of concern and stages of adoption, which can be described as follows: the personal level of concern moves from the self-concerns' to task and impact-concerns', the personal adoption level is also likely to move from entry to invention. Although the researcher identified some crucial factors that has prevented the instructors and students from using ICT resources in teaching and learning, among these the institutional factors such as lack of proper access to ICT resources, overcrowded-classrooms, lack of technical and pedagogical support are more influential on the integration process.

KEYWORDS
ICT, integration, learning, pedagogy, teaching.

1. INTRODUCTION

It is through education (both formal and informal) that the individual is able to become a productive citizen and acquire the knowledge and skills needed to adapt to an ever-changing political, social and economic environment. The growth of ICTs in education is a global phenomenon (Francis & Ezeife, 2007) and this creates a competitive market for the provision of "borderless higher education" (Thorburn, 2004). The goal, and the very nature of ICT, is that a continuity of learning experience is delivered on a potentially global basis. Understanding the differences that exist on opposite sides of the world in the ICT process is one way of moving towards the development of ICT resources, materials, processes, and procedures that have global utility (Collins, 2002). Even though there is potential for major benefits for all concerned, in terms of gaining a high quality, cost effective, standardized ICT product and experience, ICT also continues to set a challenge for providers to develop new strategies for teaching and learning and raises fundamental questions about the learning process.

The university level nations have understand the importance of ICT in education and are seeking to enhance the teaching and learning environments in all areas of their education systems through ICT. Information and Communication Technology (ICT) integration have an impact on education (Becta ICT Research, 2006; Jimoyiannis & Komis, 2007). Promoting change has become a component with the potential to revolutionise and transform education (Becta ICT Research, 2006:7; Wang & Woo, 2007:148). Although the importances of ICT have been globally acknowledged the focus has shifted to ICT integration into pedagogy/teaching and learning and has become a great concern for educators. Dirksen and Tharp in Jimoyiannis and Komis(2007:150) state that "Only when technology has advanced and become an integral part of the instructor's instructional repertoire will it sees advantages that technology can provide." Selwyn (2002:3) indicated that ICT has not had the far-reaching and transformatory effect on education that has predicted over the last twenty years. Yet there is no system-wide effective and sustainable ICT integration in universities; the pace of integration is slow and instructors are still avoiding using ICT in their teaching and learning practices. The modern approach to instruction is to combine teaching methods with good interactive technology (ICT) in a supportive and positive classroom environment to cause student to take initiative to learn through the process of engagement and participation in a class session.

In Ethiopia, the ICTs donated by Minister of Capacity Building to universities were mainly used for administrative purposes. Some instructors have never had an opportunity to use computers for educational purposes and some have not received any training on ICT. Although some instructors have recently exposed to ICT during their studies at higher institutions, the Ministry of Capacity Building (2006) identified that the vast majority of instructors are unable to successfully integrate ICT into pedagogy/teaching-learning process, thus many instructors do not realise as the computer technology is very useful for instructional purposes in education (Ministry of Capacity Building, 2006). Based on this fact the researcher become interested to investigate the situation in the institution he is working. Thus, this study aimed to explore the extent at which Adam University instructors integrate ICT into the pedagogy/teaching-learning process.

2. REVIEW OF LITERATURE

2.1 INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN ETHIOPIAN EDUCATIONAL CONTEXT

The Ethiopiangovernment realises that ICTs have the potential to improve the quality of education and training in the 21st Century. They have made it one of their main aims to incorporate the effective and sustainable use of ICT in Education. In the Ethiopia ICT in Education Implementation Strategy and its corresponding Action Plan are components of a wider Ethiopian national e-education initiative, the Ministry of Capacity Building(2006) stated that ICTs are currently central to the changes taking place in education throughout the world. ICTs have the potential to enhance lifelong learning by providing unlimited opportunities for personal growth and development for all. It will also enhance the instructors' capacity of universities. The optimal use of ICTs in Ethiopian will help to address developmental challenges, help ensure quality teaching and training as well, as enhance Ethiopian's global competitiveness.

The rationale of the implementation of ICT in education consists of five strategic objectives (Ministry of Capacity Building, 2006). The first objective is that ICT of professional development for every instructor, department head and dean relating to the knowledge, skills and support they require for the effective integration of ICTs in teaching and learning. Secondly, the course work should support through effective, engaging and sustained software, electronic content and online learning resources. Instructors should contribute to these resources. Thirdly, every instructor and student should have access to ICT infrastructure. Fourthly, have access to an educational network as well as the Internet. Lastly, continuous assessment of current practices should take place. Support should give to instructors and leaders when exploring new ICTs, methodologies and techniques (Ministry of Capacity Building, 2006).

To attain the above objectives, university is implementing the following strategies (Ministry of Capacity Building, 2006). The first strategy is a system-wide approach. ICT initiatives should reach every institution and district. E-Learning should be a mainstream activity for every institution and classroom and should be embedded in such ways that would benefit all students and instructors across the education system. National targets will guide strategies for gradual integration of ICTs at all levels of education and training systems. The strategies are base on co-ordination and collaboration. The implementation of the e-Education policy will monitor and manage to foster inter-governmental collaboration to ensure that institutions should support to meet the interests of students and communities. Development, implementation and monitoring of targets will be coordinated to be reflecting in national and provincial ICT plans. Attention will

also be give to monitoring and evaluation; and regular reviews and reports will be conduct to inform about the implementation process. Success will be measure against nationally agreed indicators and targets. Information will be aggregate at district, provincial and national levels (Hare, 2007; Ministry of Capacity Building, 2006).

2.2 IMPORTANCE OF ICT INTEGRATING INTO PEDAGOGY /TEACHING-LEARNING AND ETHICS

ICT pedagogy/teaching-learning integration is defined as "the process of totally integrating the use of computers technology into the existing course through teaching and learning activities that address the course-area objectives" (Jefferies and Rogerson, 2003). Further, Jefferies and Rogerson contend that the biggest issue and challenge in the integration of ICT into the pedagogy/teaching-learning lies with the training of instructors. Collins (2002) states that the use of ICTs to create learning activities can bring about interesting opportunities for learning and can have a high impact in addressing certain course needs. ICT can use in different contexts and with various objectives. ICT integration can assist instructors to create an engaging learning atmosphere for students to explore. ICT integration imposes demands on instructors to manage learning in new and creative ways (Collin, 2002).

ICT when successfully integrated into teaching and learning can ensure the meaningful interaction of students with information. ICT pedagogy/teaching-learning integration can advance high order thinking skills such as comprehension, reasoning, problem solving and creative thinking and enhance productivity (Weigel, 2002). It is further a motivational tool to enhance productivity. Success in the combination of ICT into teaching and learning will ensure that all students will be equipped for full participation in the knowledge society before they leave for further education (Weigel, 2002). The challenge facing our education is to create a learning culture that keeps pace with these changes, and equips students with the knowledge, skills, ideas and values needed for lifelong learning. Various studies show that ICT teaching-learning integration can accommodate differences in learning styles and remove barriers to learning by providing expanded opportunities and individualised learning experiences (Becta ICT Research, 2004a ; Weigel, 2002).

Experience worldwide suggests that ICT teaching and learning integration play an important role in the transformation of education (Weigel, 2002). ICT can enhance educational improvement by enabling instructors and students to move away from traditional approaches to teaching and learning. "In a transformed teaching and learning environment, there is a shift from teacher-centered, task-oriented, memory-based education, to an inclusive and integrated practice where students work collaboratively, develop shared practices, engage in meaningful contexts and develop creative thinking and problem-solving skills" (Becta ICT Research, 2004a).

Further, ICT is utilizing in universities to improve communication between instructors and students in a number of diverse ways, including:

- providing online courses from the campus network;
- recording student attendance at lectures;
- holding joint lectures with a neighbouring university using video-conference facilities and utilizing satellite;
- offering distance learning using CD-ROM and web-based multimedia instructional materials;
- improving lecturers' instructional skills and evaluation abilities; and
- equipping lecture theatres with new media, such as computers, Internet access, and electronic boards.

With the use of ICT, emphasis is placing on practical activities and learning by active participation, with good communication maintained between lecturers and students. Through an integrated approach that utilizes traditional instructional media like overhead projectors together with ICT, students learn about theory and practice communication skills.

2.3 ISSUES AND CHALLENGES OF USING ICT FOR TEACHING-LEARNING

Bates in Seyoum(2004) points out that a great deal of ICT-based material is very poorly designing from the educational standpoint. Designing good quality educational courseware needs a high level of instructional design skills and teamwork. People with these skills are rare and the organisational changes required are beyond the capacity of many institutions. The software often has short, self-contained lessons created by non-educators. This may lead to unintended results. Students will be able to use educational software and multi-media programmes at university. Therefore, access to ICT and its resources will no longer be a barrier to learning and teaching with computers. The use of ICTs as a delivery medium has been widely criticised as incorporating poor teaching strategies. Segaole (2002:17) quotes Van der Brande as he claims that" Only three per cent of educational software has been written in a context of an articulated pedagogical rationale, there is often heavy emphasis on drill and practice and students are often restricted to a limited range of responses like multiple-choice questions, matching items or individual key-words". The emphasis has been mainly on comprehension and memorisation of facts and principles. Various studies show that the computer has not proved an easy medium for developing the higher level of learning skills, synthesis, evaluation or problem solving, where there are no fixed rules and or procedures (Seyoum, 2004).

2.4 INSTRUCTOR'S ROLE IN ICT TEACHING- LEARNING INTEGRATION

ICT on its own has no impact - it is the way that it is using in teaching and learning that changes education outcomes. As ICT continues to advance, instructors should support to adopt processes, as instructors are the key element to the successful integration of ICT (Asan, 2003:153; Francis & Ezeife, 2007:1). Instructors should bring about meaningful change by integrating ICT into the education system. In order to keep track with events in the 21st century, it is essential that instructors integrate ICT into the course, and bring about effective teaching and learning practices (Asan, 2003:153; Kovalchick & Dawson, 2004:192-193). The advances of the information age are helping to ensure that ICTs in education become an integrated part of the educational system. Instructors are facing with increasing pressure to integrate ICT effectively into their teaching and learning practices (Becta ICT Research, 2006:70). ICT can act as an agent of significant, and in some cases, radical change in instructors' practices, thereby significantly changing the way instructors teach and learn. Instructors should use ICT to change and enhance some of their existing practices by: preparing for lesson presentation, delivery of course, continuous assessment, communication with colleagues and access to information from a variety of sources (Day & Sachs, 2004:148; Wang & Woo, 2007:1).

Further, according to the Norms and Standards for education in Becta ICT Research (2006), one of the instructor roles states that an instructor is an interpreter and designer of learning programmes and material. Instructors are expecting to understand and interpret already existing learning programmes, design-learning programmes, select and prepare suitable textual and visual resources for learning. Instructors will be required to acquire certain computer skills.

Pedagogy/teaching-learning integration will assist many instructors to mediate learning content since information can be collect in various different ways, for an example through referencing into many Internet websites. Lockard and Abrams (2001) contend that pedagogy/teaching-learning integration is a way forward towards improving ICT skills for many instructors. ICT pedagogy/teaching-learning integration allows students to acquire a unified view of ICT, widening the context of their learning beyond a single key learning area.

The evidence in various studies suggests that instructors are still in the early stages of ICT development. Despite the fact that instructors in university have already received some basic ICT training, it has not yet been used into their teaching and learning practice. Williams, Wilson, Richardson, Tuson and Coles in Lockard and Abrams (2001) states that lack of confidence by instructors in their skills of using ICT can be a barrier to ICT integration. It has been observed that instructors show to be in a great need of developing their ICT skills and knowledge. It is also envisaged that high knowledge and skills in the use of ICT will encourage instructors to integrate ICT into the pedagogy/teaching-learning. Cabanatan(2003) further purports that it is important that training remains flexible enough to cater for differences in hardware and operating system and that it encourages instructors to be flexible enough to move between systems if necessary. As new concepts of learning have evolved, educators are expecting to facilitate learning and make it meaningful to individual students rather than just to provide knowledge and skills. Instructors are challenging to continuously re-train themselves and acquire new knowledge and skills while maintaining their jobs (Carlson & Gadio, 2002).

ICT can be used as a core or complimentary means to the instructors training process (Collins, 2003). Overall, the government and instructor training institutions seem to recognize the importance of integrating ICT in education and instructor training. In many cases, the national vision for ICT use in education has been integrated into instructor training Cabanatan (2003). Other countries including Ethiopia have developed extensive online resources and encouraged active exchanges of new pedagogical ideas to upgrade instructors' knowledge and skills at the national or international level (Cabanatan, 2003). Research has also observed in the analysis that a variety of ICT-integrated training environments have been created to provide more effective ICT instructor training (Becta ICT Research, 2005; Collins, 2003).

3. IMPORTANCE OF THE STUDY

Authorities at the various levels of educational administration are responsible for implementing the policy, for creating conducive working environment for the university practitioners in that the quality of education can be maintain and for guiding as well as orienting practitioners. the findings of this study will provide important information about the integration of ICT into pedagogy/teaching and learning process, hence these authorities are benefited from the findings of the present study. Specifically the outcomes of this study help Ministry of Education, Adama University's school deans and education department heads, instructors, students, and other concerned bodies in universities to design preventive, intervention and rehabilitative measures regarding the integration of ICT into teaching and learning, and issues and challenges affecting its uses. Furthermore, the researcher believes that this study has the following significances: it provides information to policy makers and university level educational officials about the integration of ICT into teaching and learning by instructors. It may help instructors to improve their methods of instructional process and school deans and educational department heads to make the necessary follow up with regard to the integration of ICT into teaching and learning process. it may also initiate and encourage for further and more extensive research in ICT integration into pedagogy/teaching-learning and serve as a stepping- stone.

4. STATEMENT OF THE PROBLEM

Various authors indicate as instructors are the key element to make the integration of ICT successful (Kalake, 2007:53; Thorburn, 2004:3). Instructors are in a position where they can make a difference because they can play a vital role in leading university reform, implementing innovations and making improvements. Research findings confirmed that the instructor holds the critical position in the effective and sustainable development of ICT integration in universities (Pelgrum, 2007:1-2). However, the focus should shift to the deans and department heads as the change agent to facilitate effective and sustained ICT integration. According to Vallance (2008:290) leaderships should facilitate the change process through this "change agent. The core of informed leadership is a person who internalizes the complexity of effective technology integration and that who exercise his or her influence to ensure the various enabling factors are in place and being addressed (Vallance, 2008:290)). Various authors indicated that TPD in ICT would not be successful unless the instructor vested in the process and drives the changing process (Becta ICT Research, 2005:5; UNESCO, 2002; Walsh, 2002:5).

Thorburn (2004:7) pointed that money; materials; time and human labor are wasting without the necessary effort to help instructors with effective ICT integration into education. Thus, the development and use of ICT through TPD is now central to educational reform initiatives (Becta ICT Research, 2004a:3). Professional development will continue throughout an instructor's professional life because, it is a tool that creates the opportunity for growth and learning, helping to adapt to change, refine practice, and implement innovations, increase effectiveness and decrease isolation (Francis & Ezeife, 2007:6). Sufficient, effective, supportive and ongoing TPD for ICT integration is one of the most crucial components for instructors' successful ICT integration into their teaching and learning practices (Carlson & Gadio, 2002:125).

Some instructors have been able to integrate ICT into their teaching, and more importantly engage students in making use of ICT as part of the process of learning. The progress report of MOE (2002) contains many positive examples of effective use of ICT by universities and individual instructors. However, there are still many barriers and impediments in the way of ICT becoming an integral part of teaching and learning. Regarding this the progress report of MOE (2002) listed the following faults while using ICT: (a) ICT tasks are not related to objectives of lessons; (b) lack of guidance by instructors; (c) lack of knowledge about when to use and when not to use ICT; (d) lack of instructor skills and confidence; and(e) lack of appropriate intervention by instructors. Despite the undisputable importance of ICT in education there are a number of issues that are not understood sufficiently (Walsh, 2002). These include the relationships between technological tools available for learning delivery and their links with ethics and pedagogy/teaching-learning. Beside this the challenge of ICT integration is as much at the centre of a conflict between old and new pedagogies/teaching-learning as it is in terms of how educational values are alternately influenced by institutional imperatives for change and existing social contexts. Thus, the gap between older instructors and students, who embrace a global "wired" culture at home, is as significant as the cross-cultural clash between traditional educational practices and the imperative of progressive new theories of learning (MoE, 2002). Currently a great emphasis has given to the use of ICT in teaching leaning process and many researches were conducted researches concerning this issue but not on the integration of pedagogy/teaching-learning, ethics and ICT, which is the timely issue of interest. Hence, thisstudy is aim to fill this gap and find solutions for the following basic research questions:

1. What ICT resources (Internet, E-mail, word processing, databases, spreadsheets, digital scanners, and education software package and computer printer) knowledge, attitudes and skillsdo the selected instructors have?
2. To what extent instructors integrate ICT to pedagogy/teaching-learning and ethics in the instructional process.
3. What issues and challenges (trainings, attitudes, support, materials, and classroom conditions) affect the use of ICT in universities teaching- learning process?

5. OBJECTIVES

The main goal of this study is to explored the extent of integration of Information Communication Technology (ICT) in to pedagogy/teaching-learning, ethics), which is an important constructs for the development of an e-teaching and e-learning strategy and surveying the issues and challenges affecting its implementation in universities. The researcher also try to explore areas of overlap and commonalities in pedagogy/teaching-learning, ethics and Information Communication Technology (ICT) that facilitate a better use of ICT in education. The specific objectives of this study include:

- to improve the competencies of instructors through both pre-service and in-service education in integrating/infusing ICT as pedagogical tools and educational resources;
- to identify whether Adama University instructors use ICT in different teaching- learning environments or not;and
- to develop and put into operation university online instructors resource base and offline network of Adama university, to share instructor-developed educational courseware and innovative practices.

6. RESEARCH METHODOLOGY

The major components of this section are the methodology, source of data, the sampling techniques, instruments and procedures of data collection and method of data analysis. The study is a mixed approach (quantitative and qualitative) that focuses on practices of lecturers' of Adama University that the researcher works in. The researcher selected descriptive survey method to assess instructors' experiences in integrating ICT into pedagogy/ in instructional process. This research method is the most appropriate technique for collecting vast information and opinions from quit a large number of respondents. It is also relevant to gather detailed descriptions of the existing condition and current practices of an educational phenomenon. According to Merriam in (Creswell, 2009:12) a descriptive study is "a study in which the researcher explores entity or phenomenon bounded by time and activity and collects detailed information by using a variety of data collecting procedures during a sustained period of time".

SOURCES OF THE DATA: The primary sources for this study are sample instructors, education department heads and school deans and vice deans from the four schools of Adama University. Secondary sources for the presented study were printed materials.

SAMPLE POPULATION AND SAMPLING TECHNIQUES: Five schools, four from the main campus (Adama) and the remaining one from Assela branch were included. One-fourth of instructors from each sample schools were selected using random sampling technique. The total numbers of participants in this study were 200 (185 instructors, 10 school deans and their vices, and 5 educational department heads).

DATA GATHERING INSTRUMENT: This particular study use observation, individual interviews and questionnaires to collect the required information. The questionnaire was given to randomly select two hundred fifty participants, to one-third of the total number of instructors of the sample schools in order to express their knowledge, opinions, attitudes and preferences about ICT and its usage for teaching and learning.

Interview: the semi-structured interview was used to make the interviewer freer to search beyond the answers. Thus, clarification and elaboration on answers given can be pursued and this type of interview allows people to answer more on their own terms. The researcher choose semi - structured interview to allow instructors express their readiness to integrate ICT for teaching and learning.

Observation: The data gathered during observation assisted the researcher to interpret the findings that were genuine. The actual direct observation commenced in may 2010, during the teaching and learning process to get data on how instructors integrate ICT in to teaching learning and how they apply the ICT knowledge and skills. Creswell (2009) maintains that direct observation may be very reliable than what participants say in many instances. In this study, the researcher acts as the participant observer because he is amongst of the instructors in Adama University.

METHODS OF DATA ANALYSIS: The collected data were organized, presented in tables and then analyzed statically using such statistical methods percentages and means. Finally, the results of the analysed data were interpreted to answer the basic research questions.

7. RESULTS AND DISCUSSION

This section attempts to analyze and present the data collected in response to the leading questions.

Instructors' knowledge and skills of basic ICT resources (Internet, E-mail, word processing, databases, spreadsheets, digital scanners, and education software package and computer printer): Hare (2007) states that universities that have good ICT resources and utilize them well have better standards. Computer access is one of the major factors, which influence the realization of teaching-learning processes at the university level. The information obtained from the surveyed university's instructors, department heads and school deans regarding the actual computer access are presented in Table 1 below.

TABLE .1: COMPUTER ACCESS IN SAMPLE SCHOOLS OF ADAMA UNIVERSITY

Schools	Non-extent(1)		Fair(2)		Good(3)		Very good(4)		Mean
	f	%	f	%	f	%	f	%	
School of Business	2	4.9	6	14.6	21	51.2	12	29.3	3.05
School of Engineering	3	5.6	8	14.8	26	48.1	17	31.5	3.06
School of Health	1	3.1	12	37.5	14	43.8	5	15.6	2.71
School of Humanity and Natural Science	2	4.2	17	35.4	21	43.8	8	16.7	2.73
School of Pedagogy and Vocational Teachers Education	1	4	1	4	10	40	13	52	3.40
Grand mean	***2.99***								

As it can, been observe from Table 1 above, the majority of respondent instructors, 51.2% & 48.1% from the school of Business and Engineering respectively; and 43.8% from the school of Health and Humanity responded that there is a good computer access in their schools. Only 52% instructors of the school of Pedagogy and Vocational Teachers Education responded that the computer access is almost very good. The mean values of responses of the sample instructors also show that the computer access is either good or almost very good. The grand mean, 2.99 of the responses show that the computer access in sample schools of Adama University is good. During observation, the researcher observed that Adama University has ICT classroom fitted with a few networked students' workstations, an instructor computer, a server and other technology such as a printer, and a video conference set that operates by a satellite dishes. The ICT laboratory assigned by this University for education purposes has access to the Internet and e-mail, which are the components of ICT resources required for integrating ICT into teaching-learning classroom practices. However, a single instructor was not seen using these resources and all the students present in the ICT laboratory during observation was seen using computer for different purposes, which are not related to teaching-learning process.

Table 2 presents the data obtained from the instructor respondents the extent use of computer at home for application of teaching and learning.

TABLE 2: USE OF COMPUTER AT HOME

Schools	Yes		No	
	f	%	f	%
School of Business	28	68.3	13	31.7
School of Engineering	36	66.7	18	33.3
School of Health	19	59.4	13	40.6
School of Humanity and Natural Science	33	68.8	15	31.3
School of Pedagogy and Vocational Teachers Education	21	84	4	16

Interestingly it was found that in spite of the instructors feeling that the use of instructional technology tools was beneficial for students, there was found to be no significant relationship between the pedagogy followed and perceived usefulness of instructional technology tools. As can be seen from columns of Table 2 above the majority (137 that is 68.5%) of instructor respondents in the four schools are using computer in their homes. Only few (63 that is 31.5%) instructor respondents are not using computer in their homes.

An explanation of the instructor responses about the frequency of using basic ICT resources like internet, E-mail, word-processing etc., are described below in Table3.

TABLE 3: FREQUENCY OF USING BASIC ICT RESOURCES

ICT resources	Daily(4)		Weekly(3)		Monthly(2)		Never(1)		Mean
	f	%	f	%	f	%	f	%	
Internet	36	18	107	53.5	29	14.5	28	14	2.76
E-mail	23	11.5	19	9.5	104	52.0	54	27	2.06
Word- processing	63	31.5	91	45.5	24	12	22	11	2.98
Databases	8	4	20	17	24	15	148	74	1.12
Spreadsheets	5	7	20	10	26	13	146	73	1.39
Digital scanners	2	3	9	10.5	44	22	145	72.5	1.34
Educational software package	12	6	35	17.5	129	64.5	24	12	2.18
Computer printer.	48	24	112	56.0	12	6	28	14	2.90
Grand mean	**2.09**								

Table 3, above shows that most of sample instructors of the surveyed departments are using ICT resources, which are very important to integrate ICT to the teaching – learning practices. As it can been seen in columns of this table most of instructor respondents (31.5%) are using Word- processing daily, however more than this percent of instructors (45.5%) are using this computer resource weekly. The resource used daily by most (24%) instructors next to Word-processing is Computer printer. The remaining computer resources are used daily only by few respondents. Columns of the above table indicate that more than 50% of respondents are using Internet (53.5%) and Computer printer (56.0%) Weekly and less than 18 % of respondents are using each of the remaining (E-mail 9.5%, Databases 17%), Spreadsheets 10%, Digital scanners 10.5 %, educational software package 17.5%) resources weekly. Out of these resources two (E-mail 52.0% and, Educational Software package 64.5%) are used by more than 50% of the respondents monthly and the other 3 (Databases 74%, Spreadsheets 73%, and Digital scanners-72.5%) are never used by the majority (more than 72%). The remaining resources (Internet 14%, E-mail 27% , Word-processing 11% and Educational Software package 12% and Computer printer(14%) are also never used by more than 10% of the respondents.

In general, the instructor respondents of the surveyed schools are using basic ICT resources to integrate teaching- learning process. The grand mean (2.09) in the above table shows that most of the majority of instructor respondents in the sample University uses the computer resources. This implies that most of instructors in different schools of Adama University have knowledge and skills of basic ICT resources. However below 50% of instructors are using the resources in their daily teaching activities.

The question asked was whether teaching has changed since the instructors have been using ICT. The responses were that they still teach the same way as they did before being introduced to ICT, as they don't use ICT for learning but only for worksheets preparation and creating learning area mark lists. Some responded by saying that their teaching could change if all students can have an access to a computer at the same time because now less number of computer are available and some classes have more than 50 students.

When asked how students responded to instructors using ICT in class. The instructors' responses were: “My students haven't been taught using ICT, I haven't used ICT for teaching but I think my students can be excited, as they seem to love computers".

Table 4: illustrate regarding ICT competency of the instructors in different schools were explained.

TABLE 4: ICT COMPETENCY OF THE INSTRUCTOR RESPONDENTS

Schools	Unknown(1)		Not competent (2)		Competent (3)		Very-competent(4)		Mean
	f	%	F	%	f	%	f	%	
School of Business	6	14.6	5	12.2	22	53.7	8	19.5	2.78
School of Engineering	13	24.1	24	44.4	16	29.6	1	1.9	2.09
School of Health	5	15.6	13	40.6	12	37.5	2	6.3	2.34
School of Humanity and Natural Science	3	6.3	14	29.2	30	62.5	1	2.1	2.60
School of Educational Sciences and Voca. Educe	4	16	4	16	14	56	3	12	3.04
Grand mean	**2.57**								

Table 4 above indicates that only about 19.5% of instructors from the school of Business and Engineering, 12% and 6.3%, instructors from the school of Pedagogy and Vocational Teachers Education, and Health, are respectively very competent in ICT skills. The majority (53.7%, 29.6%, 37.5%, 62.5, and 56%) of instructors from the school of Business, Engineering, Health, Humanity and Natural Science, and Pedagogy and Vocational Teachers Education) of instructor, respondents are respectively competent in ICT skills. Whereas 12.2%, 44’4%, 40.6%, 29.2%, and 16% of instructors from the school of Business, Engineering, Health, Humanity and Natural Science, and Pedagogy and Vocational Teachers Education) of instructor respondents are respectively not competent in ICT skills. The ICT competence level of the remaining instructor respondents is unknown. Generally instructor respondents in Adama University are almost competent in ICT skills (grand mean=2.57). A lack of confidence in the instructor's computer skills appears to be a barrier to ICT integration. Although most instructors are interested in developing their ICT skills, it is important that they use those skills for pedagogy/teaching-learning integration. ICT need to be presented in a manner that course materials can be developed and delivered rather than as a separate unit (Seyoum, 2004). Reluctance to use ICT was more evident to foundation phase instructors; perhaps it is because instructors in this phase lacked the support on how foundation phase students are to be taught with computers. One foundation phase interviewee stated, “I think ICT would make a lesson more interesting".

However most instructors had very firm ideas of how they would like to apply ICT in the classroom, they felt they could be held back by lack of technical skills and confidence. This lack of confidence may be from the fact that instructors appeared to be less likely to be using ICT for their own professional development, personal use or administration purposes, of which practicing ICT skills might reinforce skills on a regular basis. The main ICT resources that are used more frequently are word processing followed by spreadsheets for compiling learning area mark lists. It appeared that the majority of instructors are still in the early stages of ICT development, what would be referred to as the" entry" or " adoption" according to the National Standards for ICT in a Ethiopian context (Ministry of Capacity Building, 2006). The use of ICT in this university is relatively low and focused on a narrow range of ICT resources. There is a very little use of the Internet and the World Wide Web (WWW) by instructors, despite the fact that the university has an access to the Internet. The findings reveal that most instructors in this university see ICT as an extra learning area rather than an integrated resource within teaching and learning. Many instructors were still concerned with teaching ICT skills rather than teaching with ICT.

EXTENT OF INTEGRATION OF ICT TO PEDAGOGY/TEACHING-LEARNING AND ETHICS IN TEACHING–LEARNING PRACTICES

TABLE 5: INSTRUCTORS’ USE OF ICT IN TEACHING FOR CONCEPTUAL DEVELOPMENT

Abbreviated items	Disagree(1)		Agree(2)		Undecided(3)	
	f	%	f	%	f	%
Empower students to select activities purposefully, applications and modes of communication.	49	24.5	132	66	19	9.5
Use information from online sources.	18	9	175	87	7	3.5
Select and use learning objects to create learning activities and sequences.	14	7	168	84	18	9
Provide processing and presentation tools.	46	23	138	69	16	8
Provide problem-solving challenges.	52	26	136	68	12	6
Engage students with virtual objects and worlds.	42	21	140	70	18	9

Table 5 above shows that more than 65% of instructor respondents empower students to purposefully select activities, applications and modes of communication(66%), use information from online sources (87%) and select and use learning objects to create learning activities and sequences (84%) Provide processing and presentation tools (69%), Provide problem-solving challenges (68%) and Engage students with virtual objects and worlds (70%). From the remaining instructors, less than 25% were not perform these activities and less than 10% of them did not decide whether they do these activities or not.

Instructor’s visions for and the beliefs about working with ICT are an important influence on the successful application of ICT in education (Hare, 2007). According to the questionnaire responses and the interview results, it is clear that instructor’s knowledge and ICT skills are in short supply. Therefore, the use of ICT should be improved and the focus should be on practical skills in the usage of ICT resources. According to the guidelines given to the university by the Ministry of Capacity Building, instructors are challenged to integrate ICT for teaching and learning. Instructors are to teach with ICT for a given periods in each learning area per term (Ministry of Capacity Building, 2006). They will have to use ICT to design an activity that students can learn from. This responsibility seems to be very difficult for instructors to deal with before mastering the basic computer literacy skills and showing confidence in the general use of ICT. In the university where this study is conducted, some instructors cannot use the computer for personal and administrative activities, let alone using it to teach students. Some rely on others to assist them in some administrative tasks like the spreadsheet for compiling mark lists, yet many instructors are required to teach without computers in every term. Hare (2007) suggests that the professional development in ICT has to be an essential part of the instructor's career; it should be ongoing, intensive and well planned to be effective and sustainable. Most interviewees felt that there should be some sharing of experiences and discussions about their readiness to use ICT for learning so that instructors receive support in keeping up to date with ICT developments.

To sum up the majority of sample instructors are using ICTfor conceptual development. All the interviewers agreed that it is important for the students to be exposed to ICT because students will learn new knowledge, attitudes and skills and it would make lessons to be more interesting. Others added by saying that ICT will make students to be competent as we are living in an information technology age.

Table 6 presents the data obtained from the respondents on the use of ICT in building positive learning - environment.

TABLE 6: INSTRUCTORS' USE OF ICT IN BUILDING LEARNING - ENVIRONMENT

Abbreviated items	Disagree(1)		Agree(2)		Undecided(3)	
	f	%	f	%	f	%
Provide communication and collaboration tools (chat, e-mail., messaging, discussion forums, & the like)	44	22	135	67.5	21	10.5
Provide opportunities for students to be part of broader communities.	46	23	137	68.5	21	10.5
Support student participation in online collaborative projects.	54	27	129	64.5	17	8.5
Make learning activities, information, courses and feedback available.	58	29	126	63	16	8
Support students using online resources to share with other students and experts.	56	28	128	64	16	8

As can be seen in Table 6 above, more than 60% of instructor respondents provide communication and collaboration tools (67.5%) and provide opportunities for students to be part of broader communities (68.5%). They support student participation in online collaborative projects (64.5%), make learning activities, information, courses and feedback available (63%), and support students using online resources to share with other students and experts (64%). More than 20% of the remaining respondent instructors did not perform techniques to use ICT in building learning – environment and less than 12% of them didn't decide whether they use different techniques to facilitate students use of ICT resources in their learning or not.

Table 7 describes instructors' practices in using ICT in teaching and learning processes in the sample universities.

TABLE 7: INSTRUCTORS' PRACTICES IN USING ICT IN TEACHING – LEARNING PROCESSES

Abbreviated items	Disagree(1)		Agree(2)		Undecided(3)		
	f	%	f	%	f	%	Mean
Preparing lectures and presentation	58	29	124	62	18	9	1.80
Communicating with others in the academic community	41	20.5	144	72	15	7.5	1.87
Preparing assignments and exams	43	21.5	140	70	17	8.5	1.87
Doing research	61	30.5	116	58	23	11.5	1.81
Preparing and reporting grade	48	24	140	70	12	6	1.82
Giving feedback on students learning	50	25	112	56	38	19	1.94
Track progress and record completion and achievement	38	19	134	67	28	14	1.95
Linking teaching with practical work	61	30.5	106	53	33	16.5	1.86
Align programs and resources with course frameworks	51	25.5	110	55	39	19.5	1.94
Giving information and material to others	23	11.5	140	70	37	18.5	2.07
Grand mean							**1.89**

Table 7 above shows that the majority (more than 60%) of instructor respondents are using ICT in Preparing lectures, assignments, exams and in grading and in presentation reporting grade, Communicating with others in the academic community , Track progress and record completion and achievement and Giving information and material to others . Less than 35% of the sample instructors did not use ICT in these instructional activities. More than half (50 %) of respondent instructors use ICT for doing research, giving feedback on students learning, linking teaching with practical work and aligning programs and resources with course frameworks and less than 35% of them did not use ICT in these three instructional activities.

As can be seen in Table 7 above even though ICT is used by instructors in the sample schools of the university (grand mean, 1.89) instructors are not using ICT for instructional activities as expected at this level of education. Thus, the percent of respondents who are using ICT for different activities is not nearly more than 70 (see column 4 of the above Table).

ISSUES AND CHALLENGES AFFECTING THE USE OF ICT IN UNIVERSITIES TEACHING- LEARNING PROCESS

In order to address questions concerning challenges affecting the use of ICT in universities teaching- learning process different items in the questionnaire were presented to instructors of the sample schools. The data obtained are presented in the following tables.

TABLE 8: INSTRUCTORS' EXTENT OF TRAINING ON INTEGRATION OF ICT IN TO THE TEACHING-LEARNING PROCESS

Schools	Always (3)		Occasionally(2)		Never(1)		Mean
	f	%	f	%	f	%	
School of Business	2	4.9	11	26.8	28	68.3	1.37
School of Engineering	7	13	32	59.3	15	27.8	1.82
School of Health	5	15.6	6	18.8	21	65.6	1.50
School of Humanity and Natural Science	3	6.3	12	25	33	68.8	1.38
School of Pedagogy and Vocational Teachers Education	2	8	16	64	7	28	1.80

As shown in Table 8 above the majority (more than 65%) of instructor respondents from the school of Business, Health and Humanity and Natural Science had never taken training on ICT integration in to the teaching-learning process. From the remaining respondents of these three schools only about 20% of respondent instructors (26.8%, 18.8% and 25% in the school of Business, Health and Humanity and Natural Science respectively) had taken this training occasionally and less than 15% of respondents of these schools had often taken this training.

As it can be seen in items 2 and 5 even if the number of respondents in the schools of Engineering (59.3%) and Pedagogy and Vocational Teachers Education (64%) who had taken training on integration of ICT is greater than the other schools' respondents still there are instructors who didn't take the training at all. Hence, most instructors agreed that they needed to develop their ICT skills and knowledge for the classroom practice but training seemed not to be available; Some instructors partially agreed that they are better at using computers for teaching after completing the computer training by them.

Most instructors stated that ICT training did not meet their needs for ICT integration. They claim that the training was not sufficiently relevant for ICT integration but it was mainly aimed at giving those basic ICT skills (of which they say they needed those skills). Most respondents expressed a need for more training in ICT skills and knowledge across all four contexts, that is, classroom practice, professional development, personal use and administration purposes but most particularly in relation to the use of ICT in the classroom practice. Interview comments mainly revealed a need for more training in the area of ICT pedagogy/teaching-learning integration. When instructors were asked if there were needs that they required to enhance their ICT integration, they identified the following: Training that is relevant for the classroom use; More practical examples of ICT integration lessons; Individual attention during ICT training; Opportunities to work and share ideas as a group regarding ICT integration; and More support from ICT coordinators.

The number of instructors in need of retraining is very large. Instructors provided evidence of the necessity for another ICT training to promote professional development in integrating Information Communication Technology (ICT) into classroom teaching. The training that was provided by the Adama University for small number of instructors is viewed as being very important to the instructors who were interviewed as they claim that it gave them the basic computer skills. One instructor said, "It was for the first time that I use a computer". Indeed, it seemed to be for the first time that most instructors observed received ICT training, because some struggled to even move a mouse or use keyboard keys. Instructors see a need to develop more confidence in using ICT as a necessary requirement to exploring more effective ways of using ICT for teaching and learning. As a result, their priorities are still for more basic computer skills and knowledge despite the fact that they have already received some basic ICT training. The evidence suggests that instructors are still in the early stages of ICT

development. While they are interested in developing their skills and knowledge, many instructors still regard ICT as an extra learning area in their teaching, which is why they felt it was better if students had a computer period added in their timetable.

While instructors need to be aware of broad range of ICT software and resources, their training needs should relate to the technologies that are available to them on day-to-day basis. The above is stated because during the training observation, the Internet lesson unit was unclear to instructors as it was not live but stored on a computer. Hare (2007) states that no matter how good the quality of the training is, if it is not related to the ICT resource available, it is 'likely to be seen by instructors as a waste of time and effort.It is important therefore that instructor training should be flexible enough in order for instructors to cope with ICT developments. It is clear, however that instructors needs have to be considered if training is to have the maximum impact (Seyoum, 2004).

During interview conducted with sample instructors regarding ICT training, one of the interviewee said that she still couldn't use computer, "I am computer literate". Other interviewees agreed that they are in a better position to use ICT for preparing mark lists and prepare worksheets for students but they were not sure whether they could use it for teaching students. The interviewees indicate that most of the instructors in Adama University have never been exposed to training on ICT integration into teaching learning except the orientations given for a few days for all and training on ICT for small number of instructors by the university.The interviewed instructors who have taken that training said that the training provide us the basic computer skills. Thus, the evidence shows that instructors are still in the early stages of ICT development and they have interest to develop their ICT skills and knowledge. Regarding the need for the continuity of ICT training Seyoum (2004) suggests that the professional development in ICT has to be an essential part of the instructor's career; it should be ongoing, intensive and well planned to be effective and sustainable.

To examine instructors' attitude towards ICT integration into teaching-learning process, nine items were presented to the instructors, followed by classroom observation and interviews. The results appear in Table 9.

TABLE 9: INSTRUCTORS' ATTITUDE TOWARDS ICT INTEGRATION INTO TEACHING-LEARNING PROCESS

Abbreviated items	Disagree(1)		Agree(2)		Undecided(3)	
	f	%	f	%	f	%
I am interested to use ICT in teaching-learning process.	41	20.5	145	72.5	14	7
I feel ICT training is appropriate to my teaching-learning	17	8.5	175	87.5	8	4
I feel I should develop my skills to keep up to date with developments in teaching- learning integration.	20	10	175	87.5	5	2.5
I need to develop my skills and knowledge of ICT.	17	8.5	173	86.5	10	5
I am interested in teaching-learning process through ICT but I don't have access.	51	25.5	124	62	25	12.5
I don't need to use ICT in my teaching-learning.	163	81.5	26	13	11	5.5
I am interested but training doesn't seem to be available.	44	22	136	68	20	10
I feel my knowledge and skills in ICT are adequate.	136	68	47	23.5	17	8.5
I feel that I am ready to integrate ICT into the teaching-learning process.	125	62.5	53	26.5	22	11

As shown in Table 9 above the majority (72.5%) of instructor respondents are interested to use ICT in teaching-learning process and most (more than 86%) of respondents feel that ICT training is appropriate to their teaching-learning and as they should develop skills to up to date with developments in teaching-learning integration . As it can be seen in item 6 and 7 of this table more than 60% of the instructor respondents need to develop their skills and knowledge of ICT and interested in teaching-learning process through ICT but I they don't have access and the training doesn't seem to be available to them. More than 62% of the respondents also do not feel their knowledge and skills in ICT is adequate and not ready to integrate ICT into the teaching-learning process. Only few respondents (less than 25%) feel that they have adequate knowledge and skills in ICT and are ready to integrate ICT into the teaching-learning process and the remaining instructors can't able to decide their position concerning this facto. There is an increased interest in the majority of instructors to know more about ICT and develop their ICT skills and knowledge and its integration in to pedagogy/ teaching learning.

Seyoum(2004) states that universities that have good ICT resources and utilize them well have better standards than universities where good ICT resources were not well used. The use of ICT resources by university-instructors is still very rare and very few instructors have their students use ICT resources frequently (Seyoum, 2004). Although policy-makers have clearly given statements about encouraging the use of ICT in universities, the use of ICT resources in this university is inadequate. The research findings in this university show that instructors are currently not using ICT resources available at the university teaching and learning. There is currently no professional development available for instructors. Many instructors are overwhelmed by the mandate to integrate ICT in every learning area and in each department. Adama university authorities should support and encourage instructors, as they get ready to integrate ICT in a meaningful and challenging way across the courses in teaching and learning process. The following information will give a description from the interview questions and responses of how ICT was or is being currently utilized in Sample University. The interviewees were asked exactly to explain how they used ICT in their classroom. In response, they said many students did not have access to ICT and the only time that these instructors used a computer was when they typed assessment activities for students. When asked if they feel that the training they received prepared them adequately for using ICT in their classroom. The first interviewee responded by saying that she still cannot use the computer well and she thinks of getting part time classes before she can proudly say, " I am computer literate", Other interviewees agreed that they are in a better position to use ICT for preparing mark lists and prepare worksheets for students but they were not sure whether they could use it for teaching students.

To assess instructors' opinions towards ICT, seven items focused on this issue. The results appear in Table 10.

TABLE 10: INSTRUCTORS' OPINIONS TOWARDS ICT

Abbreviated items	Yes		No	
	f	%	f	%
I like to know more about ICT.	178	89	22	11
I know the basics of ICT.	83	41.5	117	58.5
I use it effectively for myself but I am not skillful to teach others.	115	57.5	85	42.5
I found that using ICT is time consuming.	36	18	164	82
It makes my work easier.	149	74.5	51	25.5
I feel supported in my use of ICT.	145	72.5	55	27.5
It helps me communicate with colleagues.	144	72	56	28

Table 10 above is about the respondents' opinion towards ICT. As shown in this table, the majority (89%) of the respondents have opinions to know more about ICT and only 11% of them have no opinions. However more than half (58.8%) of the respondents do not know the basics of ICT. Only 57.5% of them use it effectively for themselves but not skillful to teach others. As seen in item four of Table 6, the majority (82%) of the respondents consider that using ICT is time consuming. However more than 70% of the instructors believe that ICT makes work easier, and they feel supported by their use of ICT and ICT helps to communicate with colleagues.

Table 11 presented the data focused on instructors' views on their roles in integration of ICT into teaching and learning process.

TABLE 11: INSTRUCTORS' VIEWS ON THEIR ROLES IN INTEGRATION OF ICT INTO TEACHING- LEARNING PROCESS

Effective integration of ICT can transform teaching-learning by empowering instructors to:	Disagree(1)		Agree(2)		Undecided(3)	
	f	%	f	%	f	%
Focus on student-centered/ interactive learning	30	15.0	159	79.5	11	5.5
Connect with student expectations, experiences and needs.	29	14.5	164	82	7	3.5
Develop critical and ethical understandings of the value of the use of ICT.	23	11.5	166	83.0	11	5.5
Ensure that use of ICT adds value to the intended learning.	17	8.5	172	86.0	11	5.5
Design learning programs that ensure the integrity of the learning area and the inclusion of all students.	24	12.0	161	80.5	15	7.5
Scaffold learning using appropriate technologies, content, services and environments.	31	15.5	150	75.0	19	9.5
Appraise the effectiveness, efficiencies and ethics of the use of ICT while designing learning courses.	26	13.0	160	80.0	14	7.0
Make connections with learning goals and prior knowledge.	32	16.0	156	78.0	12	6.0
Understand the potential of ICT to support learning.	25	12.5	164	82.0	11	5.5

As shown in Table 11 above, the majority (more than 74%) of the respondents replied that effective integration of ICT can transform teaching-learning by empowering instructors to: focus on student-centered/interactive learning; connect with student expectations; experiences and needs; develop critical and ethical understandings of the value of the use of ICT; ensure that use of ICT adds value to the intended learning; appraise the effectiveness; efficiencies and ethics of the use of ICT while designing learning courses; understand the potential of ICT to support learning; scaffold learning using appropriate technologies; content, services and environments; make connections with learning goals and prior knowledge and understand the potential of ICT to support learning. Only less than 20% of these instructors believe as the effective integration of ICT in to teaching learning process do not empower instructors to the above activities.

Instructors who were interviewed were generally positive and wanted to develop their ICT skills and knowledge for integration. These instructors had basic ICT skills but they felt that they are not yet competent to integrate ICT for pedagogy/teaching-learning. Instructors were asked what their barriers of not using ICT for teaching and learning. The interviewees responded by saying that the appropriate training and an ongoing support were not received from the ICT coordinators. It was therefore clear that these two areas of development (training and support) needed to be addressed for the expansion of instructors' skills and knowledge for ICT integration.

TABLE 12: PRIORITY CONTEXT FOR DEVELOPING KNOWLEDGE AND SKILLS IN ICT RESOURCES PROCESSING

Alternatives	Ranking							
	1st		2nd		3rd		4th	
	f	%	F	%	f	%	f	%
Professional development	25	12.5	43	21.5	110	55.0	22	11.0
Classroom practice	128	64.0	17	8.5	34	17.0	21	10.5
Personal use	30	15.0	125	62.5	24	12.0	21	10.5
Administration	14	7.0	21	10.5	39	19.5	126	63.0

As shown in table 12 above the majority of lecturer respondents rank classroom practice(64%) first, Personal use (62.5%) second, Professional development (55%) third, and administration (63%) fourth as their priority context for developing knowledge and skills in ICT resources processing. A majority of the instructors agreed with the following statements: to keep up-to-date with ICT integration; to learn more about using ICT for teaching and learning; and to improve ICT skills and knowledge for the students' benefit. Respondents were asked to describe the priorities for developing their ICT skills and knowledge in each of the four contexts. Hence, they ranked classroom practice, personal use, and professional development and administration purposes respectively. Their responses were similar, as most instructors placed the majority of their ICT training priority in the context of the classroom practice. The following information was learned during the interviews with instructors: After the collection of data through the interviews, there were some concerns and problems that the instructors had (at the university where the study took place) with integrating ICT for pedagogy/teaching- learning. Most of the concerns were grouped into the following findings: The need for training to use ICT for teaching- learning; Instructors' preparedness to integrate ICT; and Attitude towards ICT integration.

To examine obstacles to do not use ICT resources in the teaching and learning activities, different items were presented to the instructors, followed by classroom observation and interviews. The results appear in Table 13.

TABLE 13: OBSTACLES TO DO NOT USE ICT RESOURCES IN THE TEACHING – LEANING ACTIVITIES

Ranking												
Schools	1st		2nd		3rd		4th		5th		6th	
	Lack of skills		Lack of training		Lack of support		Not accessible		Lack of confidence		Lack of time	
	f	%	f	%	F	%	f	%	f	%	f	%
School of Business	13	31.7	9	22	8	19.5	3	7.3	2	4.9	6	14.6
School of Engineering	14	25.9	11	20.9	10	18.5	8	14.8	9	16.7	2	3.7
School of Health	10	31.2	12	43.8	6	18.8	4	12.5	-	-	-	-
School of Humanity and Natural Science	13	27.1	15	31.3	11	22.9	3	6.3	6	12.5	-	-
School of Pedagogy &VTE	7	28	11	44	5	20	2	8	-	-	-	-

As can be seen in Table 13 above, the respondents ranked the obstacles to use computer sources in their activities, accordingly lack of computer skills is the first most problem for 31.7% of respondents of the school of business, 25.9%, 31.2%, 27.1% and 28% of instructor respondents in the school of Engineering, Health, Humanity and Natural Science, and of the instructors of the school of Pedagogy and Vocational Teachers Education respectively. More than 20% of the instructor respondents in each sample school responded that lack of training is the second most obstacles to use computer resource. As indicated in column 4 of the above table, lack of support is the third problem for more than 18% of instructor respondents in the sample schools. Lack of computer resource access, and lack of instructor's confidence are the 4th and 5th problems for less than 17% of respondents in the sample schools of Adama university. Lack of time to use computer resources is the problem of only 6 (14.6%) respondents in the school of Business and two respondents in the school of Engineering but it is not the problem for the others.

8. FINDINGS

In this part of the study, an attempt is made to explain the findings of the study with reference to the basic questions formulated understatement of the problem.

The information collected through these instruments about instructors' use of ICT resources for integrating into learning and teaching; the extent of their training for using ICTs for pedagogy/teaching-learning:

- shows that ICT resources at Adama University is fairly accessible for instructors, however most informants have never use the resources like the digital cameras, database, digital scanners, spreadsheets and educational software package of the university's ICT laboratory andsupportive staff office. This implies that most respondent instructors of the sample university are not familiarized with some of the ICT resources.
- Instructors access to integrate ICT resources into teaching and learning showed to be fairly accessible;

- Respondents were asked to describe the priorities for developing their ICT skills and knowledge in each of the four contexts. Hence, they ranked classroom practice, personal use, and professional development and administration purposes respectively.
- There was an increased level of interest on the majority of instructors who wish to know more about ICT integrations into teaching-learning / pedagogy;
- A very low level of ICT resources competence was discovered in most instructors, which was shown by the non-utilization of the ICT resources laboratory for learning in this university;
- Most instructors agreed that they needed to develop their ICT skills and knowledge for the classroom practice but training seemed not to be available;
- While like the digital cameras, database, digital scanners, spreadsheets and educational software package were almost never used;
- It was found that the majority of instructors use ICT resources like Internet, e-mail, word-processing and the printer for administrative purpose rather than integrating teaching-learning process; the reasons given by most of the respondent instructors for not integrating ICT resourses into teaching-learning include :

➢ Lack of skills, training, pedagogical support, technical support, and lack of time and instructors reserved attitudes;
➢ the majority of sample instructors are using ICT for conceptual development;
➢ a very low level of ICT resources competence was discovered in most instructors;

- A majority of the instructors agreed with the following statements:

➢ to keep up-to-date with ICT integration,
➢ to teach more by using ICT,
➢ to improve ICT skills and knowledge for the students' benefit.

9. RECOMMENDATIONS

The recommendations for further research listed below are based upon limitation discovered in both literature and findings regarding the integration of ICT for pedagogy/teaching-learning.

- The role of the deans, department heads, ICT leaders/coordinators and instructors in the ICT integration into teaching and learning and the utilization of the ICT resources should be specified.
- The positive and the negative affect that ICT integration into teaching learning in the sample university need attention.
- The type of ICT instructors training that can be offered in order to equip instructors with all the necessary skills for ICT integration.
- There should be follow up mechanisms of ICT integration in this university;
- Sample University should offer ICT integration training, given that all instructors should be able to integrate ICT for pedagogy/ teaching-learning;
- Further research can be conducted regarding instructors support (related to instructional process & ICT integration) received from the School of Pedagogy and Vocational Teachers' Education with collaboration of ICT coordinators.

10. CONCLUSIONS

The study has examined the extent of integration of Information Communication Technology (ICT) in to pedagogy/teaching-learning, ethics), which is an important constructs for the development of an e-teaching and e-learning strategy and surveying the issues and challenges affecting its implementation in universities. Achieving meaningful technology use is a slow process that is influenced by many factors. When educators and researchers look for ways to help instructors use technology effectively, it may be important to look at what they have (in terms of equipment) in addition to what they do not have (in terms of positive technology inclinations). Understanding instructors' visions for technology use and their beliefs about teaching and learning may be necessary if we want to initiate an adoption of modern technology interventions in teaching pedagogy.

In conclusion, the researcher would like to point to the words of Kalake(2007), stating that to spend on ICT in universities does not necessarily guarantee improved teaching and learning environments and improved ICT student outcomes. Education is a long-term growth and integrating ICT in education is new to most instructors, therefore it can take time for instructors to learn and apply ICT into teaching and learning. It is a responsibility that is ever changing due to technological advance and it cannot be completed in a short period. It is very clear that instructors will not get much scope in order to integrate ICT in curriculum or the teaching-learning process. In the sample university, the ICT education scenario is struggling with the following problems:

- Only at the awareness development level are objectives being achieved, but higher order thinking skills regarding the use of ICT tend not to be occurring.
- Technology, pedagogy and content area integration is a rare feature. All components are dealt with separately, which creates confusion for students.
- Time duration of the courses related to ICT education is too short to develop knowledge and necessary skills among students to achieve higher order thinking skills.
- There is a lack of availability of proper infrastructural facilities at most of the schools/faculties in integrating ICT into teaching-learning process.
- There is a mismatch between available hardware and software to develop required learning resources.
- Support from technical staff for maintenance is limited.

ICT integration can have a positive impact in teaching and learning process, which takes place in the teaching and learning situation. It is not the ICT itself, but the approach in which it is used that makes a worthy or a worthless resource. The instructors continues to be the mediator in the teaching and learning situation, thus it is imperative for instructors to be prepared in order to make ICT resources to be functional in the university.

It is very important that ICT instructor training should be relevant to the integration of ICT for teaching and learning rather than just giving instructors computer knowledge and skills. To help instructors overcome the pressures of seeing ICT as an additional burden, and encourage greater integration of ICT, it will be important that future ICT instructor training focus on ICT integration skills and knowledge. It is important that instructors are able to relate the ICT training they are offered to their existing goals and objectives. It is further important that there is an ongoing provision for instructor development to enable instructors to move-on with ICT integration once they have acquired the basic computer skills, which many in this selected university feel they need. Future ICT instructor training and development opportunities should focus on the benefits of instructors and not simply how to use computers, this can be done through broadening the awareness of a wide range of ICT resources with less emphasis on word-processing and spreadsheets, and more on resources which are currently not in use such as the Internet, e-mail, multimedia software. To date, ICT instructor training regarding ICT integration for teaching and learning has been short of what is required, as it has not sufficiently provided the instructors with the required skills of integrating ICT for learning. It is evident that what delays ICT integration in the selected university is the lack of appropriate ICT integration training, lack of administrative support, instructors' confidence in using ICT, reluctance towards the use of ICT and the roles to be played by instructors in ICT integration.

ICT should be seen as a tool for life-long learning for instructors as well as their students. It should be the aim of the instructors in a selected university to teach students with computers and to allow students to have access to computers and software suitable for them, e.g. Microsoft PowerPoint and the Internet. Instructors should focus on using the resources available on the computer laboratory and store to make ICT integration successful at a selected university. Instructors have to be encouraged to make decisions about their own ICT development needs on an ongoing basis. This will ensure more involvement and integration of ICT within the teaching and learning process.

Opportunities for professional development have to be continuously available for instructors to continue improving their computer, knowledge, skills and attitudes. Professional development should not only provide instructors with perspective on the operational use of ICT, i.e. the use computer hardware and software, but also focus on the skills involving the use of computer-based tools to support teaching and learning. Instructors would therefore need to understand the rationale for integrating compoture-based tools into teaching and learning environments.

ICT should be a compulsory course in the universities for instructors so that instructor can begin their teaching career as experts in the ICT field. University vice presidents, school deans and concerned bodies should offer mandatory workshops and courses to help instructors gain the knowledge and skills they require to

teach their students with ICT resources. This is a better way to make sure that instructors continue to learn the latest ICT information. Instructors should not only attend workshops, but they should also come back and share the information as a team. Thus, instructors will have time to reflect on aims, instructional methods and assessment as they design ICT interactive lessons for their students.

Many exciting applications of information technology in classrooms validate that new technology based models of teaching and learning have the power to dramatically improve educational outcomes. But, classroom computers that are acquired as panaceas end up as doorstops. Unless other simultaneous innovations in pedagogy, curriculum, assessment, and school organization are coupled to the usage of instructional technology, the time and effort expended on implementing these devices produces few improvements in educational outcomes and reinforces many educators' cynicism about fads based on magical machines. To further the study, it is imperative to further research into whether instructors who use technology are smartly predisposed to democratic, collaborative, problem based pedagogy, or does technology bring these behaviors into the classroom? Does improved student learning occur only when technology is introduced along with different teaching practices? What teaching practices are best suited to maximizing the potential of technology to improve student learning?

11. LIMITATIONS

This study investigated the readiness and extent of instructors to integrate ICT for pedagogy/teaching- learning in a selected university in the Adama. The focus of the investigation was in one university, and therefore the findings cannot be generalized to instructors in other universities. Despite that, this selected uses ICT mainly for administrative duties; one main setback was the inability of instructors to use the provided computer laboratory for teaching and learning. There was no instructor who dared to try to take students for a computer-based lesson. Thus, a few instructors mainly occupied the computer laboratory for administrative purposes and to browse the Internet for lesson based research only.

12. SCOPE FOR FURTHER RESEARCH

The researcher believes that, it would be better to examine the practice of instructors in all universities of the country. Most reliable and valid information can be found if one could do so. However, due to constraints of time, financial and materials, as well as to make study more manageable and to complete the study within the available time the dimension of this study is confined to Adama University.

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