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RESEARCH ARTICLE

THE CHALLENGES FACING THE USE OF MEDIA RESOURCES IN INSTRUCTIONAL PROCESS IN THE SCHOOL OF PUBLIC HEALTH OF MOI UNIVERSITY

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ABSTRACT

This paper discusses the challenges facing the use of media resources in instruction in the School of Public Health at Moi University. The foregoing study used survey research design to cover the study population of all the lecturers and students. Therefore, 24 lecturers and 213 students were chosen, making a total of 237 respondents. Convenient sampling technique was used to select key informants. Data were collected using questionnaire, interview schedule and observation checklist. The data collected was coded accordingly and analyzed using the Statistical Package for Social Science (SPSS v. 12). The results were presented using descriptive statistics. The findings of the study were that lack of skills and literacy on media resources; high cost of media resources, and media resources not considering students with special needs were the main challenges which influenced use of media resources. Based on these findings, the study recommended that lecturers should be trained on the use of media resources Further research should also be done before adoption of media resources and on e-learning, plus streaming the Media in the School of Public health.

INTRODUCTION

Generally, there are several difficulties/barriers encountered when using media resources for teaching and learning in the institutions of higher learning. Some of these are discussed below.

Advances in Computer Technology

Advances in computer technology bring new opportunities and challenges to teaching and learning in medical education institutions. Mooney *et al.* (1997) state that information technology (IT) is slowly moving away from institutions to workplaces and homes. This opens new opportunities and challenges of e-teaching and learning. In addition, the development of Virtual Universities in African countries, including Kenya, is an indication of the importance of information technology in education. Ward *et al.* (2001) observethatthesechallenges would, therefore, need redesigning of curricula plus media resources in order to effectively support teaching and learning modes. Corroborating with the above observations, Mutema *et al.*(1999) argue that innovative multmedia technology support teaching and learning for medical and allied health professionals. In this way, telemedicine and informatics facilitate quick transmission of medical data and information which is useful for diagnosis and patient management.

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Role of Information Technology in Distance Education

While discussing the role of information technology in medical education, Majeed (2003) states that distance education enables Medical Schools to cater for missed opportunities, especially for students in remote areas who need to further studies and those who need to gain new competencies. For this purpose, information technology enables students to access curriculum, research and faculty on-line. Therefore, most medical education institutions may face the challenges of producing quality teaching materials to meet the needs of informal education. This mode of teaching and learning may create the challenges of procuring adequate modern education technologies, including computers, training of staff/students, re-designing assessments and quality assurance tools.

Ajuong (2003) observes that availability of e-mail, websites, chat-rooms, internet cafes, multi-media presentations, internet-enabled phones and internet/video conferencing have rejuvenated teaching and learning for medical education. A study conducted by Ajuong (2003) shows that 42.6% of Medical and nursing students could use a computer while 60% had used internet in the campus. This creates the need for greater exposure of students to information technology. He further reports that the factors which influence the lecturers to use the information technology include availability of equipment, promise of improved student learning, funds to purchase materials, compatibility with subject matter, advantages over traditional methods, increased student

interest, ease of use, time to learn, university training in the technology and comfort level with the technology.

Integration of Information Technology in Teaching

Generally, there are several advantages of computer mediated communication in a variety of academic settings. Mutema (1999) recommends the use of computer-assisted teaching, assessments and computer-managed education for Innovative Medical education institutions. The authority further observes that integration of information technology in teaching and learning brings new opportunities and challenges for curriculum design and training. The Sunday Standard of 12th October 2008 reported that the Commission for Higher Education was inducting lecturers on effective teaching methods through on-line digital material and urging lecturers to utilize internet in order to provide students with current information. In this way, there is need for continued professional development on information technology in order for the teaching staff to be r`elevant in the 21st century. In addition, lecturers may need computers, software, modems and credit in order to access internet content. Furthermore, the Daily Nation of 25th September 2009 reported that the Kenya Government and development partners have committed seven hundred million shillings (Ksh 700 million) to improve up-take of information communication technology in education. The project "Accelerating 21st century education" aims to deploy more than 6000 networked computers for student and teacher use, and also, to train seven thousand (7000) teachers in order to integrate technology in the class room and to train technical support staff in each school to maintain the technology.

In the same way, Wambugu (2010) while writing to the Sunday Nation, reported that the Kenya Government has launched a Ksh 32 million project to equip institutions serving persons with special needs with ICT facilities such as computers with assistive software for the visually impaired and the deaf. Digital books that are accessible on DVDs and that can be viewed through computers or TV sets increase retention of and appetite for difficult subjects by demystifying them. Also, children who are hard of hearing can now learn by watching videos while the blind can listen to audio books. The tools which facilitate these processes include talking word processors, big pointer facilities, screen magnifiers, screen readers, closed circuit television and electronic Braille. Therefore, it seems that embracement of information communication technology in universities inevitable.

Barriers to the Use of Information Technology

Writing about Virtual Universities in Africa, Statlander (1998) states that poor tele-communication links, shortage of equipment, erratic power supply, inconsistent funding, cost of linkage, sustainability, shortage of trained technical staff and attitudes of educators all combine to stagnate use of information technology. The authority further observes that the barriers that affect the teaching staff include inadequate infrastructure, funding, lack of administrative support, lack of time, adherence to traditional methods, inadequate computers/software, poor projection capabilities, poor lighting system and lack of deep integration of the technology into the curriculum. The commentator further states that less than ten percent (10%) of the teaching staff utilize information technology in their teaching while others remain content with the traditional "chalk and talk" method. According to South (2000), other challenges of instructional media include core cost, storing, provision of infrastructure, creating meta-data for each object and maintaining standards of learning objects. However, the central benefit of the media resources is their potential for re-use in order to reduce production costs.

Creative Multiple Learning Environments

There is need to find creative ways of providing University education to more students without physical expansion, perhaps through campus distance education or on-line. However, these methods pose the constraints of selecting appropriate media resources because as technology continues to grow, more and more learning configurations arise, each with its own set of capabilities and constraints.

Rising Digital Media Development Costs

Generally, development costs grow parallel to the growth of digital media in order to support multiple learning environments. Digital media designers and programmers are in high demand and, therefore, expensive to hire on university wages. In the same way, multimedia production costs would rise with increasing complexity. For instance, instructional impact may be reduced by the students' preference for digital media in lieu of home-made media materials. Again, lack of sharing media resources may lower impact and increase investment costs.

Inefficient Use of Media Technology

Grayson (2004) says that e-learning is a rigid instructional method that forces educators to teach within the entirely new paradigm that may diminish educator's importance, specialized knowledge and pedagogical skills. In addition, inefficiency would occur when instructors use off-line technologies which may require incompatible media formats and players. This analogous nature of media precludes learners from accessing them outside the class due to logistical complexity of making copies and availability of appropriate players. Again, instructors may buy or produce instructional media in digital formats that are incompatible and inconsistent with each other. It is generally known that internet could be used for plagiarism through copy and paste job by students. Also, web-enabled phones could be used to conduct searches under the desks. Therefore, cheating through internet is a threat to teaching and learning for academic programmes.

Complex Media Partnership

The challenges mentioned above may create management problems in which cumulative effects cause anti-media bias. However, the Standard Media Group issue of 18th November 2007 reported partnership of Google with Kenya Education Network (KENET) to provide free communication tools, including e-mail, shared calendars, instant messaging, computer-to-computer voice calls, shared spreadsheets and word-processing under institutions' domain name. Therefore, this may provide opportunity for Universities to share teaching and learning materials more efficiently.

Integration of Students in Media Development

Students should be integrated into the process of developing media resources to keep wages down while providing

invaluable practical experience for students seeking work in media-related fields. By so doing, they acquire professional skills guided by instructional media designers, artists, animators, audio/video producers and programmers. The use of technology in education can no longer be ignored because instructors are using it and students are demanding it. Insufficient support of technologists for media resources can be a major deterrent of implementing change. Since the role of the technologists is not clearly understood, they face the challenge of remaining current with the modern information communication technology. However, with increased training of media technologists, their role and recognition would be enhanced.

Approaches to the Mitigation of Media Challenges

South (2000) observes that the challenges of instructional media may be mitigated by various approaches, including:

a) *Meeting present needs while anticipating future adaptation.* The new technology chosen should reach into and improve the present teaching methods without requiring extensive training for the instructors and learners.
b) *Leverage of innovation for broad audience.* This means that the media project should have instructional impact that would transcend departmental boundaries.
c) *Streamlining design, development and delivery*. This may be achieved through engaging more technical expertise to bear and implement a more disciplined development process. Again, streaming the media may greatly reduce the complexities associated with storing, caring, delivery and eliminate the need for hoarding and protecting personal or departmental stashes of media. It also opens the door for parallel development of classroom and on-line environments.
d) *Improving quality and maintenance of standards*. It may be useful to involve instructional designers in order to enhance quality assurance. In this way, digital media would be standardized across campuses to help reduce technical support requirements and increase compatibilities from one area to another. In addition, one database should be created to allow for one-stop updating and correction of media in many venues.

Supporting the above argument, Spence and Humphrey (2005) propose more mitigation measures to be taken including:

- Colleges need to review their mandate in terms of the integration of instructional media technologies and make sure it is spread to all the staff.
- Instructional media technology units need to have solid support in mandate, funding and strategic plan so that all departments have access to the opportunities that technology-enhanced courses offer.
- Developing courses for on-line delivery is expensive and, therefore, policies need to be introduced to encourage collaboration among instructors and institutions in the development of materials to take advantage of the economies of scale.
- Colleges need to prepare for increased demand in the use of technology in teaching by planning for capital expenditures on computer labs, software, multimedia as well as allocating funds for instructor support.
- Information Technology unit needs an integrated plan for evaluations that include accountability and opportunities to learn from their activities through on-going evaluation.
- Technology skills that an instructor requires to be successful in teaching courses using media technology need to be established and programmes developed to provide these skills.
- Information Technology specialists require understanding and expertise in both the technology and pedagogy in order to ensure high quality materials and processes. In this way, colleges need to ensure that their Information Technology specialists are conversant in the areas of teaching and development of media resources.
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Instructional Process and the Need for Media Resources

Generally the use of media resources in instruction has several problems as shown by the studies of Kafu (1976), CHE (1989), Amri (1993), Kangethe (1999) and Carpenter (2003). Many governments, including Kenya, recognize the use of media resources in schools. This is because the choice of using media resources in the classroom is no longer an option but a necessity. Many international organizations as well as the private sectors have supported the Kenya government's initiative to provide media resource infrastructure in the seven Public Universities. However, a review of literature reveals that lecturers, especially in the Public universities in Kenya, are not integrating media resources into instruction as teaching tools, and where media resources are used, the extent of usage is not only varied but also not consistent (Ndiku, 2003; Omwenga, & Rodrigues, 2006).

Furthermore, evidence adduced by Momanyi *et al*. (2006) show that there is a need for studies to be done on factors that determine the adoption and use of media resources in teaching and learning process. This study sought to fill that gap by examining the determinants of media resources in instruction process in the School of Public Health at Moi University. In addition, practical observation has shown that the teaching and learning process at the School of Public Health integrates the traditional mode of teaching that does not involve the use of media resources. However, efforts have been made to encourage the use of modern media resources in the teaching and learning process with dismal success. Hence, the need to investigate factors behind the low level usage of the media resources in the teaching and learning process, especially for schools that have adopted Innovative medical Education strategies for teaching the undergraduate and post graduate students. Fletcher (2006) and Kadzera (2006) observe that lecturers who use the media technologies effectively will inevitably raise their quality of teaching experience. Furthermore, if students are to become competent users of different media technologies in their own classes, then they need to see their lecturers use the various media technologies in their instruction. Several scholars, among them, Rogers (1995), Gladhart (2001) and Chandler (2005), show that meaningful integration of media technology undergoes five stages of familiarity, foundation, fusion, transformation and facilitation. Perhaps most lecturers who shun the use of media resources are in the familiarity stage. These stages provide a template for factors that would enhance the level of use of

Table 1: Challenges to the Use of Media Resources in the School

Challenges	Mean	Std. Deviation	Rank
High cost of media resources	3.71	1.15	1
Media resources does not take into consideration student with disabilities	3.61	1.13	2
Lack of skills and literacy	3.59	1.29	3
Internet and computers are inadequate	3.38	1.07	4
Few media resources	3.24	1.25	5
Limited option of media resources	3.02	1.52	6
Few support staff to help staff and students who want to use media resources	3.00	0.81	7
Lack of awareness and knowledgeability	2.94	1.48	8
Poor attitude of staff	2.91	1.09	9
Lack of enough space to mount media resources when lecturing	2.73	1.09	10
Poor attitude of students	2.32	1.08	11

media resources in the implementation of the curriculum. Unfortunately, in Kenya, the factors influencing the level of media resources, adoption and integration in teaching and learning process are not yet scientifically and exhaustively established. Yet, data that provide insight into level of adoption, integration and transmission of media resources in the delivery of instruction would be helpful in planning and implementing appropriate curriculum strategies in the institutions of higher education. In fact, there has not been sufficient research to monitor the progress of this work in Kenya. The purpose of the foregoing study was to examine the extent of media resources use in instruction in the School of Public Health. This is important not just for knowledge creation but also in provision of critical information for policy formulation in the use of media resources in the process of instruction.

MATERIALS AND METHODS

The study was guided by the Survey design. The study was carried out in the School of Public Health of Moi University which is situated in Eldoret Town near Moi Teaching and Referral Hospital. The target population of the study was students and lecturers at the School of Public Health. The entire lecturer population, both the full-time and part-time lecturers, and of postgraduate and undergraduate students was used. The tools used were structured questionnaires, interview schedules and observation checklists. The data collected was then coded accordingly to facilitate analysis. The coded data was then transferred into the computer Excel spreadsheet and analysis was carried out using the Statistical Package for Social Sciences (SPSS-version12). Using the SPSS package, data sets were generated to facilitate discussion and interpretation. The summaries of descriptive statistics in the form of figures and tables on responses were obtained using the means, percentages and frequencies and standard deviation of various parameters.

RESULTS AND DISCUSSION

Challenges to the Use of Media Resources

One of the objectives of the foregoing study was to describe challenges facing use of media resources in the instruction process at the School of Public Health. It was measured by the cost of media resources, media resources being considerate of student with disability, lack of skills and literacy, inadequate computers, limited option, few media resources, few support staff, lack of awareness and knowledgeability, poor staff attitude, limited space and poor attitude of students amongst others. There are various obstacles which hamper the use of media resources in any learning institution. The study, therefore, sought to verify whether or not this premise was true. This question was analyzed by using the mean values to identify the rank for each attribute. It was established that high cost of media resources was a major hindrance to the adoption of media resources. From the results, it was shown that high cost of media resources was ranked first with a mean value of 3.71, media resources not taking into consideration student with disability was ranked second (3.61), lack of skills and literacy on media resources was ranked third (3.59), inadequate computers was ranked fourth (3.38), few media resources was ranked fifth (3.24), limited option of media resources was ranked sixth (3.02), few support staff was seventh (3.00), lack of awareness and knowledgeability was eighth (2.94), poor attitude was ranked ninth (2.91), limited space was ranked tenth (2.73) while poor attitudes of students was ranked eleventh with a mean value of 2.32. These results are summarised in Table 1. As a result, it was established that high cost of media resources, media resources not taking into consideration student with disability and lack of skills and literacy on media resources were the major barriers influencing adoption and usage of media resources in the University. High costs of media resources, as explained earlier, discourage the school from acquiring adequate media resources since they will be expensive to purchase media resources which cater for the school population. Moreover, due to high costs, limited media resources may be acquired which in the end leads to inappropriate and inefficient teaching/learning. Most media resources acquired in the School like computers and projectors overlook students with disabilities. Supporting this finding Wambugu (2010) while writing to Sunday Nation of 4th April, 2010 reported that children who are hard of hearing can now learn by watching video books while the blind can listen to audio books. The tools which facilitate these processes include talking word processors, big pointer utilities, screen magnifiers, screen readers, closed circuit television and electronic Braille. For example, projectors and computers have no benefit to a blind student because s/he cannot see what is being projected. On the same note, lack of skills and literacy on the use of media resources also blocks the use of media resources.

When one is ignorant about how media resources operate, adoption of the resources becomes difficult. However, it was established that poor attitudes of students did not influence usage of media resources. A close scrutiny of the above

factors indicate that high cost of media resources, media resources not taking into consideration student with disabilities, lack of skills plus literacy on media resources were the major barriers influencing use of media resources in the School of Public Health. In addition, and while writing on Virtual Universities in Africa, Statlander (1998) states that poor telecommunication links, shortage of equipment, erratic power supply, inconsistent funding, cost of linkage, sustainability, shortage of trained technical staff and attitude of educators all combine to stagnate use of media resources. Again, South (2000) argues that challenges of instructional media include core-cost, storing, provision of infrastructure, creating meta-data for each object and maintaining standards of learning objects. However, the central benefit of the media resources is their potential for re-use in order to reduce production costs. In conclusion, it was established that high costs of media resources hinder the use of media resources in the school as it makes the project to be expensive. Other factors which barred the smooth use of media resources includes; media resources not taking into consideration student with disabilities and lack of skills and literacy on media resources. As a result, skills and knowledge on media resources should be obtained from training, accessibility and exposure to media resources.

CONCLUSIONS

The third objective of the study was to describe the challenges facing the use of media resources in instruction process in the School of Public Health. It was established that high cost of media resources hindered the use of media resources in the School as it makes the project to be expensive. Other factors which barred the smooth use of media resources included media resources not taking into consideration students with disabilities and lack of skills and literacy on media resources. As a result, skills and knowledge on media resources should be obtained from training, accessibility and exposure to media resources.

RECOMMENDATIONS

Form the foregoing study and the discussion above, this paper recommends that lecturers should be trained on how to operate and use media resources, especially projected media resources where majority of the respondents were incompetent in operating them. The Department of media technology in the School of education (Moi University) could facilitate the training.

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