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Is Instructional Technology an Asset or a Liability for Distance Learners? Case of Scott Christian University, Kenya

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Abstract: *Distance learners form a distinct population that often brings a rich personal and employment experiences to the classroom. These learners struggle to support multiplicity of roles and responsibilities above and beyond those of regular learners, and can require significant adjustments in relation to their learning styles, needs, and abilities. In the 21st century, the realization, perception and delivery of distance learning has changed considerably. The purpose of this study was to examine whether instructional technology as a mode of learning was an asset or a liability to the distant learners and their instructors. Concurrent mixed methods design was used. Purposively, the study selected the respondents, questionnaires were used to gather quantitative data and interview guides to gather qualitative data. The questionnaire for this study was meant to gather data on the implication of instructional technology on distance learners and their instructors. The study was guided by the following issues: The gender of the instructors, the satisfaction level of the instructors in using technology as a medium of instruction for distant learners, the highest academic level of the distant learners and the satisfaction level of the learners in using technology as a media of instruction in learning. The study found that Majority of the instructors were male, Instructional technology as media of instruction was an asset to majority of the distance learners and their instructors, however, majority of the learners were of bachelors' level while minority were at masters level. As a result, the study recommends the University to in-service and motivate all its instructors and distant learners to impress technology for better delivery.*

Keywords*: Instructional Technology, Distance Learners, Asset, Liability, Scott*

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1. Introduction

Arbaugh, 2001; Baker & Woods, 2004; Boser, 2004: Melrose & Bergeron, 2006; and Rodrigues, 2012 have it that as more institutions of higher learning transit into distant learning, it becomes difficult for instructors to rely on the physical presence of the learners. The issue of how the human factor influences distance learning locale has currently become an arena of interest in education.

Ross-Gordon (2011) documents that distance learners form a peculiar population in the education system for they often bring rich personal and employment experiences to the classroom, may struggle to support multiple roles and responsibilities above and beyond those of regular learners, and can require significant adjustments as far as the learning styles, needs, and abilities are concerned. In support Baptista (2013), observes that for better results, instructional technology should be employed effectively to enable the distance learner acquire knowledge and skills comfortably within and outside the learning institutions.

Currently, the number of distant courses and enrolled students is increasing rapidly in many colleges and universities (Allen & Seaman, 2008; Baptista, 2013). In support of the distance mode of learning, Keegan (2000) documents that it is flexible in setting, especially the classes and other related issues by instructors and students, absence of space constraints, and access to education by certain groups of learners such as prisoners, shift workers, travelers, and homemakers are added advantages. Rodrigues (2012) noted that learner-centered and learning centered modes employed in a distance learning environment can encourage a large number of students for they assume more and more responsibility for their own learning. In distant learning environments, technology has become the key element in both the processes and outcomes of student learning (Rodrigues, 2012).

Instructional Technology Council (2010) posit that instructional technology can be employed in a variety of learning settings, including distance learning, to the advantage of the learner. Research in this area has it that with the evolvement of Internet and communication technologies, the impact of instructional technology on the distance learners in terms of cognitive and affective outcomes in academic acquisition has greatly improved (Baptista, 2013). Several meta-analyses have investigated the impact of instructional technology on distance learners' outcomes; other meta-analyses have examined aspects such as the effects of microcomputer applications in instructional technology (Ryan, Marilyn, Carlton, and Ali, 2004). In addition, Brock (2010) analyzed the effects of computer programming on distance learner outcomes and found that the average student who received computer-based instruction scored 66th percentile of the control group distribution. Overall, the positive effects of educational technology on distance learners and student achievement in general was noticeable (Brock, 2010, Rutherford, 2010).

2. Literature Review

2.1 Universities and Distance Learning

As far as Chan (2010) is concerned, Universities and colleges deal with learners after secondary education, however, they are uniquely situated to consider the impact and importance of instructional technology in distance learning. Halx (2010) builds on this perception by demonstrating that relying solely on traditional instructional practices will prevent college students from advancing into more mature and advanced thinking processes; instructional technology should be used much more frequently. Yannuzzi (2009) advocates the need for self-analysis, self-criticism, and openness to the technological ideas of others, can require significant re-evaluation of teaching methods, objectives, and the expectations faculty can have of their students.

The growth of distance education offers specific opportunities for implementing technology in higher education as documented by (Cercone, 2008; Halx, 2010). They noted that distance learning facilitates aspects of learning that cater for the common learning interests of the adult learners, such as the opportunity to develop community among learners and self-direction, for applicability and relevance. Feiertag and Berge (2008) and Moore (2010) documented that need for community is of great interest for the incoming students.

Moore (2010) documents that distant learners tend to have very established preferences to their learning styles so as to be effective, as a result instructors should therefore adapt teaching styles that meet the needs of the distant learners. In their studies, Paraskevas and Wicken's (2003) found that instructional methods in education can only work when instructors are sensitive to distant students and their feelings towards the teaching methods. More current studies seem to focus on learner-centered teaching methods, as opposed to the traditional instructor-centered practices associated with pedagogy (Taylor & Kroth, 2009; Halx, 2010). This is a technical move towards a model that places more emphasis on the role of the student in the teaching/ learning process (Henschke, 2010; Rodrigues, 2012).

Bass (2012) observed that distant learners tend to show that Piaget's (1968) formal operational mode does not adequately reflect the learning needs of this cadre of learners. Bedi (2004) has it that technology operates beyond Piaget's work for it facilitates the understanding of student's behavior in the teaching process, therefore, setting a theoretical platform for teaching behavior. This acts as a guiding philosophy for managing the learning environment towards an effective outcome as a whole Ausburn (2004).

Henschke (2011) documents that the original position of andragogy as a description of the adults' nature in educational settings does not reflect on how andragogy is represented in more recent articles: Therefore, a call for a model that is learner-centered and a much more pragmatic education. As far as Rodrigues (2012) is concerned, technological considerations are vital in the preparation of learning materials, and frequently in the choice of delivery modes. However, (McCombs & Vakili, 2005) hold that many institutions of higher learning rely upon distance learning technology, however they lack a research-based framework that can guide the conception, implementation and measure the results of their programs.

Radford (2011) has it that majority of the universities lack the theoretical and technological know-how needed to apply in order to change the archaic principles of knowledge delivery. Online environment, if well set and communicated, can achieve even better results than the campus-based mode of instruction which is seen as the primary benefit of technological use in courses, followed, by management of course activities, and improved mode of student learning (Kvavik & Caruso, 2005; Bass, 2012).

2.2 Implication of Instructional Technology on Instructors of Distance Learners

Radford (2011) states that there has been an enormous expansion in the field of information and communications technology. This growth in technology is transforming the state of higher education. Instructors are feeling more and more pressure to provide educational content and teaching methods that keep pace with ongoing scientific and technical progress (Baptista, 2013). Instructors, especially in higher institutions of learning, must apt to adapt technology effectively in order to deliver the right content to the students, whether on campus or at a distance. Ross-Gordon (2011) questions how lecturers at the institutions of higher learning provide instruction that reflects the educational experiences, expectations and changes technology bring.

Falasca (2011) posits that in order to make use of learners' experience the efficacy of learning outcomes, instructors need to check how technology can provide approaches that are better fitted for adult mode of learning. Important considerations about the potential influence of technology on educational design and implementation provide instructors in higher educational settings the opportunity to change their approaches to teaching and learning in the technological way.

Samaroo, Cooper, and Green (2013) document that distance mode of learning fulfils a wide variety of needs in educational practices more in a classroom setting. Henschke (2011) emphasized that research regarding distance learning should move beyond the norm to acknowledge a more recent mode of instructional technology in the sector of education and reflect more using modern way of thinking.

2.3 Implication of Instructional Technology on Distance Learners

Distance learners need opportunities to harness the depth of their life abilities to increase potentials to think critically, a highly valued skill in institutions of higher learning (Marschall and Davis, 2012). Concurring with this view, Hussain (2013) states that distance learners are supposed to be mature intellectually, socially, spiritually and emotionally having their own notion and experience of life and learning formally or informally. This cadre of learners play different roles in the society as a result, they deserve to be treated as grown-ups in instructional process (Hussain, 2013).

Johnson, Wisniewski, Kuhlemeyer, Isaacs, and Krzykowski (2012) further observed that distance learners as well as educators, need to be conscious that their current learning experiences should mirror the experiences of their learners' orientation in terms of professional development and should focus more on faculty learning than faculty teaching. Moore (2010) documents that distance leaners tend to have very established preferences as to what their learning styles are and to be effective, instructors should prove to be co- operative to adapting their teaching to accommodate the required styles. Paraskevas and Wickens (2003) in their studies noted that instructors are supposed to be sensitive to distance learners and their reactions to these teaching methods if the educational practices are to be practical.

Research indicates that with the advancement of instructional technology, distance learning seems to be changing from an instructor oriented approach to a learner oriented approach (Henschke, 2010; Rodrigues, 2012). Instructional technology focuses more on learner-centered mode of teaching, as opposed to the instructor-centered practices associated with the traditional chalk and talk approach (Halx, 2010; Taylor & Kroth, 2009).

Bass (2012) observed that instructional technology is a model of learner-centered thinking and a much more pragmatic educational design. In order to examine the impact of innovation, it has to be accepted by those users to whom it is meant to be disseminated. The acceptance of innovation is called adoption. According to Halx, (2010), the process of adoption is the stage when the solution to accept or reject the innovation is made. In this stage, users decide whether to learn, accept and use or whether to reject new practices, new products and new modes of activity. Davis, (2012) agrees that this stage (adoption) is crucial because it determines the success or failure of innovation; this stage determines whether all the efforts were worth it and paid off.

The adoption process is divided into further stages or parts (Halx, 2010). Further research holds that the process of accepting/rejecting innovation and the variables that influence this process are vital. The variables are related to the features of innovation, strategies of implementing innovation, communication channels, nature of social system and change agent role. This theory underpins the process of innovation adoption (Halx, (2010).

Rodrigues (2012) emphasises that social innovations cause great instability to those who accept them because they take them out of their comfort zone and make them change their established activities. Innovations often cause not only behavioural change but also change of thinking, values and convictions. Therefore, adoption of social innovations provides more stability to their users. Social innovation, which is adopted, modified and transformed according to the features of its users is safer and easier to accept.

In the case of social innovation, final products ready for permanent use are seldom created, in most cases, social innovation is constantly adapted even when it was rejected (Davis, 2012). Social innovation quite often participates in

constant adaptation process because it has a lot of freedom in the implementation process when it meets flexible interpretations and different interests in different social environments (Hussain, 2013). Over time, changes in social innovation happen because of daily usage and experimenting with it. Adaption is divided into three types: adaptation of form and structure, adaptation of behaviour, and adaptation of psychological elements; one or several types of adaptation can be used at ago (Henschke, 2010).

Hussain (2013) also claim that the stage of adaptation happens when innovation is taken over from other countries, organisations, groups and cultures and changed, corrected or adapted in order to be useful in a different context. Johnson, Wisniewski, Kuhlemeyer, Isaacs & Krzykowski (2012) determined five essential steps necessary when adapting a curriculum: determining the need of adaptation, distinguishing elements to be adapted, choosing teaching/learning techniques, implementing adaptation, and evaluating the adaptation process. He mentions that innovative study methods (ISM) are part of curriculum. Therefore, it is necessary to determine what needs to be adapted and how it can be adapted, implemented and evaluated.

3. Methodology

3.1 Design

The study used a concurrent mixed research design. This is because it allowed the researcher an opportunity to collect both quantitative and qualitative data simultaneously giving both equal priorities. In addition, it has the advantage of offsetting weaknesses inherent to one design (Gay, Mills & Airasian, 2008). The use of both approaches, equipped the researcher with a more detailed understanding of the research issue than any approach alone (Somekh &Lewin, 2011). Mixed research design involves collecting and analyzing both quantitative and qualitative data (Kothari, 2011). According to Mugenda and Mugenda (2003), quantitative approach was used to: describe, explain and explore the existing condition of the given variables at the time. Further, qualitative research approach was used because it allowed the researcher to gain insight into the problem by having one on one interview with the distance learners' instructors and the distance learners.

3.2 Research Instruments

The study used questionnaires to gather quantitative data and interview guides to gather qualitative data. The questionnaire for this study was meant to gather data on the implication of instructional technology on distance learners and instructors.

3.3 Population and Sample

The population for this study comprised of 30 students and 8 instructors who were purposively selected to respond to the questionnaire of this study for they were deemed knowledgeable enough.

Table 1: Summary of Respondents

Respondents	Number
Instructors	8
M/Ed students	10
B/Ed students	20
Total	38

4. Results and Discussion

Question 1 required the instructors to indicate their gender

Table 2: Gender of Instructors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	6	60.0	60.0	60
	Female	4	40.0	40.0	100.0
	Total	10	100.0	100.0	

From table 2 it was noted that 6 (60%) were male while 4 (40%) were female an indication that in Scott Christian University majority of the instructors are male, a sign of gender imbalance in the employment of instructors therefore, those concerned should try and employ more female instructors to ensure proper gender balance in the university.

Question 2 looked at how satisfied instructors were in using technology as a media of instruction for distant learners.

Table 3: Instructors' satisfaction with the use of technology as a media of instruction for distant learners

	Instructors' satisfaction	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dissatisfied	1	12.5	12.5	12.5
	Tend to be dissatisfied	1	12.5	12.5	12.5
	Tend to be satisfied	2	25.0	25.0	25.0
	Satisfied	4	50.0	50.0	100.0
	Total	8	100.0	100.0	

Table 3 denotes that 1 (12.5 %) of the instructors, who are the minority, are dissatisfied with the use of technology as a mode of instruction while handling distant learners. The results of this study are in contrast with Wang, Woo, & Chai (2010) who discovered that one way of being satisfied with seeking technology as a media of instruction for distant learners is via the employment Information and Communication Technology. 1 (12.5%) tends to be dissatisfied, that is they are not complacent with their utilization of technology which is in opposition to Falasca (2011) who posits that instructors need to consider how technology can offer approaches better suited to ripened learning. However, 2(25%) tend to be satisfied, that is to a certain level, though not fully, they are somehow satisfied with their utilization of technology as a media of instruction, another 4(50%) the majority are okay with their use of technology as a mode of instruction. This portrays a majority of instructors view technology as an asset rather than a liability while instructing distant learners.

When asked why they are not comfortable with use of technology as a media of instruction 1(12.5%) indicated that they lack technological knowhow therefore a disservice to such instructors. They felt that the University should allow them to go the analogue way for efficiency. This is a cadre of instructors who do not want to impress change and therefore difficult to deal with for they totally disadvantage the distant learners. The other 1(12.5%) felt that technology is a good mode of instruction however for security purpose it should be integrated with other modes for reinforcement.

Research question 3 sought the highest academic level of the distant learners.

Table 4: Highest academic level of students

	Frequency	Percent	Valid Percent	Cumulative Percent
Undergraduate(B.Ed)	20	66.7	66.7	66.7
masters (M.Ed)	10	33.3	33.3	100.0
Total	30	100.0	100.0	

Table 4 indicate that majority of the students 20 (66.6%) are undertaking B/Ed, while 10 (33.3%) are taking masters. This implies that at this level willingly distance learners can impress technology as a media of instruction.

Table 5: Distant Students' satisfaction with the use of technology as a learning media

	Distant Students' satisfaction	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dissatisfied	4	13.3	13.3	13.3
	Tend to be dissatisfied	2	6.7	6.7	20
	Tend to be satisfied	6	20	20	40
	Satisfied	18	60	60	100.0
	Total	30	100.0	100.0	

Table 5 denotes that 4 (13.3 %) of the students who are the majority, are dissatisfied with the management of technology as a media of learning. 2 (6.7%) tend to be dissatisfied, that is they are not contented with their use of technology, however 6(20%) tend to be satisfied, though to a certain degree, 18 (60%) are satisfied with their use of technology as a media of learning. This indication that majority of the distant students' view technology as an asset in their learning process.

When interviewed, 15 (75%) of the B/Ed students stated that technology is a very vital teaching learning tool in the distance learning program because they are free to assess course outline, notes, continuous assessment tests (CATS), results and even exams on line. These findings are in line with Rosenbaum (2012), who noted that students have better dispositions and learning outcome when using mixed learning with integration of multimedia instructions. The other 5(25%) felt that technology is good however as a learning tool, most of the times fails them due to lack of electricity and networks in their villages. Therefore, this group felt that the University should integrate technology with other modes of instruction so as not to completely disadvantage them. The M/Ed students when interviewed 1(10%) felt that technology is a new system in the university and therefore it is always a disadvantage because such a learner does not have a computer and electricity at home and even using a phone is a challenge. They therefore requested the university to use technology and the module system. These findings are in line with Bower (2008) who documented that the blend of technology, especially Web 2.0, opens up the entire frequency of possibilities in creating new innovative ways of teaching and learning, however, it comes with a caution of possible misappropriation of the tool due to unacquaintance, which may result in limited use or no congruency to goals of the lessons or tasks. Therefore, it becomes imperative that thorough manageable analyses of the technological tools are performed to determine their suitability to be used in specific context of education. Affordance analysis has great ability to uncover the affordances of the tool that suits into many teaching methods and learning tasks. Bower (2008) points that in selecting a technological tool for teaching or learning, it is important to find the simulants between technological affordances and the tasks at hand. However, 9(90%) the majority felt that technology as a media of instruction in the university is doing them a great favor for they do not waste money and energy coming to Scott to bring assignments, do CATS or exams, they felt at home with technology and recommended the university to look for even better way of doing it so that they completely do away with the face to face contact hours. The findings of this study are in line with Jung (2011) who discovered that there are different ways of e-learning from the learner's perspective as supported by Duderstadt, Wulf, and Zemsky (2005) who discovered that as the potential of digital technology continues to evolve, the capacity to reproduce all aspects of human interactions at a distance could well eliminate the classroom and perhaps even the campus as the location of learning within a short period of time.

5. Conclusion and Recommendations

5.1 Conclusion

From this study it was concluded that: Instructional technology as a media of instruction is an asset to majority of the distance learners and their instructors, however a small number of respondents should be encouraged and empowered to impress change.

5.2 Recommendations

The study recommended the university to:

1. Employ more female instructors to ensure proper gender balance in the university.
2. In-service and motivate all its instructors and distant learners to impress technology for distant learning to succeed.
3. Purchase screen touch phones for all the instructors in the entire department and encourage all the instructors to make use of them wherever they serve the distant learners.

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