African Educational Research Journal
Vol. 7(1), pp. 14-21, January 2019
DOI: 10.30918/AERJ.71.18.092
ISSN: 2354-2160
Full Length Research Paper

Experiences of the Namibian College of Open Learning tutors in using multimedia resources in distance education

Edwig Karipi

Namibian College of Open Learning, Namibia.

Accepted 21 November, 2018

ABSTRACT

Although print–based materials remain the main distance education mode of delivery, the Namibian College of Open Learning (NAMCOL) recognises the use of multimedia as an important tool to enhance access and strengthen operational systems. Multimedia resources such as video, audio, animations and online content are produced as complementary resources to the print-based materials. The College appoints tutors to provide support to learners through various methodologies including face-to-face and online support. This study aims to explore the experiences of the NAMCOL Southern region tutors regarding the use of multimedia when they conduct their tutorial duties at a distance and through face-to-face interactions. The theories that underpin this study are; Michael Moore's (1990) theory of transactional distance, Charles Wedemeyer's (1981) theory of independent study and Hede's (2002) Integrated Model of Multimedia Effects on Learning. The study was informed by an interpretive paradigm and adopted a qualitative case study design. Five tuition centres were purposively selected based on the set criteria for this study. Methods of collecting data used included semi-structured interviews, document analysis and observations. Data analysis was done by way of providing detailed descriptions of the setting, participants, and activities. Data was categorised and coded into themes. The study finding revealed that NAMCOL tutors in Southern region do not use multimedia in their instruction due to some challenges such as lack of time, lack of ICT skills, and lack of awareness. Tutors, however, show willingness to integrate ICT in their tuition. There is a lack of collaboration between NAMCOL Learner Support and Material Development operations which results in resources produced not utilised by learners. The study recommends that NAMCOL should ensure that all operational units are integrated to facilitate successful implementation of eLearning at the College.

Keywords: Multimedia, eLearning, distance learning, tutors.

E-mail: karipi@namcol.edu.na. Tel: +264811492943.

INTRODUCTION

Over the years, the evolving of Information Communication and Technology (ICT) brought new opportunities in the education sector, but at the same time, placed high demands on teachers with regard to technical skills and the use computers as tools to integrate ICT in classrooms. Teachers now have to compete with students in accessing internet information and in using the hardware and software to enhance the teaching/learning process (UNESCO, 2009).

Generally, there is still a wide gap between the developed and the developing nations in terms of the use of technology and multimedia as tools to deliver quality education. In Namibia, although the government has made a continuous effort to provide technological infrastructure to schools, the involvement of teachers has been a challenge. There is no doubt that teachers as well as tutors in this case play a major role when it comes to the implementation of multimedia in education. Despite

the fact that NAMCOL has devised a multimedia strategy and has developed and distributed the multimedia resources to tutors and learners, there is not enough evidence that those resources are effectively utilised for improved learning. Secondly, there are no studies conducted in Namibia that specifically looked at how NAMCOL's multimedia resources are being utilised by tutors and learners. Studies conducted in Namibia focused on the ICT integration in education in general (Kamerika, 2006; Iipinge, 2010; Matengu, 2006; Quest, 2014; Katulo, 2010). This study is specifically investigated the use of multimedia resources at NAMCOL centres in Southern region.

Currently, many teachers are conversant with the use of traditional tools such as textbooks, papers and pencils but their skills in the use of technology is yet to be determined. Learners on the other hand, may find it difficult to explore and take advantage of the available technology for their own benefits without teachers' involvement. The main aim of this study is to explore the experiences and the challenges faced by NAMCOL secondary education tutors in Southern region regarding the use of multimedia when they conduct their tutorial duties.

The literature indicates that without teacher facilitation, the value of ICT use in the classroom will remain incomplete (Shan Fu, 2013). The effectiveness of ICT in education depends on how it is integrated, and teachers remain key to the success of ICT integration in their classrooms to enhance teaching and learning (Ghavifekr and Rosdy, 2015).

LITERATURE REVIEW

Theoretical framework

The theories that explain the delivery of distance learning include the following: Michael Moore's (1990) theory of transactional distance, Charles Wedemeyer's (1981) theory of independent study and Hede (2002) Integrated Model of Multimedia Effects on Learning.

Moore (1993) defined distance education as "the universe of teacher-learner relationship that exist when learners and instructors are separated by space and/or by time" (p. 22). This definition includes both synchronous and asynchronous delivery formats. Transactional distance theory is important conceptually, since it proposes that the essential distance in distance education is transactional, not spatial or temporal. Moore emphasises the importance of advanced communications technology, which made synchronous and asynchronous interaction readily available, enabling interaction to become a key factor in distance education systems. Moore (1993) wrote that "When a program is highly structured and teacher-learner dialogue is non-existent the transactional distance between learners and teachers is high". That means for example, when multimedia such as video conferencing is used there is low transactional distance.

Based on Moore's (1990) advanced theory of transactional distance, "distance" is determined by the amount of communication or interaction, which occurs between learner and instructor. For Moore (1994) distance education is composed of two elements each of which can be measured. The first element is the provision for two way communication, which is dialogue and the second element is the extent to which a programme is responsive to the needs of the individual learner. Moore (1990) further recommends that, when designing effective distance education courses, one should include interactions between the student and their instructor, students and students, and students and the content.

The latter makes Moore's theory of transactional distance relevant to the context of this study given the potential lack of interaction between learners and tutors if multimedia is not fully exploited.

Whilst Moore emphasises on the transactional distance and learner autonomy, Charles Wedemeyer in his theory of independent study considered the independence of the student as the essence of distance education (Keegan, 1986). Wedemeyer predicted today's e-Learning saying "...the extension student of the future will probably not 'attend' classes; rather, the opportunities and processes of learning will come to him. He will learn at home, at the office, on the job, in the factory, store, or salesroom, or on the farm." "...the teacher will reach students not only in his own state or region but nationally as well, since the media and methods employed by him in teaching will remove barriers of space and time in learning..."(Wedemeyer, 1965).

Wedemeyer criticises the contemporary patterns of higher education which employ outdated concepts of learning and failed to embrace new technologies. He suggested a system of distance education that includes characteristics which emphasise learner independence and the adoption of technology. Wedemeyer's characteristics of a distance education system include; the ability of the system to operate anywhere any time; the system to offer wider choices to learners in formats, and methodologies; to use, as appropriate, all the teaching media and methods proven effective and mix and combine media and methods to enhance learning (Simonson et al., 1999).

On the contrary to my study, Wedemeyer (1981) put more emphasis on the separation of teaching from learning as a way to break education's "space-time barriers." According to Wedemeyer independent study systems are characterised by the separation of the student and the teacher; teaching and learning are carried out in writing or through some other medium and individualised learning takes place through the student's activity.

Wedemeyer (ibid), however, believed that the

development of the student-teacher relationship was key to the success of distance education. Both Moore and Wedemeyer theories are applicable to this study as they stress the importance of the interaction between the teacher and the learner through the use of media. Tutors or distance education facilitators play a critical role in equipping distance learners with learning skills that enable them to adopt the necessary learning approaches that can make them succeed.

Another theory that is relevant to this study is the constructivism learning theory rooted in Hede (2002) Integrated Model of Multimedia Effects on Learning.

Hede's model reveals that the use of appropriate visual and auditory inputs is capable of encouraging positive multiplier effects, thereby motivating the learner and enhancing his comprehension of learning materials (Titilayo, 2012). Hede, through his model further suggested that the adequate and effective injection of the visual and auditory inputs into the ODL system sustains the attention of the learner who is then motivated to process information presented from the working memory component to the long-term storage component. In other words, the use of multimedia in the ODL tutorial session can play a significant role in enhancing learners' comprehension of the learning materials. Hede's model is built on the principle of constructivist psychology. Constructivism theory prioritises the role of a teacher. According to constructivism, the teacher functions as a facilitator whose role is to aid the student when it comes to their own understanding.

Constructivists strive to create environments where learners "are required to examine thinking and learning processes; collect, record, and analyse data; formulate and test hypotheses; reflect on previous understandings; and construct their own meaning" (Crotty, 1994:31). The constructivist sense of "active" learning is not listening and then mirroring the correct view of reality, but rather participating in and interacting with the surrounding environment in order to create a personal view of the world (Jonassen et al., 1991).

Literature further stated that a constructivist learning environment allows learner-centred activities to take place where the teacher provides the students with experiences that allow them to develop problem-solving, critical-thinking and creative skills, and apply them in a meaningful manner (Neo and Neo, 2009).

In other words, constructivism suggests that learning environments should promote multiple interpretations of reality, knowledge creation, and context-rich, experience-based activities. Multimedia technology has great inferences for the constructivist approach to education as it offers large amounts of information, tools for creativity and development, and provides opportunities for learners to construct knowledge in engaged settings. Multimedia applications, if properly designed offer numerous education benefits. Rich media can engage learners on several cognitive levels and can address multiple learning styles.

The constructivism theory as it is cited in the Integrated Model of Multimedia Effects on Learning is applicable to this study and to NAMCOL's objective of changing the roles of a tutor from being a sage on the stage to a guide on the side. The development and implementation of multimedia technology at NAMCOL aims to facilitate a constructivist learning environment for NAMCOL learners during their face-to-face tuition sessions. It is also meant to assist tutors in realising their role as facilitators who facilitate, guide and support learners in the process of constructing knowledge instead of being sole authorities of learning.

The researcher believes in Koc's words that say, "Everybody has different learning styles for meaningful learning but teachers cannot represent all the styles in a traditional classroom environment. However, with the flexibility and help of the technologies, we can design learning environments in which students can manage and construct their own representations of knowledge in their minds" (Koc, 2005).

The constructivism learning theory is chosen as a theoretical framework of this study due to its appropriateness in examining the use of multimedia resources by NAMCOL tutors. Constructivism theory supports the involvement of the facilitator to ensure full learner participation. However, all three theories provide a base for interpreting the experiences of tutors using multimedia during their tutorials.

The use of multimedia technologies in Open Distance Learning (ODL)

The use of technology in ODL has been in expansion for the past twenty years in view of improving quality of teaching and learning. To a large extent, however, these new technologies have been embraced mostly by off campus educators more than face-to-face tutors (Taylor, 1994). Empirical literature on the use of multimedia by face-to-face distance education tutors has been difficult to locate. This is not unexpected as face-to-face tutors adopt conventional approaches in their daily facilitations. However, there is literature available on the use of multimedia use by distance educators. Tailor (1994) referred to 'tyranny of distance' versus 'tyranny of proximity'. According to Tailor, while distance educators strive to embrace new technologies in order to overcome limitations arising from tyranny of distance, on campus tutors tend to overlook important issues such as technology because they are considered as part of the daily activities and they remain unchallenged and unquestioned.

According to Rumble (1995), four main educational media, namely, print, audio, television and computers are available in one technological form or another. Rumble (1995) further emphasised that the difference between

media and technology is that technology refers to the development of knowledge using specific devices while media is a channel used to present knowledge. The type of media, whether it is audio or video, plays a significant role in the way it will be utilised.

NAMCOL has adapted the use of CD-ROM based radio lessons as a way to reach out and to take education to as many learners as possible. Literature revealed that audio instruction has been used successfully to convey information especially in areas that are isolated and are difficult to access with print-based materials (Burns, 2011). Ali (2015) reviewed research literature and concluded that radio, if properly used, can teach in many cases better than the traditional instruction. Considering the effectiveness, cost and access to technology, Ali (2015) further stated that radio is a more cost effective and accessible to the majority of people. The use of multimedia in distance learning in combination with face-to-face session is an attempt to replace both teacher and the institution (Karim et al., 2001).

Another way of reaching out to the vast learner population is the development of video lessons. Although television is considered more in developing countries as a home-based media, it can be used to support and enhance quality instruction within the classrooms (Winthrop and Smith, 2012). Television lessons that are well written and are interactive can be used to complement any distance education programme (Sukon et al., 2012). As in other developing countries, not all corners of Namibia have access to television technology. NAMCOL, however, produces video lessons for both broadcast on TV and for distribution to learners and tutors in DVDs.

Another type of multimedia embraced by NAMCOL is the use of learning management systems (LMS). LMSes are used to address the issue of access and distribution of quality teaching and learning material to learners with internet access. Louw (2014) stated that online learning can respond to competitive pressures quickly, while saving travelling time as well as reducing printing cost for learners. Genden (2005) also found online learning more flexible in terms of schedules and in terms of the fact that they can be accessible anywhere in the world.

The use of multimedia – learner and teacher perspective

Looking at the learner's perspective, integrating technology benefits a learner in attaining computer skills as well as facilitates collaborative learning (Scheffler and Logan, 1999). When applied in a constructivist manner, technology enhances learner ability to manipulate data, process information, construct and share knowledge in a meaningful manner (Gilakjani et al., 2013).

Based on research by Lindstrom (1994), people remember 20% of what they see, 40% of what they see and hear, but about 75% of what they see, hear and do simultaneously, hence the importance of the use of multimedia, that is, audio, video simulations as well print-based to enhance retention of information.

According to the report by USAID Global Development Alliance (2004), radio programmes in Namibia through the Discovery channel improved learner motivation, concentration as well as the English language proficiency and creativity. The report further indicated that in some cases, those learning centres who used radio channel experienced increased retention and higher pass grades. In addition, the use of multimedia, video in particular can potentially be used to enhance the learning of foreign languages due to the fact that television connect culture and language which is essential in learning a foreign language (Odion, 2013).

On the other hand, multimedia not used correctly can impede learning. Chen and Liu (2012) echoed the same sentiment by stating that if learners are not properly equipped with necessary capacities and skills and if there is no clear purpose of learning, the internet information can easily become overwhelming which will result in learners losing confidence with a consequence of lowering their learning efficiency and morale. In other words, the importance of tutor involvement cannot be overemphasised.

In many cases, learners studying through online platforms experience difficulties to complete their studies. Willging and Johnson (2004) reported that many dropouts are caused by loneliness, isolation as well as lack of technological skills among online learners. Sheena (2011) also emphasised that need for properly structured online discussions to ensure effective engagement. In other words, if tutors are not involved many online students dropout from their studies due to a lack of constructive engagement with the online learning environment.

SAIDE (2014) found out that the majority of NAMCOL learner's dropout due to tutor-related problems such as absenteeism, laxity in tutoring and lack of commitment. SAIDE further suggested the need for intensive induction of tutors in order to get them to understand the needs of distance education learners, and to sympathise with such learners.

With regard to teachers, Slack (1999) suggested that the introduction of multimedia into the classroom has a potential to change how teachers teach and how learning takes place within the classroom. According to Slack (1999), the introduction of multimedia into the classroom ensure different teaching styles as learners are seen to be more motivated when using multimedia. Based on the same study, teachers indicated that multimedia allows teachers to give individual attention to learners and allows learners to engage at different pace. Teachers have also indicated that multimedia stimulate learners to collaborate and learn in a cooperative manner (Slack, 1999).

The uptake of the latest technologies including multimedia in some developing countries like Namibia has not been embraced quickly by the older generation. The study done by Bhushan and Sethi (2012) revealed that older and experienced teachers who are about to retire show more reluctance to learn new technologies and their usage, while younger teachers who are already equipped with technology skills show eagerness to increase their knowledge in the integration of technology in education for the enhancement of learning.

Many teachers believe that the time factor is one of the biggest challenges when applying technology in the classroom. Teachers who were involved in the study by Eristi (2012) indicated that multimedia usage in class distracts learners' interest as a lot of time is wasted when a teacher moves between technology and the normal teaching.Learners also lose focus on the lesson at it is challenging for a teacher to keep motivating them to concentrate (Erişti et al., 2012).

In many developing countries, internet connectivity and lack of technological skills can contribute to the failure of teachers using multimedia (Pelgrum, 2001; Al-Oteawi, 2002). Similarly, the study conducted by Winnett (2013) found out that many teachers fail to integrate technology in their teaching due to lack of hardware and software as well as poor technical assistance for teachers.

Despite problems with related to hardware and software the attitude of distance education facilitators or tutors can be a biggest challenge that affect the effective utilisation of multimedia. Tutors attitude prevent them to acquire necessary skills and confidence to use electronic devices in order effective in the electronic classroom (Valentine, 2002).

On the contrary, Vannatta and Beyerbach (2000) reported that, there is a change in the way pre-service teachers perceive technology. According to Vannatta and Beyerbach (2000), pre-service teachers show more appreciation to a constructivist approach, where technologies and applications are used to create content, facilitate the learning processes, and used to analyse problems. In a similar study conducted by Halpin (1999) teachers indicated that equipping teachers with computer skills during their training give them confidence to use technology and transfer their skills to learners in the classrooms. Halpin (1999) maintains that it is critical to provide the computer training to pre-service teachers in order to build their confidence in how to integrate technology in teaching and learning (p.137). Rogow (1997) on the other hand emphasised the fact that multimedia such as video if properly planned ahead of time can be utilised effectively to stimulate interest, enrich curricular content with success.

Burge and Roberts (1993) added that technology in distance education should be used to facilitate self-directed learning experience and not to present teacher-centred lectures where a learner is mere consumer of information. Tutors need proper training in order to implement multimedia successfully. A study conducted by Haufiku (2011) reveals that the majority of NAMCOL tutors are still largely dependent on traditional models of teaching.

As part of the Vision 2030 plan, the Namibian Government seeks to achieve the goal of becoming a knowledge-based economy nation with highly competitive, industrialised sustainable economic growth as well as high quality of life by 2030. The economic development goal will not be achieved without the role of ICT sector. The Namibian ICT policy formulated in 2008 has a main aim of to implement ICT initiatives in education and training. The policy emphasised the pedagogical use of ICT as an integrated tool in the teaching-learning process at all levels in the educational system as well as the development of the competence in the use of ICT by teachers and learners through guidance and practice (Namibia Ministry of ICT, 2008).

Based on that, NAMCOL devised a multimedia strategy in 2009 which directs the development and dissemination of multimedia resources to its learners. As part of the strategy multimedia resources such as video, radio and interactive web-based content NAMCOL continuously monitors the kind of technology its users have access to and creates multimedia materials accordingly (NAMCOL Multimedia Strategy 2009 - 2011).

METHODOLOGY

This study employs a qualitative research design and methodology to achieve the study objectives.The participants were purposively selected based on the set criteria. The researcher consciously selected certain NAMCOL tutors who qualify to take part in the research as per the objectives of the study. The participants comprised of twenty-five (25) NAMCOL tutors, five tutors per centre from five (5) different centres in Windhoek. The following criteria were used to select the participants:

- Tutors from tuition centres which offer both grade 10 and 12;
- Tutors who have been at the centre for not less than 3 years;
- Tutors who have access to multimedia resources produced by NAMCOL

Data was collected by using a semi-structured interview guide, documentation and observation checklist to collect data from the NAMCOL tutors at the selected centres. An interview technique was adopted for this study to provoke thought and allow participants to express themselves in greater detail, thereby revealing more information that the researcher may not be aware of (Denzin and Lincoln, 2000). Face-to-face individual interviews were conducted at centres during the time when tutors come for tuition sessions. The time schedule was drawn up for individual

tutors based on their availability. Each interview took about 20 minutes. The data was recorded on separate data sheets. A device was also used to record the interviews in order to supplement the written data and to ensure the correctness of the data. The researcher observed the behaviour of tutors and learners at the centres and took notes of the teaching tools tutors bring along to sessions and how they use them. The researcher was allowed to sit in some of the sessions and observed how tutors facilitated learning at centres. Observation was done during the same period with interviews. The number of participants as well as observation and study of documents done was sufficient to generate adequate data required for this study.

The inductive approach was used to analyse data. Inductive approach involves analysing data with no predetermined theory, structure or framework and uses the actual data itself to derive the structure of analysis (Burnard, 2008). Data was analysed using a thematic content analysis method which involves the identification and categorisation of the data into themes and categories. Thematic content analysis is a descriptive presentation of qualitative data (Anderson, 2007). Codes were developed for each category using words describing what participants meant. Data coding facilitates the categorising and connecting of themes to interpret data sensibly and is necessary for efficient analysis (Cooper and Schindler, 2001). The relevant information was then grouped into categories that reflected the several themes related to the participants' views, experiences and challenges of multimedia usage.

RESULTS AND DISCUSSION

With regard to the use of multimedia three categories of participants emerged. Category one was for participants that indicated that they use other types of multimedia rather than the ones developed by NAMCOL, the second category of participants do not use any multimedia at all in their teaching, while the 3rd category of participants indicated that they use multimedia resources developed by NAMCOL. The majority of participants in category one indicated in their responses that due to the time factor they use multimedia to enrich themselves when they prepare lessons but do not use them during the tuition. When asked about the type of multimedia they use during contact sessions, the majority of participants in category one, were aware of the multimedia in general, but they did not know whether NAMCOL has developed multimedia content. Participants indicated among others that they use PowerPoint presentations, cell phones, to log into the internet and download videos for learners to watch during the face-to-face sessions.

The second category of participants indicated that they are aware of some multimedia NAMCOL produces but they do not use any during their teaching. According to the majority in this category, there is no sufficient time to go through the content and use the media at the same time.

The last group of participants indicated that they knew about the multimedia developed by NAMCOL and they try to integrate multimedia in their tuition. Most of the participants in this category have indicated that they favour the use of the LMS called Notesmaster over the other multimedia resources such as video and radio lessons. According to them, the online content has more interactivity and learners can be engaged.

Challenges that NAMCOL tutors experience with regard to multimedia usage vary from time, lack of skills and connectivity to internet services. Participants found it difficult to spend the limited time frame given for teaching in trying to embrace technology. Lack of skills also came out as one of the strong inhibitor for NAMCOL tutors from using multimedia resources. Tutors feel not competent enough to utilise computers especially during teaching time.

One major challenge that prevents NAMCOL tutors to use multimedia is the poor internet connectivity at centres as well as the lack of access to resources. Tutors do not only consider lack of access to hardware for tutors as a challenge, but also learners' inability to access the same resources.

This study resulted in four main findings:

- NAMCOL tutors are willing and try to integrate ICT in their own ways.
- Tutors are not informed about the multimedia resources produced by NAMCOL.
- There is not sufficient time to incorporate multimedia in the lesson presentation.
- NAMCOL does not provide training to tutors regarding multimedia integration.

It is evident from this study that irrespective of challenges presented by the findings there are tutors at NAMCOL who embrace the constructivism theory by providing a learner centred environment that allows them to develop problem-solving, critical-thinking and creative skills through the use of multimedia. These tutors ensure that either in their preparation or in class, learners are engaged via the use of media. These tutors go an extra mile and use their own devices such as cellphones and laptops to download videos and pictures to show animations to their learners in order to keep them engaged.

Findings however also indicated that the majority of NAMCOL tutors are not aware of the multimedia resources produced by NAMCOL. Although many experts who are teachers from formal schools are involved in the development of the multimedia resources by the NAMCOL Programme and Materials Development (PMD) division, they seem to depict a mismatch between the development and the implementation operations of the

College.

This study emphasises the importance of integrating multimedia into classroom teaching by the Namibian College of Open Learning (NAMCOL) tutors. The study contributes to the literature base of distance learning and highlights the significant role tutors play in the success of the implementation of eLearning in an ODL institution. The existing literature concentrates on the benefits of multimedia by ODL learners Hick (1997); Davies and Crowther (1995), and very little is reflected on how important it is for tutors to integrate multimedia during tutorials. This study presented the critical views of tutors blaming NAMCOL for not fully involving them in the implementation of eLearning at centres.

The findings are imperative for NAMCOL management to address the issue of the mismatch between different operations for the improvement of the quality services which NAMCOL strives to offer to the Namibian nation.

CONCLUSION

In conclusion, eLearning is key to the success of NAMCOL's vision of providing wider access to quality education. However, there are serious challenges affecting the use of eLearning by NAMCOL tutors which indirectly also affect learners. Although some tutors demonstrated the knowledge and commitment to integrate multimedia in their tutorials, many NAMCOL tutors in Southern region require ICT skills and confidence. The study concluded that eLearning implementation at NAMCOL can be successful if the necessary attention and support is given to tutors in the form of relevant training as well as ICT facilities and infrastructure.

This study was conducted in one of the four NAMCOL regions, and as a result, the findings of this study cannot be generalised to other regions. It is therefore recommended that a similar study in other NAMCOL regions can be conducted. It is also further recommended that further research of this nature should be carried out in other ODL institutions in Namibia and elsewhere. Based on the findings of this study, specific recommendable research topics are as follows:

- The suitability of NAMCOL centres for integration of multimedia resources.
- Impact of eLearning on distance learners' performance.
- The readiness of ODL institutions for the implementation of eLearning.

RECOMMENDATIONS

1. The use and the development of the multimedia resources should form part of the strategic objectives of the College which should become a reference document for all employees.
2. The development of an eLearning policy for NAMCOL is key for the successful implementation of eLearning which includes multimedia resources.
3. There is a need to create awareness among NAMCOL staff about the types of multimedia developed and the importance thereof.
4. Those who implement programmes should become part of the development planning in order to advice on the types of multimedia that tutors and learners are comfortable with.
5. Need analysis should be carried out to determine the need for multimedia by tutors and learners.
6. NAMCOL should invest in updating the network connections at centres especially where centres are situated at regional offices such as at Yetu Yama centre.
7. There is a need to equip tutors with subsidised hand-held devices that can be used during tutorials.

REFERENCES

Ali, M. A. (**2015**). Radio for equitable education to all.VFAST Transactions on Education and Social Sciences. 7(1): 1-4.

Al-Oteawi, S. M. (**2002**). The perception of administrators and teachers in utilizing information technology in instruction, administration work, technology planning and staff development in Saudi Arabia.Doctoral Dissertation, Ohio University, Ohio.

Anderson, R. (**2007**). Thematic Content Analysis (TCA).Descriptive Presentation of Qualitative Data Using Microsoft Word.

Bhushan, B., and **Sethi**, V. (**2012**). Use of Multimedia in Higher Education: Learners' and Teachers' Perspective. International Journal of Advanced Research in Computer Science and Software Engineering. 6(6): 90-92.

Burge, E., and **Roberts**, J. M. (**1993**). Classrooms with a Difference: A Practical Guide to the Use of Conferencing Technologies. Toronto, Ontario: The Ontario Institute for Studies in Education, Distance Learning Office.

Burnard, P., Gill, K. S., Treasure, E., and Chadwick, B. (**2008**). Analysing and presenting qualitative data. British Dental Journal, 204: 429–432.

Burns, M. (**2011**). Distance Education for Teacher Training: Modes, Models, and Methods. Education Development Center, Inc. Washington, DC.

Chen, E., and **Liu**, J. (**2012**).Applying multimedia technology to the teaching and learning of college English in China: Problems and solutions. Journal of Information Technology and Application in Education, 1(3): 108-111.

Cooper, D. R., and **Schindler**, P. S. (**2001**).Business Research Methods. New York.

Crotty, T. (**1994**).Integrating distance learning activities to enhance teacher education toward the constructivist paradigm of teaching and learning.In Distance Learning Research Conference Proceedings, 3 1-37. College Station, TX: Department of Education and Human Resource Development, Texas A & M University.

Davies, M. L., and **Crowther**, D. E. A. (**1995**).Active Learning 3. The benefits of using multimedia in higher education: myths and realities. CTISS Publications.

Denzin, N. K., and **Lincoln**, Y. S. (**2000**).Handbook of Qualitative Research. 2nd edition edited by Norman K. Denzin and Yvonna S. Lincoln. Sage, Thousand Oaks.

Erişti, S. D., Kurt, A., and Dindar, M. (**2012**). Teachers' Views about Effective Use of Technology in Classrooms. Turkish Online Journal of Qualitative Inquiry, 3(2): 30-41.

Genden, S. (**2005**).The Use of Multimedia in Online Distance Learning.Wayne State University.

Ghavifekr, S., and **Rosdy**, W.A.W. (**2015**). Teaching and learning with technology: Effectiveness of ICT integration in schools. International

Journal of Research in Education and Science, 1(2): 175-191.
Gilakjani, A. B., Leong, A., Ismail, H. N. (**2013**). Teachers' use of technology and constructivism. International Journal of Modern Education and Computer Science, 4: 49-63.
Halpin, R. (**1999**). A model of constructivist learning in practice: Computer literacy integrated into elementary mathematics and science teacher education. Journal of Research on Computing in Education, 32: 128-138.
Haufiku, D. (**2011**). An Effective Learner Support Services and Systems at the Namibian College of Open Learning (NAMCOL) Formal Education: Open Schooling. Retrieved from: www.col.org/pcf6/fp/zzNA4307.doc.
Hede, A. (**2002**). Integrated model of multimedia effects on learning. Journal of Educational Multimedia and Hypermedia, 11(2): 177-191.
Hick, S. (**1997**).Benefits of Interactive Multimedia Courseware. Trican Multimedia Solutions Inc. downloaded from: http://http-server.carleton.ca/~shick/mypage/benifit.html 22/10/2015.
Iipinge, S. M. (**2010**). The integration of Information and Communication Technologies in the preparation of teachers at Colleges of Education in Namibia.Unpublished PhD thesis.University of Namibia.
Jonassen, D., Davidson, M., Collins, M., Campbell, J., and Baag, B. B. (**1991**).Constructivism and Computer-Mediated Communication in Distance Education. An abstract.
Kamerika, R. J. (**2006**). A study of the junior secondary teachers and learners" perceptions and challengers that contribute to the implementation of computer practice into schools in the Khomas, Omaheke and Ondjozondjupa education regions. Unpublished master's thesis, University of Namibia, Windhoek.
Karim, S., Kamal, M. A., and Islam, M. D. (**2001**).Role of radio and TV programmes in Distance and Open Learning systems. A case of BOU.
Katulo, M. M. (**2010**). An investigation of the role of principals in promoting computer usage in selected schools in Namibia. Unpublished Masters of Education dissertation: Rhodes University.
Keegan, D. (**1986**). The foundations of distance education. London: Croom Helm.
Koc, M. (**2005**). Implications of learning theories for effective technology integration and pre-service teacher training: A critical literature review. Journal of Turkish Science Education, 2(1): 1-18.
Lindstrom, R. (**1994**). The Business Week guide to multimedia presentations: Create dynamic presentations that inspire. McGraw-Hill, New York.
Louw, W. (**2014**). NAMCOL embraces eLearning. www.namcol.edu.na. retrieved by 3/3/2014.
Matengu, K. N. (**2006**). Can Adoption of ICTs in Schools assist in the War against Poverty and Underdevelopment in Namibia? University of Namibia, Windhoek.
Moore, M. G. (**1990**). Recent contributions to the theory of distance education. Open Learning, 5(3): 10-15.
Moore, M. G. (**1993**). Theory of transactional distance. In D. Keegan, (Ed.), Theoretical principles of distance education. New York: Routledge.
Moore, M. G. (**1994**). Autonomy and interdependence. The American Journal of Distance Education, 8(2): 15.
NAMCOL (**2009**).NAMCOL Multimedia Strategy document.
Namibia Ministry of ICT / Palladium Strategy Consultants (Pty) Ltd. (**2008**).Information Technology Policy for the Republic of Namibia.Downloaded from: http://www.researchictafrica.net/countries/namibia/NMICT_IT_Policy_2008.pdf.
Neo, M., and **Neo**, T-K.(**2009**). Engaging students in multimedia-mediated Constructivist learning – Students' perceptions. Faculty of Creative Multimedia, Multimedia University, Malaysia.
Odion, A. O. (**2013**). Deploying Online Streaming of videos via the internet for the delivery of classroom lectures. (Real time/On-demand streaming) in ODL schooling.
Pelgrum, W.J. (**2001**). Obstacles to the integration of ICT in education: results from a word wide educational assessment. Cited by Bingimlas K. A. (2009). Barriers to the Successful Integration of ICT in teaching and learning Environment: A Review of the Literature.
Quest, R. (**2014**). Principals' Perceptions on ICT Implementation in Secondary Schools in the Khomas Education Region, Namibia. A Thesis submitted in partial fulfilment of the requirements for the Degree of Master of Education of the University of Namibia.
Rogow, F. R., (**1997**). The impact of Video on Student Learning in Formal Education. Tips for classroom use of ITV. Insighters Educational Consulting.
Rumble, G. (**1995**). Media use at Open University. The Guardian, (Dhaka, Bangladesh) Bangladesh Open University, November.
SAIDE (**2014**). NAMCOL Learner Support Quality Assessment Survey.
Scheffler, F., and **Logan**, J. (**1999**). Computer technology in schools: What teachers should know and be able to do. Journal of Research on Computing in Education, 31: 305-325. Cited by: Mustafa Koç, 2005. Implications of Learning Theories for Effective Technology Integration and Pre-service Teacher Training: A Critical Literature Review.
Shan Fu, J. (**2013**). ICT in Education: A Critical Literature Review and Its Implications. International Journal of Education and Development using Information and Communication Technology, 9(1): 112-125.
Sheena, O. (**2011**). The Role of the Tutor in Online Learning. Downloaded from: http://www.leishmanasassociates.com.au/ascilite2011/downloads/papers/O'Hare-full.pdf.
Simonson, M., Schlosser, C., and Hanson, D. (**1999**). Theory and distance education: A new discussion. The American Journal of Distance Education, 13(1): 60-75.
Slack, R. (**1999**). PEDACTICE - The Use of Multimedia in Schools. Downloaded from: http://www.ces.ed.ac.uk/PDF%20Files/Brief017.pdf.
Sukon, K. S., Kaviraj, S., Boojihawon, D., Gatsha, G., and Panchoo, S. B. (**2012**). Using ODL and ICT to develop the skills of the unreached: A contribution to the ADEA triennial of the Working Group on Distance Education and Open Learning. ADEA, Ouagadougou, Burkina Faso. Survey.Report # 3.
Taylor, J. C. (**1994**). Technology, distance education and the tyranny of proximity. Higher Education Management, 6(2): 179-190.
Titilayo, A. A., Etejere, P. A., Ovigueraye, E. P. A., and Adenubi, O. S. (**2012**). Multimedia and the Management of Open and Distance Learning For Teacher Education in Nigerian Universities.
UNESCO (**2009**). Technologies for Education. Potentials, Parameters and Prospects. Retrieved from: http://www.ictinedtoolkit.org/usere/library/tech_for_ed_book.pdf.
USAID Global Development Alliance (**2004**). Discovery Channel Global Education Partnership Program Performance Report II to USAID Namibia.
Valentine, D. (**2002**). Distance learning: promises, problems, and possibilities. Online Journal of Distance Learning Administration, v5 n3.
Vannatta, R. A., and **Beyerbach**, B. (**2000**).Facilitating a constructivist vision of technology integration among education faculty and pre-service teachers. Journal of Research on Computing in Education, 33: 132-148.
Wedemeyer, C. (**1965**). Brandenburg Memorial Essays. About Charles Wedemeyer.
Wedemeyer, C. (**1981**). Learning at the backdoor. Madison, WI: University of Wisconsin Press.
Willging, P. A., and **Scott**, D. J. (**2004**). Factors that influence students' decision to drop out of online courses. Journal of Asynchronous Learning Networks, 8(4): 115-127.
Winnett, D. (**2013**). Four Challenges Classroom Teachers Face When They Integrate Technology Into Their Teaching. Retrieved from: http://www.iccb.org/student/pdf/resource/chanllenges.pdf.
Winthrop, R., and **Smith**, S. M. (**2012**).A New Face of Education. Bringing Technology into the Classroom in the Developing World.Brooke Shearer Working Paper series.Global Economy and Development at Brookings.

Citation: Karipi, E. (2018). Experiences of the Namibian College of Open Learning tutors in using multimedia resources in distance education. African Educational Research Journal, 7(1): 14-21.