DISTANCE EDUCATION STUDENTS' EXPERIENCES OF LEARNING FROM AUDIO RECORDED LECTURES: THE CASE OF TWO COLLEGES OF EDUCATION IN ZAMBIA

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Abstract

This was a study of Distance Education Students' Experiences of Learning from ARLs (Audio Recorded Lectures) at colleges of education in Zambia. Distance education students go through difficulties in their pursuit of the much needed upgrading qualifications. They learn in hurry during residential school, miss residential school due to different challenges and sometimes would go back after residential school without modules, their main mode of learning. Having observed this, live lectures and topics that were not taught during residential school were recorded in Educational Psychology and given to students at MUCE (Mufulira College of Education) in 2010. In 2013, when the same problem was observed at NCE (Nkrumah College of Education), ARLs were also recorded and given to students in Learning Disabilities Course. The study aimed at establishing the students' perceptions and experiences towards learning through ARLs. Students were exposed to this mode of learning for the first time. The objectives were to ascertain the extent to which students appreciated the use ARLs, to establish their perceptions on the effectiveness of using ARLs and to establish other new innovations they would wish college administrations should introduce for their learning. To achieve the stated objectives, the study employed a qualitative approach. Participants either answered questionnaires or were interviewed face- to- face and via telephone. Study results showed students' high appreciation of ARLs. ARLs helped them improve their learning performance through content retention, passing of examinations, improved study habits, easy access among others. Students with visual problems found the ARLs more helpful than relying on their colleagues to read for them. Relevant education bodies and distance education providers should ensure that multimedia learning opportunities are provided to students on distance learning programs.

Introduction

Distance education, sometimes called distance learning is a mode of education delivery where, as opposed to teaching or learning on full contact, learners receive instruction on an individual basis or students are not physically present to be taught as it is in traditional setting such as the classroom. Distance learning according to Belanger and Jordan (2000) can be thought of as education or training delivered to individuals who are geographically dispersed or separated by physical distance from the instructor using computer and telecommunication facilities. Fenton and Watkins (2010: vii) define distance learning as "involving the delivery of resources to sites remote from the point of origin of instruction. The receiving site maybe another classroom, building or home in the same city or a different city, state or country. The delivery mechanisms could be multimedia such as video and audio, computer, internet or some combination of these mediums. Distance learning can be referred to by a variety of terms such as distance education, online learning, e learning, e instruction, and web based instruction (WBI)……..". Previously this mode of delivery was called correspondence education, which started in Europe and the United States of America (Belanger and Jordan 2000), but the concept has evolved over the years. In the past, the post offices were very instrumental in mediating learning on distance by collecting materials from the teaching source and delivering them to the learner. Today, we are talking about improved technology in which the learner is directly contacted from the source to his or her geographical distant home, school or location.

In Zambia and in this paper, distance education is offered with altered residential schools for shorter periods and students mainly learn through modules. At the University of Zambia, students attend a one month full residential school Nkosha and Changala (2008) while at MUCE; students are divided into two main groups each attending a two weeks residential school during school holidays. This in itself is a challenge because in the Zambian situation, students have shorter periods to learn from their lecturers during the residential school. The Ministry in-charge of education in Zambia is committed to supporting innovation in teaching and learning. MoE (1992: 79) says, "an overriding aim of every educational improvement, innovation or reform is to bring in conditions that will improve student learning. Student learning does not occur in education ministries, in curriculum development centers, or in examination councils. It occurs in classrooms in the context of direct interaction

between students and their teachers. The acid test of the majority of innovations and reforms designed to improve education is whether they can be integrated by the teacher into his teaching and by his student into his learning. If the student cannot profit from the innovations or the teacher cannot accommodate them in his teaching, improvements will in most instances remain little more than lofty aspirations in a curriculum, a policy statement or an educational plan. But as far the classroom situation goes they will have no impact. They will remain a dead letter." Learning on distance would continue to face serious challenges if innovations for teaching and learning are not integrated in teaching by those that directly translate the curriculum in the classroom. Government encourages new innovations in classroom practice but where the hindrance lies to implement new innovations in teaching is a matter of research. Belanger and Jordan (2000) acknowledge the computer's enabled digital presentation of knowledge and increased speed with which information technologies make possible the storage, transfer, and sharing of information across vast distances and different time zones. They noted that improvements in telecommunication technologies paved the way for development of new instructional technologies and communication tools that can deliver knowledge without the limitations imposed by traditional environments. Nkosha and Changala (2008) recommended the transformation of study modules into electronic, Race (1998) and Rowntown (1994) in separate studies discovered many benefits of audio books to blind students. It is expected that colleges, universities and schools use computers effectively as educational tools to foster learning in students. However, despite some schools, colleges and universities having computers, their full usage to make learning especially for distance education students possible is questionable. On 20th August 2013 Radio Phoenix morning news, the University of Zambia Technologist Collins Chinyama called for training of teachers in Information Technology and Communication (ICTs) for educational purposes, observing that even if schools had computers, there were no learning materials such as notes on the computers. Literature shows that teachers fail to integrate ICT in their teaching because they are ill equipped in computer skills, have no psychological motivation to work with computers and produce learning material, inadequate time to prepare among other challenges. Chaamwe (2012).

The motivation for this study

Fenton and Watkins (2010: 1) say, "An effective distance education learning instructor is a facilitator of learning, rather than the provider of knowledge. Creating a distance learning course or transforming a traditional class to a distance learning format is more than just uploading lecture notes or above existing course materials". In 2010, while teaching Educational Psychology at MUCE, it was observed that students faced hardships such as going back from residential school without modules (their main mode of learning) and even if they had modules, their lectures during residential school were conducted in hurry. ARLs were compiled on compact discs (CDs) and given to students. Further, in 2013 while teaching at NCE, the same difficulties observed at MUCE were observed. Audio Lectures were recorded in one of the courses and given to distance education students who were studying special education. This study therefore meant to make a follow up to ascertain the extent to which students appreciated the additional teaching provided through ARLs.

Purpose

The purpose of this study was to establish the experiences of distance education students in the use of ARLs in their learning as a supplement to residential school lectures. The outcome of this study would influence policies for improving teaching and learning for students training to be teachers. Studies of this nature are action oriented and meant to improve classroom pedagogy. Student satisfaction in learning whatever its form is crucial to the attainment of educational goals. The feedback from students whether they are reaping what they endeavor prior to enrollment, should help administrators, policy makers and other stakeholders make improvements to the standards of education in the country.

Methodology

Method

This is a descriptive study of students' opinions in their experience with ARLs. The study took a qualitative approach, putting ahead the experiences as experienced by the students in the use ARLs. The few statistics that appeared in the study of how many students were studied and the frequencies of responses did not influence the conclusions of findings in this study but merely reinforced the qualitative qualities of some responses. All responses whether, said by one respondent or many were taken into consideration.

Sampling procedure

Both random and purposive samplings were used to sample participants. Students who had access to the ARLs had the true story about their learning experiences and were purposefully selected as a group that had access to the ARLs but simple random sampling applied in that not all students who had access were picked as participants in the study. MUCE Education distance students had at the time of the study completed and the participants were interviewed by phone. Each participant gave a phone number of their colleague to the researcher for the interview. For NCE, questionnaires were distributed during the August- September 2013 residential school.

Sample

The total sample was 63 participants from both colleges of education. Fifty Three (53) were Students from NCE divided into fifty two (52) who answered questionnaires and one blind student who was interviewed. Ten (10) graduate distance Education students from MUCE were also interviewed via telephone.

Tools

Both close ended and open ended questions made up the questionnaires. Thus some questions required easier answers of 'YES' or 'NO' and these questions were leaders to other questions that followed and required explanations. Other questions in the open ended questionnaire required respondents to explain their thinking on a larger space of the questionnaire so as to get their perspectives in depth. The other tools that were used are a telephone and face-to-face interviews. Telephone interviews were used on students from MUCE who were studying on distance in 2010 and completed in 2012. A face- to- face interview was conducted on one visually impaired student studying with NCE in Kabwe. MUCE students were interviewed on phone because they had completed and could only be traced by phones. Those at NCE were subjected to questionnaires because they were easily captured while in residential school. Interviews took between ten (10) and twenty (20) minutes for each participant. All the interviewed were captured on phone, their responses recorded using an MP3 recorder and phone. A face-to-face interview with the blind student at NCE was also recorded on MP3 recorder.

Analysis and interpretation

Simple computer driven computations using excel were utilized to establish frequencies of responses. The qualitative part of the data was thematically arranged for analysis. Frequency of the same responses helped determine the perceptions students have towards the use of ARLs as a supplementary learning tool. Tables were used to quantify the 'YES' and 'NO' responses and opinions were itemized. Similar opinions were quantified to determine the strength of an opinion but all responses were outlined. Themes were then driven from the responses participants provided in both questionnaires and interviews. Some verbatim from interviews were outlined to highlight key points respondents stressed.

Ethical considerations

Participants were assured of confidentiality as it is a serious requirement in research. Those that answered questionnaires were asked not to write their names on the questionnaires but implored to answer questions honestly as their participation in the study was significant. Those who participated in interviews were also implored to be honesty with their responses and assured that the information they provided would be strictly used for the intended purpose only. They were assured that their names would not be quoted and the recordings would be destroyed soon after the study was completed.

Presentation of results

This chapter presents the results of the study. Tables have been used to show frequencies of responses and themes have been drawn from the participants' responses. There were fifty two (52) respondents at NCE who answered questionnaires and one (1) blind student who was interviewed. The fifty three (53) respondents were distributed into Seventeen (17) males and Thirty Five (35) females. Among the respondents, four (4) had visual impairments. One (1) was totally blind and three (3) had low vision.

Data from Questionnaires

Table -1
Rating of how good the idea of ARLs as supplementary learning materials

	Very Good	Good	Fair	Bad	Very Bad	Abstained	Total
Male	11	3	2	1	0	0	17
Female	19	11	3	0	0	2	35
Total	30	14	5	1	0	2	52

Table-2
Reasons for good rating of ARLs as supplementary learning materials

S.N.	*Response*	Frequency of the
1	*You can keep rewinding to get better understanding of the topic under study*	10
2	*when a point was not clear during physical contact lectures, it is made clear on CD*	2
3	*Student is able to concentrate when listening*	
4	*It is comprehensible*	
5	*it's helpful for revision of the modules*	
6	*There is enough time for the student to understand the content at own pace and time*	
7	*Where one was not clear during physical contact, the CD takes the role of re-teaching*	
8	*It covers a lot of work*	
9	*There are no spelling AND grammar errors on CD compared to*	
10	*Audio CD lectures helped clarify what was missed during contact lectures*	4
11	*You can use at your own convenient time/pace*	7
12	*It improved my listening skills*	3
13	*It helped me understand some terminologies better*	
14	*learning was made easier/it is easier to study using the cd*	3
15	*Module topics were simplified in the CD*	
16	*If one missed a contact session, it is a worth not having missed when one has the CD*	2

17	*You don 't take too much time to study compared to reading the*	
18	*You can pause and discuss it with friends*	
19	*You can listen to it even when you are tired*	2
20	*Consolidates/reinforces what is already learnt*	4
21	*Sometimes it was difficult to finish the syllabus but the CDs helped*	
22	*It helped to have audio memory*	
23	*The mode of studying is simple, easy and very fast*	
24	*The gap between a student and a learner is at least minimized because you can listen to your own lecturers' voice*	
25	*I listened to the CDs even when driving*	
26	*It makes the lesson being lectured be lectured at home*	
27	*The mode of studying is simple, easy and very fast*	2
28	*It is very easy to follow and repeat where not clear*	
29	*You cannot ask questions so that you get feedback*	2

Note: Those who said 'NO' said they had no electricity in the area where they were teaching and so they did not have CD players.

Table-3
Responses about CD help improve in learning

Question	Yes	No	Abstain
Did your learning performance improve after CDs were added to your learning materials?	48	2	2
Would you recommend CDs besides a module	46	4	2
Would you recommend that audio lecture CDs only be given to visually impaired students and slow learners?	4	47	1

How did the audio recorded CD help improve your learning

- My ability to follow topics without a teacher improved
- Learning was made easy and clear
- It improved my memory
- I easily passed
- I applied the same method in teaching my learners with learning disabilities
- My performance improved from C+ to B
- It improved my confidence in answering examination questions
- It was difficult to get concepts when you are overcrowded in a lecture room but the CD helped me learn the same difficult concepts alone at home

Note: Those who said 'NO' said they did not benefit from CDs because they had no DVD players in the rural areas since there is no electricity.

Reasons for affirmatively recommending CDs besides a module

- CDs are easier to carry than modules
- Convenient for use any time
- Cheaper to carry

- Good supplement to modules
- We are too many to learn from lecturers during contact sessions
- Varying learning make learning interesting and enjoyable, reading makes eye strain
- CD is a supplement to us who have no access to libraries
- Two weeks is never enough for us to learn, CDS teach us at home

Why CDs can not only be for the visually impaired and slow learners Students said;

- CDs benefit everyone regardless of abilities
- CDs enhance comprehension for everyone
- Even the so called 'able' can have learning challenges
- Some of us students have invisible disabilities
- All distance students learn under pressure, CDs would remove some of that pressure

Data from interviews

All the ten (10) respondents from MUCE and the blind student from NCE rated the idea of using ARLs as very good and in some cases they said it was excellent. Most reasons given are similar to those in the questionnaire results of NCE. They reported improved grades in the subject, easy learning, motivation, portability of CDs and multiplier effect (CDs benefitted even their other relations in other colleges). Further, interviewees said, reading a module was boring and sometimes one could not understand, but CDs improved their memory and understanding. They also found it easy to prepare for examinations because CDs provided extra well explained concepts that were not in the module.

When interviewed on how CDs improved their learning performance, respondents said they were able to learn from the CD while working at home. The lectures would be playing through headphones when washing or doing other chores or when travelling on a bus or cycling a bicycle. They said as for modules you have to find a quiet place. Below are some extracts from interview verbatim:

1. "Sometimes you can read and read the module but you don't get anything but when you listen to the CD, things are clear" "The goodness with the CD was flexibility and convenience, "you can put on headphones while washing, or on a computer, play it on a 'Walkman' when walking and you get the explanations over and over amidst piles of other work. Us who are mothers at the same time students require such innovations to learn".
2. "I managed to pass with credit but at first during first promotion, I was referred in educational psychology and philosophy"
3. "There were times when I don't feel like getting a book to read but the language and tone of the voice in the CD motivates and attracts one to learn again."
4. "There was a big change after using the CDs; it helped me remember what I learnt in class because we didn't have enough time to learn everything in class."
5. . " Sir, after attending lectures, I would play the CD, it was easy and one has time to revise and you continue learning even at home, let me play you that lecture on Memory……"
6. "I thought educational psychology was difficulty but in the CD, the lecturer was directly speaking to me as if I was seated next to him. My sister in-law is having it now".
7. "My performance improved. On learning theories, it was difficult to understand the module. I developed interest. Up to now I still remember the concepts that are there. Before CD my performance was not ok but after I improved by 70% and started enjoyed educational psychology. 65 % in promotion and then the final I got 67%".

8. "We were using Portable CD Players where even when I am moving school to home in the bus I would play but the module you can't read in the bus people look at you as you if you are showing off ……. improved my psychology. I no longer used to get 60%- my final exam was 76%".

NCE blind student's verbatim extracts. (Note: no editing is done to verbatim)

1. "I would say that it's something that has not been easy anyway. The reason is that when it comes to study material, you find that these materials for example, the modules and other material are in ink, so for me to have access to them , I really had to put a struggle to ensure that I find some people to read for me, I record and put everything into braille".
2. "Usually what I have to do as I earlier said I have to rely on my colleagues ask them to read for if they have some spare time they read for me and I record so that in my time I listen to that stuff or maybe at my own time put that into braille"
3. "Respondent laughs, I will be very honest, I will not exaggerate anything. Those CDs were quite very good, they were excellent actually for me, they were excellent because why am saying that is that towards the exam if I can remember and before we had our exams last year how I wished that all lecturers or the university could come up with such an initiative or all the lecturers could do that because those CDs were very good. You just put it on, listen to it two three times then you are well off.
4. "The CD really positively contributed to my performance because before the initiative of the CD like I said earlier the situation where you to look for to read for you find people are too busy, they cannot find time because of the nature of the program, now for SNE 300, there was nothing like that, I just get my cd just put in whatever gadget, I remember at home I was using my DVD player sometimes on my laptop, at my own time whatever I wanted to listen to it, it was very convenient and that made to really understand the concept that was in the course."
5. "The CD and the module, for the cd, the beauty is that you are listening to the voice your lecturer and you listen to him like you are talking to him live and in the cd again in the cd itself as the lecturer was recording, he put in certain spices which would make you really want to go on listening to the cd and not to dose off. I would say the learning was made much much easier because I didn't have to spend time to have to get somebody read for me the module record and start maybe putting into braille and stuff like that and reduced on the time I would spend on doing these other things ."

Other recommended Innovations for better learning on distance

- Visual CDs- Video CDs, DVDs
- Lectures on Radio
- Use of microphones during contact lectures
- Power point presentations
- Online teaching via Skype and other
- Use of websites
- Equipping computers with notes and other audio recorded lectures.

Discussion of the findings

The results from this study send a very strong message to distance education providers (teacher education institutions and lecturers), the Ministry of Education, Science, Vocational Training Early Childhood Education, Institutions to which colleges are affiliated and the Curriculum Development Centre in Zambia. Due to the demand for upgrading, a lot many institutions are coming on board to try and offer distance

education. These include private higher learning institutions such as the Zambia Open University, Rusangu University, Cavendish, Zambia College of Open Learning and the Catholic University to mention but a few. It is well understood that the question of quality is answered by meeting several benchmarks such as qualified and adequate manpower, adequate and quality and up to date reading resources (libraries), and adequate infrastructure and so on. Amidst many such challenges, we as a country have continued to send out graduates into society and recruiting others. Providing distance education is one most viable way to provide accessibility not only to teachers but to the children in dire need of education.

However, it should be born in our minds that, we would pay a higher price if we send out half-baked and frustrated graduates to teach in schools. The vicious cycle of poorly trained teachers breads low caliber at school level products. When we train teachers fully, we expect better results. Teacher trainers require not only the academic qualifications and in depth knowledge of their subjects but also be abreast with the current trends in education. Today, no teacher trainer should be without computer skills, today no teacher trainer should depend on 'talk and chalk' to deliver lessons. Teacher trainers in particular need a step further above their academic and professional qualifications to have mandatory skills that would enable them effectively provide quality teaching to the would be teachers. Part of the solutions to the provision of quality teacher training depends on improved ICT skills.

The Numbers and the Learning in Distance Education

This study revealed that it was difficult for students to get concepts taught clearly because they were overcrowded in classrooms and hence they appreciated the use of the ARLs in their learning. Managing numbers in the face of inadequate infrastructure, inadequate teaching staff and inadequate teaching material is a source of concern in the provision of quality training to upgrading teachers on distance. Beyani (2013) reports that NCE enrolled 4943 divided into 2545 male and 2398 females' enrolled students in 2010. Numbers in themselves have no problems because distance education itself is meant to cater for larger numbers so that access to education is made possible to even the furthest remote parts of the country where our teachers go to teach. Institutions should devise cheaper ways of providing quality training to students on distance programs. Thus besides modules, students can benefit more from ARLs in their learning. Because distance education catchment areas are wider, not all students attend residential school. In the case where majority students attend residential school, lecture rooms are too small to accommodate all students especially in courses that are compulsory. In such cases, lectures are conducted in open venues such as the graduation square where audibility is difficult when one is teaching without a microphone. With the scarcity of chairs and room space, a lot of time is lost looking for chairs and rooms to learn from. Some students miss lectures as a result of such mishaps. If ARLs are provided alongside ARLs modules, students would not learn amidst worries and anxiety. ARLs would give students the confidence to learn on their own and at their own pace as revealed in the study. The numbers equally affect the lecturer who equally becomes disoriented upon failing to teach in a room time-tabled because students are either standing or squatting on their laps. To simply allow students settle down takes time away from the few hours allocated in two weeks of a residential school session. They would teach in a hurry without emphasizing very important aspects of the lesson because of the pressure created. Learners would equally learn in a hurry and fail to grasp the intended concept rendering their travel for residential school as mere tour of refreshment and not learning.

Students' personal challenges

Most distance education students are parents. They run their own homes and they have to pay for themselves tuition fees in order to upgrade. Government does not sponsor distance education students. Most distance education students are serving teachers who can only attend distance education residential school sessions during the 30 days schools holiday. They have pressures to get permission from

administrators who require them to finish marking end of term tests and provide results for their learners before they are released to go for residential. They are parents with responsibilities of sponsoring their children and dependents. Female students report for residential with newly born babies. Others attend residential even when they about to deliver. Some students give birth while attending residential school. Illnesses also affect them. Personal problems for students on distance education programs require that institutions offering distance education courses are flexible in providing learning opportunities. At times there is no need of asking students to attend residential school three times a year when ARLs can do. Fears by managements are that attending residential is a way of making sure students pay their tuition fees. But there are other control measures this study is not concerned about. This study revealed that students have challenges of attending residential school and those who miss find it difficult to solely learn from printed modules. Distance education should provide alternatives to not only students who miss residential school but also those that are sick in order to provide continuity in their learning. Chishimba (2008), in his paper on the accreditation of qualifications in higher education institutions by the University of Zambia revealed that one of the affiliate colleges had a higher rate of failing in Theory and Practice among distance education students than regular students. Further, Chishimba (2008) reports that the board of examiners was pleased with internal examiners award of free 15 marks to 130 students who failed to reach a pass mark of 40% in a Theory and Practice Paper. To overcome such occurrences where there is a higher mark awarded simply to pass students, ARLs can help our students attain the skills required instead of passing them freely through awarding of many marks. In the event that they fail, alternative measures should be put in place to ensure that they acquire the concepts they failed and thus the use of ARLs would enhance effective learning. The heavy dependency on typed modules provides one mode of learning and advantages some students only. Providing a variety of learning alternatives gives students a choice of how they should learn at a particular moment.

ARLs versus Improved Learning Performance

The study revealed confessions of improved performance as a result of the introduction of ARLs at both MUCE and NCE. Students reported higher grades, ability to pass their exams, good understanding of concepts, improved memory and many other benefits in their learning. Theories of Memory encourage over learning through repetition of actions over and over. Conditioning theories equally emphasize repetition and association of learning concepts. In ordinary residential lectures, there is not enough opportunity to emphasize points. There isn't enough practice for students to master content. ARLs, if well produced would provide adequate conditioned learning and improve our learners' mastery and memory skills. Listening to a teacher who is thousands of kilometers away puts distance students in proximity with their learning institutions and this in itself is a source of motivation to study. When a student who is blind at NCE was asked to compare the learning through a module and that in the ARLs, the student said, "The CD and the module, for the CD, the beauty is that you are listening to the voice of your lecturer and you listen to him like you are talking to him live and in the CD again, in the CD itself as the lecturer was recording, he put in certain spices which would make you really want to go on listening to the CD and not to dose off."

This point also came up in interviews at MUCE as well as from the questionnaires answered by students at NCE. ARLs can be made interactive and provoke debate among groups of students who sit to listen to the lectures. Institutions training teachers should consider taking the voices of their staff right into the homes of distance education students where the learning mostly takes place. Students are further motivated when they listen to their own input in lessons they attended. They tend to review their contributions of live recorded lectures where questions are given and feedback in provided immediately. This helps to build their confidence as they reported in the results. The results further reviewed that students from other colleges and universities benefitted from the same ARLs and 3 years down the line for MUCE, the CDs have continued

going round to many students from different colleges. This sends a very important message that colleges and universities can exchange knowledge and skills in teaching students via ARLs. A student from a different institution benefiting from lectures of another institution makes learning such an interesting phenomenon. ARLs provide a variety in the learning of students. It provides different versions of how learning takes place.

For some subjects where content is easier learnt through vision Video Recorded Lectures (VRLs) can be employed. In students' recommendations, video CDs were highly recommended as additional material for learning more especially for courses and subjects that are practical.

Meeting the Needs of learners with varying Needs

Education providers should always mind the varying learners' needs. No two students are the same. One student may be good at reading, another at listening while some may be facing difficulties beyond their control such as disabilities inhibiting their ability to see and understand concepts at the same rate with others. The inclusive education policy requires that education institutions take care of needs of students with visual impairments, hearing impairments, intellectual challenges, slow learners, memory difficulties and learning disabilities.

Personality dynamics also need to be taken into consideration. No two persons learn the same way. For example, introverts may enjoy reading modules but extreme extroverts would rather discuss with colleagues their learning topics.

Research has shown how audio books were helpful to students who were visually impaired. Ozgur and Kiray (2007) observed that, “audio books offer blind students to study more independently wherever or whenever they want without other people's help”. In an interview with one of the blind students at NCE in fourth (4th) year, he said life was not easy when he started because he had to rely on his colleagues to read for him. “I would say that it's something that has not been easy anyway. The reason is that when it comes to study material, you find that these materials for example, the modules and other material are in ink, so for me to have access to them , I really had to put a struggle to ensure that I find some people to read for me, I record and put everything into braille. I bought a recorder for myself”. This means that his studies depended on how free and willing his colleagues were. It also takes a lot of time for the blind to learn as they have to be read for, record and transcribe the information into braille. For example when the blind student was asked to compare his learning performance before and after the CD, his response was; “The CD really positively contributed to my performance because before the initiative of the CD like I said earlier the situation where you to look for someone to read for you find people are too busy, they cannot find time because of the nature of the program, now for SNE 300 (the course in which audio lectures were recorded), there was nothing like that, I just get my CD just put in whatever gadget, I remember at home I was using my DVD player sometimes on my laptop, at my own time whatever I wanted to listen to it, it was very convenient and that made me to really understand the concept that was in the course."

The advantages of using ARLs in learning do not solely apply to the blind though; they are more beneficial to them. When students were asked that ARLs should only be provided to slow learners and those with visual problems alone, almost everyone said “NO”. They said ARLs were beneficial to everyone regardless of their abilities. Professor Ledgerwood (n.d) noted the accessibility that audio tapes have to students and teachers. “not only do teachers have access to these machines and tapes, but almost every student has access to one as well. …….audiocassette players, together with radios, are the most common sound-producing media in automobiles. Thus students who drive a lot, such as University commuters, can listen to tapes in their cars as well as in their rooms”. This study revealed how students enjoyed learning while cycling, on a bus, driving, in the bedroom or doing some house chores while the headphones are on. The

study revealed that audio lectures could be uploaded on phones, played on 'walk-mans', now there are even DVD players and radios that have provisions for USB flash discs and memory cards, all these making convenience and portability possible for student learning. One would not need electricity to play audio generated lectures as long as they have a radio that is able access a memory card or a flash disc. Once innovation is utilized fully in a simplified manner like this, learning would not be a problem to many students regardless of distance.

The Cost of production for audio recorded lecture CDs

The cost of producing ARLs is perhaps the lowest among support materials provided to students on distance learning programs. Ozgur and Kiray (2007:17) observed that "audio books are not widespread but the inexpensive cost and their potential in open distance contexts is easily overlooked." The two colleges under study and other institutions training teachers in Zambia do not provide audio books to students on distance. It is not established though in this study the administrative point of view as to why CDs are not provided as additional materials to printed modules. However, there are four major assumptions to this:

i. Institutional administrations support ICT integration only in principle, in practice, they have fear for production expenses.
ii. Distance Education institutions have pressure to meet distance education demands.
iii. Negative attitudes of lecturers towards ICT integration in education
iv. Lecturers may only know how to type and not to use the computer and other related gadgets fully to produce extra learning materials for students.

This study reveals student appreciation for new and simple innovations that promote effective learning and meet their varying needs. Students know very well that ARLs may not only need to be carried on CD but can be carried on flash discs, phones, computers, memory cards, MP3 players and this diversity promotes accessibility and resilience in learning. Students revealed that they can learn through head phones on a bus or while cycling, a thing they cannot do when carrying loads of modules in several subjects .i.e. when going for residential school, students carry their old modules to study for tests and when going back home at the end of two weeks, they carry extra modules in all subjects thereby increasing not only the load but also the cost of transporting luggage. Education institutions do not realize how expensive it is for students to pay their fees and meet the other costs of attending residential school. One of the reasons some students fail to fully pay their college fees is because institutions providing distance education do not provide cheaper means and ways of learning on distance mode.

Producing a CD of ARLs is the cheapest compared to producing a module. All it requires is a computer, an MP3 recorder, empty CDs and a support external DVD rewriter to support the CD writer that comes with the computer. Though Video CDs may be better than audio CDs, videos lectures are more expensive because they demand more time and expert knowledge to produce than audio CDs. Audio Lecture CDs can carry more than 100 lessons in MP3 format than Video Lectures (VTS and VCD formats). Institutions cannot fail to purchase these items for departments and even for individual lecturers. If good cost benefit analysis is done, institutions will discover that providing ARLs would be cheaper and less time consuming to produce. When students are not provided with enough and effective support material, failure rates increase thereby putting a lot of pressure on institutions for writing supplementary and deferred examinations, activities that are expensive on students and the institutions themselves.

Further, there is no school, college or university in Zambia that will boast to have enough qualified staff. There is understaffing at all levels of the education system in Zambia. Embracing new technologies and multimedia teaching strategies like ARLs would help make full use of the few staff available in learning

institutions. The question of lecturers teaching large numbers makes them overworked and eventually become ineffective. ARLs can help overcome some of the challenges of staffing in education institutions. Participants in this study revealed how the ARLs benefitted even students from other institutions.

Conclusion and recommendations

The study revealed the benefits of multimedia usage in teaching and learning of distance education students and students with visual impairments. From the results, students showed readiness to learn from whatever available multimedia sources and be independent learners who if provided with material of various sorts including ARLs, there would be need to cut down on the number of residential schools. Many residential school sessions are an expensive cost for self-sponsored distance education students. Distance education should be provided in the most flexible and cheaper way to students. Part of cutting the costs for students and facilitating their effective learning is by providing multimedia learning opportunities such as ARLs, Video Lecture CDs, Lessons via television on free and paid channels, on radio, telephone, social media such as Skype, free and paid websites and computers. The heavy reliance on printed modules adds more expenses to students.

Recommendations to distance education providers

- Lecturers should be trained on how to teach on distance education programs.
- Lectures should be able to try out various ways of teaching students including the use of multimedia. They should not wait to be told or pushed by forces above them.
- Updating lecturers on full use of computers and other related gadgets for education purposes.
- Providing material for recording and production of ARLs.
- Enforcement of policy. The Education Inspectorate, The Odel Department, and the Curriculum Development Centre need to put in place certain benchmarks for institutions providing distance education.
- Teacher training institutions need to be carrying out needs assessment. Students seem to know their needs but have nowhere to present them.
- Involve students in the key decision making strategic meetings for distance education planning.
- Embrace technology and make learning easier. Full use of available gadgets such as phones for educational purposes should be enhanced.
- Students should inform your lecturers your needs; you can suggest to them how best you can learn.
- Students require sensitization on the use of various handy technological gadgets for educational purposes. There are many handy gadgets that students can use for educational purposes with or without a computer or internet. E.g. buying recorders and recording lecturers teaching while taking notes, having memory cards, flashes, empty CDs, storing information on phones etc.

References

Belanger, F. and Jordan, D. (2000). Evaluation and Implementation of Distance Learning: Technology, Tools and Techniques. IDEA Group Publishing: USA.

Beyani, C.(2013). Zambia; Effective Delivery of Public Service Education Services, A review by AfriMAP and the Society Initiative for Southern Africa. Open Society Foundations: South Africa.

Chaamwe.N. (2012). Information and Communications Technologies (ICTs) for Zambia's Distance Education- Challenges and Opportunities. *Educational Technologies Letters*, 2(1), June 2012.

Chishimba, C.P. (2008). Accreditation of Qualifications in Higher Education Institutions by the University of Zambia. *Zambia Journal of Education*, 2(1), December 2008.

Chiyongo, V. (2008). Management of Primary Teachers' Diploma through Distance Learning in Chongwe District, Zambia. *Zambia Journal of Education*, 2(1), December 2008.

Denzin, N.K and Lincoln , Y.S. (2008). The Landscape of Qualitative Research 3rd ed. SAGE Publishers: London.

Fenton, C. and Watkins, B .W. (2010). Fluency in Distance Learning. Information Age Publishing Inc: USA

Isaacs, S. (2007). ICT in Education in Zambia. Survey of ICT and Education in Africa:Zambia Country Report-www.infodev.org

Keeves, J.P. (1997). Educational Research, Methodology and Measurement: an international handbook 2nd ed. Cambridge University Press: U.K

Ledgerwood, L.D. (nd). A Teacher's Guide to Using Technology for Language Teaching, A Text to Accompany the Student's Guide to Using Technology for Language Learning.

MoE (1992). Focus on Learning; Strategies for development of school education in Zambia. MoE: Lusaka.

Nkosha, D.C. and Changala, M. (2008). Open and Distance Learning (ODL) and Teacher Development: The case of the University of Zambia. *Zambia Journal of Education*, 2(1), December 2008.

Ozgur, A. (Prof) and Kiray. H.S. (Prof). (ND) (October 2007). Evaluating Audio Books as supported course materials in distance education: The experiences of the blind learners. *The Turkish Online Journal of Educational Technology*; 6(4) Article 2.

Yates, J.M. (2003). Interactive Distance Learning in Prek-12 Settings; a Handbook of Possibilities. Greenwood publishing Group Inc: USA.