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Lecturers' Use of Multimedia Resources for Knowledge Transfer: A Study of Adeleke University, Ede, Osun State

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Abstract

This study investigated lecturers' use of multimedia resources for knowledge transfer at Adeleke University. A descriptive survey design was employed. The study was conducted among the 84 full-time academic staff using census techniques. A self-developed was used to collect data from 84 lecturers out of which 80 questionnaires were adequately completed and retrieved for analysis making a 95.2% response rate. Data analysis involves the use of descriptive and inferential statistics such as frequency counts and percentage distribution, mean and standard deviation as well as student t-test and multiple regression analysis. Findings revealed an overall moderate level of multimedia resource availability at Adeleke University (mean = 2.81) on the scale of 4 points. The study also revealed a high extent of knowledge transfer among lecturers with the use of multimedia resources (mean = 2.99). The findings revealed that top among the factors militating against multimedia use includes lack of understanding of the benefits of multimedia facilities (mean = 2.89), high cost of technology (mean = 2.88), lack of perceived economic value of the multimedia resources (mean = 2.85) and inadequate capital on the part of individual lecturer to procure some of the multimedia resources for personal use (mean = 2.81). The findings revealed that slide presentation ($\beta = 2.494$, $t = 4.067$, $p < .05$); use of projector ($\beta = 0.075$, $t = .077$, $p < .05$) and Internet use ($\beta = 4.551$, $t = 9.242$, $p < .05$) were shown to significantly influenced knowledge transfer among the lecturers. Arising from the findings, recommendations were made.

Keywords Meltimedia, Knowledge Transfer, Lecturers, Adeleke University

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Introduction

The recent development in the educational arena requires the effective use of multimedia resources at all levels of education. Hence, it cannot be overemphasized that creating and using multimedia resources in learning is one of the trending concepts in today's knowledge-driven economy. Multimedia can be defined as the use of a computer or other electronic devices to present and combine text, graphics, audio, and video with links and tools that let the user navigate, interact, create, and communicate. In recent times, the use of multimedia in teaching and learning has become more extensively advocated among scholars and policymakers. Multimedia technologies include CD-ROMs, CD-I (compact disc interactive), DVI (digital video interactive), and rewritable compact discs as well as slides and video demonstrations.

Multimedia resources provide opportunities for students to learn from and about each other even when they do not have the opportunity to learn with students from other health professions (Levett-Jones, Gilligan, Lapkin & Hoffman, 2012). To effectively use multimedia in the university environment, lecturers need to embrace the culture of knowledge transfer to enhance their teaching and research experience. Knowledge transfer has been described as a process in which skills, experience, competencies, knowledge, and capabilities are transferred among people (Argote, 2011; Wambui, Wangombe, & Muthura, 2013). Effective knowledge transfer practices among lecturers can help to increase their performance. Yoeung, Sinsen, Roem, Ioy, and Ros (2017) in their study 'perceived organizational support, knowledge creation, knowledge transfer, and learning performance: an empirical study of higher education institutions in Siem Reap, Cambodia' established that students' learning performance of students is correlated with lecturers' knowledge transfer practices. Yoeung *et al* (2017) argued that knowledge transfer practices serve as mediators between students and lecturers' relationship and collaboration. Effective knowledge transfer practices among lecturers will enhance students learning outcomes (Opeke & Opele, 2014).

The structure of the educational programs of the 21st century calls for a completely new way of doing things such as the inclusion of modern techniques and methodologies. Unlike what obtains in the past where lectures are delivered through the traditional face-to-face method, today's university curriculum requires that multimedia and other instructional methodologies be adopted for ease of knowledge sharing and transfer. Adeleke University is known for its abundance of human and infrastructural facilities; however, it is hard to determine the extent to which lecturers are engaged in knowledge sharing and transfer practices. Hitherto, there is a dearth of literature on the extent to which lecturers across departments and faculties are making use of multimedia resources in knowledge sharing and transfer with their students. The current study, therefore, looked at this knowledge gap to contribute to the general body of knowledge.

Objectives

The main objective of this study is to ascertain the extent to which lecturers make use of multimedia resources for knowledge transfer at Adeleke University, Ede, Osun State. The specific objectives are set to:

1. determine the adequacy of available multimedia resources at Adeleke University
2. investigate the extent to which lecturers engage in knowledge transfer using multimedia resources at Adeleke University
3. find out the factors militating against the use of multimedia and knowledge transfer among lecturers at Adeleke University

Research questions

The following questions are answered in this study:

1. What is the adequacy of multimedia resources at Adeleke University?
2. What is the extent of engagement of lecturers with multimedia resources for knowledge transfer at Adeleke University?
3. What are the factors militating against the use of multimedia resources by lecturers for knowledge transfer at Adeleke University?

Research Hypothesis

The following hypothesis was tested at .05 level of significant

Ho1: there is no significant influence of multimedia resources utilization on knowledge transfer among lecturers at Adeleke University

Review of Related Literature

Multimedia resources are designed to be used in knowledge institutions to aid and enhance learning and knowledge transfer between teachers and students. The use of multimedia resources enhances the visual presentation of educational materials for students at all levels. Scholars in different disciplines such as sciences, art, and humanities, social sciences and management as well as education and engineering fields have examined the use of multimedia in knowledge sharing and transfer (Dalacosta, Kamariotaki-Paparrigopoulo, Palyvos & Spyrellis, 2009). In a related study, Susila, Muslim, and Syahrial (2018) examined the interactive multimedia that can enhance students' engagement; their findings exposed that lecturers often experience difficulties in delivering the material due to lack of time in preparing varied media for learning. In the instructional process lecturer used to use visual media, audio-visual, picture, textbook, and PowerPoint. The same result indicated that students liked learning through the use of interactive multimedia resources, but lamented not all material was in the form of interactive multimedia. The findings further revealed that interactive multimedia makes students comprehend the material because some simulations and animations make it clear.

Quarters *et al* (2016) in their study of multimedia and e-learning integration in the FFS Gulf College Classrooms acknowledged that the Gulf College students "sometimes utilized" multimedia and e-learning in learning. It was found that computer/laptop/netbook and internet were among the top-rated multimedia and e-learning resources in use. In Kullberg's (2011) who explored Swedish Teacher' and student's perspectives of the use of ICT in the English classroom setting, found that students showed a more positive attitude to ICT than the teachers and they would like to adopt computers more in the classroom. According to Manurung and Mihardi (2018), who examined improved problem-solving ability using interactive multimedia in the teaching of an ideal gas; reiterated that the problem-solving ability of students who learned physics using interactive multimedia-based problem solving was better than those who learned through conventional methods.

O'Callaghan, et al, (2015) investigated the use of lecture recordings in higher education: a review of institutional, student, and lecturer issues; the study revealed that students are positive about the availability of lecture recordings. They make significant use of the recordings and reported that the recordings have notable benefits to student learning outcomes. It was also found that the Lecturers recognize the benefits of recordings for students and themselves, but also perceive several potential disadvantages, such as its negative effect on attendance and engagement, and restricting the style and structure of lectures. It is concluded that the positives of lecture recordings outweigh the negatives and its continued use in higher education is recommended. In another study by Paulo Kushnir et al. (2011)

assessed Lecture capture: Good student learning or good bedtime story: An interdisciplinary assessment of the use of podcasts in higher education, found that students believed that lecture recordings helped them attain higher grades than other traditional methods. Within similar context, Williams et al, (2012) examined the impact of online lecture recordings on student performance; they found that lecture recordings benefited students who used them as a supplement, rather than a substitute for lecture attendance. In contrast, the findings from the study of Paulo Kushnir et al. (2011), found no effect on grades for students who used podcasts when compared to those who did not, and that lecture capture might encourage a surface learning attitude.

In a study on academic perceptions on the use of Lectoria in the University of Melbourne as choices for learners and learning, Chang (2007) discovered that some lecturers expressed concern that students might use lecture recordings as a substitute for interaction, the same study revealed further that by not attending the lectures, students will have less opportunity to interact with teaching staff and with fellow students, at least in the traditional face-to-face manner. The authors also lamented that students might engage less with the subject they are studying, which could result in a more surface approach to learning. An investigation was done on perception and attitudinal behaviour of Lecturers' on the use of information and communication technology tools in teaching/learning in the Michael Okpara University of Agriculture Umudike, Nigeria; findings from the study revealed that the perception of the academic staff on the use of ICT facilities was positive. Implying that the respondents appreciated the benefits accrued by the use of ICT facilities such as receiving information through satellite and internet connectivity (Olojede, 2016).

Contrary to some of the cited authors so far, Dalgarno and Grey (2010) in Ezekwe et al (2014) argued that some lecturers exhibit laissez-faire, lack skills, and resist the use of ICTs in the classroom and hence, did not encourage the use of multimedia among students. Also, results from the study of Humaira et al (2019) showed that of the six aspects measured, there were five positive perceptions of Teacher and Student on the use of blended learning model, namely the quality of interaction between students when discussing; the quality of interaction between lecturers and students in learning; Teacher and Student satisfaction in learning; ease of Teacher and Student in understanding subject matter; learning experience what Teachers and Student get. The results from the study also revealed that the use of the Blended Learning Model in the learning process is proven to increase the quality of interaction between Teachers and Students.

Speaking in agreement with the previous authors, John, Nwosu, and Akorede (2018) examined the availability and accessibility of ICT-based instructional tools in medical colleges in Ogun State and established that Internet-based desktop computers, e-medical journals, faculty cybercafé, social media, projectors, CAI, PowerPoint slides, online educational forums, and medical videos/animation clips are adequately available teaching and learning tools for lecturers in the medical colleges. Findings from John, Nwosu, and Akorede (2018) agree with the basic requirements of the Association of American Medical Colleges, (2007) and Nigeria Undergraduate Medical and Dental Curriculum Template, 2012 which states that Computer-Aided Instruction (CAI), Social Media, PowerPoint Slides Microsoft: PP slides, and Medical videos MV and animation clips should be the tools for Instructional process in medical education.

Results of the study on developing and testing self-learned interactive multimedia courseware for music aural lesson showed that the developed Music Aural courseware was suitable as a self-learning material and provided strong support to the understanding of concepts in the Music Aural learning (Nasrifan & Saidon, 2017). In contrast, the findings from the study conducted by Muslem and Abbas

(2016) on the effectiveness of immersive multimedia learning with peer support on English speaking and reading aloud showed that the multimedia learning with peer support group reported significantly better performance in all measures of oral production for reading and speaking. In the study of Udim and Etim (2016) on the use of multimedia in teaching and learning of political science in the university of Uyo, Awa-Ibom State, Nigeria. It was found that the use of computers for teaching in the department is “not very often”, as did the use of projectors. Finding from the study further revealed that computers, sound systems, and the use of simulation and projectors were not in the department. The study of Onotai, Tabansi, and Asuquo, (2012) on medical student’s perception of traditional method and multimedia use for lecture delivery at the University of Port Harcourt, Nigeria reaffirmed the study above which concluded that the traditional method (dictating of lecture notes) was the dominant method of lecture delivery in the clinical medical students lecture series of the College of Health Sciences of University of Port Harcourt but other methods such as the use of the sound system, and projectors are also used in the higher institutions to enhance learning.

Several factors may affect the usage of multimedia resources. A study carried out by Nasaruddin and Ismayatim (2013) on factors affecting the usage of multimedia teaching tools by university lecturers identified the design and technical functionality of the software, high cost of technology, lack of supportive infrastructures, and wrong choice of software or software inadequacy. In a related study, Njiraine (2019) citing Hong, et al, (2011) examined enabling knowledge sharing practices for academic and research in higher education institutions. His findings identified such factors as lack of time to share knowledge; concern about hazard job security; little awareness; the dominance of explicit knowledge over tacit knowledge in sharing; inadequate capture, evaluation, and communication of previous mistakes that may improve individual and organizational learning influences; differences in experience levels; lack of interaction, social network; poor communications and interpersonal skills; age, gender, cultural, and educational differences and little trust to the accuracy and credibility of knowledge due to the sources.

Conversely, Lam *et al* (2018) evaluated the face and content validity of an instructional technology competency instrument for university lecturers in Malaysia and established that multimedia application is effective than conventional media. Multimedia in this study can be used by other lecturer or teacher as the optional instrument in teaching listening comprehension. Also, Idris, Nurhayati and Satriani, (2018) looked into developing computer-assisted instruction multimedia for educational technology course of coastal area students and informed that there was an increase in students’ enthusiasm to study the materials presented. These authors established that multimedia positively affects the learning process.

The results obtained from the study by Agbagbue, (2018) on the utilization of instructional media for teaching business studies in Emohua Local Government Area in Rivers State indicated that instructional media were poorly available for teaching business studies in Emohua Local Government Area. Their study implies that instructional media are important resources to teaching and learning, especially to teaching skilled subjects like business studies. Oyeleye (2018) surveyed locus of control as a correlate of lecturers’ use of multimedia technologies in colleges of education in Southwest, Nigeria, his discoveries showed that inter-locus of control of lecturers was low while their external locus of control was high, lecturers multimedia technologies utilization in colleges of education in southwest Nigeria is at an average level. The authors recommended that locus of control could be considered as a correlate of lecturers’ use of multimedia technologies in Colleges of Education in the southwest, Nigeria.

In a related study, Konan (2013) investigated the education of supervisors’ and student locus of control and internet use, they expressed in their study that internet users are more probable than non-users

to have an internal locus of control because of the high level of controllability inherent in the circumstance of the device. Akin and Çeçen (2015), in their study: the use of multimedia in the classrooms, observed that student motivation increased after the implementation of multimedia in the study. They reported that multimedia use in the learning process does not only increase the success level of the students but create positive changes in the attitudes of the students towards lessons. Similarly, Yünkül and Er (2014) examined the Effect of Multimedia Software Course on Student Attitudes; found students' attitudes towards lessons were positively affected by the use of multimedia as the students in the experimental group.

According to Altinişik and Orhan (2002), teachers' use of multimedia as a teaching process has no significant difference in the results. Altinişik and Orhan (2002), explained the reason for this non-difference situation as it was the students' first experience of multimedia use and time limitation. Moreover, in the study of Aytan and Başal (2015) on teacher attitude on ICT, found teacher attitude towards web 2.0 tools were positive, these tools improve critical thinking and ICT skills, information exchange feedback process in their study web 2.0 tools effects were investigated. Besides, the use of multimedia can improve the student learning outcome to a high level. It has also been established that there was no significant difference in achievement using multimedia materials based on gender, but the male was of a higher mean score than females. Generally speaking, it has been established that multimedia resources utilization has the potential to increase the academic success of students (Akinoso, 2018). Hamzah, Rinaldi & Razak (2014) conducted a study on multimedia usage among Islamic Education Lecturers at Higher Education Institution; their results indicated that the use of multimedia among Islamic education lecturers in higher education institutions in West Sumatera, Indonesia was at the moderate level. Besides, the use of graphics in teaching is vital to facilitate the identification of objects, to classifying objects, to demonstrate the spatial relationship of an object, and helping to explain an abstract concept.

Knowledge transfer connotes an interaction between at least two individuals that is, the sender and the receiver in which both are mutually exclusive to exchange valuable knowledge and endeavour to maximize their gains. Argote and Fahrenkop (2019) defined knowledge transfer as the process of learning indirectly from the experience of others. A good scenario of knowledge transfer is common among teachers and students in a learning environment. The teacher usually interacts with the students in such a way that he gives out his knowledge by way of teaching a course thereby encouraging absolute attention from the students so that they could grasp the sense of his class and be able to ask questions, carry out certain exercises and by extension transfer the knowledge to others in the group of elsewhere. In such a situation, the one receiving the knowledge often depends on the one sending the knowledge out so that the receiver is educated based on the knowledge shared, enhances his or her state of knowledge, and able to make informed decisions (Tsai, 2001). Battistella, Alberto, and Roberto (2015) noted that knowledge transfer often occurs among social relationships such as those narrated earlier. In other words, the social relationship gives a natural atmosphere for knowledge transfer. Knowledge transfer helps the parties involve tap valuable organizational knowledge to enhance performance and productivity (Van Wijk, Jansen, & Lyles, 2008). Through knowledge transfer, actors in the knowledge transfer practices can annex the potentially useful knowledge and other resources within the organization thereby increasing the organizational knowledge stock (Battistella et al., 2015). Among factors that may encourage knowledge transfer in any social setting is trust among the parties involves (Reagans & McEvily, 2003). Trust encourages the natural desire to share knowledge in a group, it has been established that the extent of trust

among organizational members can influence the ease of transferring knowledge in the organization (De Long, & Fahey, 2000).

In a knowledge transfer setting, there is a sense of belonging and reciprocity among the actors. According to Szulanski (2000), everyone is committed to their available resources including time and energy for collective success stories. Besides, the recipient or the receiver often demonstrates a high level of confidence in the sender of the knowledge and both are happy. Studies have shown that the intensity of the relationship among the team is germane to the success of knowledge transfer in an organization (Argote & Ingram, 2000; Agrawal, 2001). This involves the frequency of interaction and communication among members. This helps promote the sense of belonging to the group (Cummings & Teng, 2003). Besides, it cannot be overemphasized that distance between members also plays a critical role in knowledge transfer in organizations. Thus, to encourage knowledge transfer among lecturers, there must be regular contact in seminars, meetings, conferences, and workshops as this will provide a natural environment for knowledge sharing and transfer (Cummings & Teng, 2003). Studies have also shown that organizational distance, knowledge distance, physical distance, knowledge-based distance, cultural distance, normative distance are among the factors that may inhibit or encourage knowledge transfer in organizations (Inkpen & Tsang, 2005; Kumar & Ganesh, 2009; Mowery).

It can be argued that the individual's absorptive capacity in knowledge transfer is key to sustaining the practice in an organization. This is because, people naturally differ in their makeup and absorptive capacity, and the authorities, therefore, must carry out a knowledge audit to be able to sustain the practice of knowledge transfer among their staff. At times, the situation is much more worrisome among the academics who are mostly lone rangers. In such an environment, the institutions have to adopt working strategies that will encourage everyone in the community to share and learning from one another. In such a setting everyone will benefit mutually (Argote, et al. 2000; Argote & Fahrenkop, 2019).

Methodology

A descriptive survey design was employed in this study. The study was conducted among the 84 full-time lecturers at Adeleke University comprising 27 lecturers from faculty of business and social sciences, 15 lecturers from sciences, 11 from Art and humanities, 15 from health sciences, 4 from faculty of law and 12 lecturers from faculty of engineering. The study was conducted among the 84 full-time academic staff of the university using census techniques. The choice of full-time lecturers was based on the fact that they are always available in their offices and was easily reached for questionnaire administration and retrieval. Besides, full-time lecturers are those that are consistent in the use of multimedia for lectures and presentations than the non-teaching staff in the university. Hence they are the target population of this study. A self-developed questionnaire which was subjected to face and content validity was administered to the 84 lecturers and 80 of the questionnaires were adequately completed and retrieved for analysis making a 95.2% response rate. The questionnaire was tested for validity and reliability (see Table 1) using Cronbach's alpha test. The reliability test revealed a high level of inter-item consistencies. The test result of the Cronbach Alpha was 0.7 which made its inter-item consistencies very high and adequate for the study. Data analysis involves the use of descriptive and inferential statistics such as frequency counts and percentage distribution, mean and standard deviation as well as student t-test and multiple regression analysis. From the results, the mean of 3.0 - 3.9 represented very high, 2.5 - 2.9, high while 2.0 - 2.4 represented moderately high while mean of 1.0 - 1.9 represented low.

Results

The results are presented based on the research questions raised at the onset of the study.

Research question 1: How adequate are multimedia resources at Adeleke University?

Table 1: Adequacy of multimedia resources availability at Adeleke University

S/N	multimedia resources	Very Adequate	Moderately Adequate	Slightly Adequate	Not at all Adequate	Mean	SD
4	Computer system	31(38.8)	38(47.5)	8(10.0)	3(3.8)	3.21	0.77
3	Projector	28(35.0)	38(47.5)	6(7.5)	8(10.0)	3.08	0.91
1	Slidpresentation	28(35.0)	35(43.8)	9(11.3)	7(8.8)	3.06	0.91
6	Internet facility	20(25.0)	35(43.8)	23(28.8)	2(2.5)	2.91	0.80
2	Television	16(20.0)	46(57.5)	8(10.0)	10(12.5)	2.85	0.89
9	Graphics	12(15.0)	44(55.0)	13(16.3)	11(13.8)	2.71	0.90
7	CD Rom	15(18.8)	36(45.0)	18(22.5)	11(13.8)	2.69	0.94
5	Video	13(16.3)	36(45.0)	21(26.3)	10(12.5)	2.65	0.90
8	Motion Pictures	9(11.3)	40(50.0)	17(21.3)	14(17.5)	2.55	0.91
10	Radio set	4(5.0)	41(51.3)	20(25.0)	15(18.8)	2.43	0.85
Weighted average						2.81	0.88

Source: field survey 2019

An analysis of the individual responses based on means values in Table 1 shows that; there is an overall moderate level of multimedia resources availability at Adeleke University. A close look at the survey item shows that the first most adequate multimedia resources are computer systems (mean = 3.21); second-most adequate is a projector in all the classes (mean = 3.08), third-most adequate is slides (mean = 3.06). Others includes Internet facility (mean = 2.91), television (mean = 2.85), graphics (mean = 2.71) while the construct with the least mean score radio set (mean = 2.43). In all, the two most reported multimedia computer systems and projectors in all the classrooms in the university. Also, the two least reported multimedia were radio set and motion pictures. The classroom is not too big beyond the face to face interaction between the teachers and students; whereas, radio is often use to share information among large community members such as the citizenry of any state or people of a geographical area. Also, motion pictures have a lower mean score because it is not use in the classroom, rather is common in the movie and other social gatherings.

Research question 2: To what extent do lecturers engaged in knowledge transfer using multimedia resources at Adeleke University?

Table 2: Extent to which lecturers engaged in knowledge transfer using multimedia resources at Adeleke University

S/N	Extent of multimedia resource utilization	Very high	High	Moderately high	Low	Mean	SD
1	Slide presentation	37(46.3)	32(40.0)	7(8.8)	4(5.0)	3.28	0.83
3	Projector	34(42.5)	29(36.3)	12(15.0)	5(6.3)	3.15	0.90
2	Computer	29(36.3)	33(41.3)	14(17.5)	4(5.0)	3.09	0.86
4	Internet	28(35.0)	30(37.5)	14(17.5)	8(10.0)	2.98	0.97
7	CD Rom	23(28.8)	34(42.5)	17(21.3)	6(7.5)	2.93	0.90
6	Television	24(30.0)	30(37.5)	19(23.8)	7(8.8)	2.89	0.94
5	Video	23(28.8)	31(38.8)	18(22.5)	8(10.0)	2.86	0.95
8	Motion Pictures	18(22.5)	29(36.3)	26(32.5)	7(8.8)	2.73	0.91
Weighted average						2.99	0.91

Source: field survey 2019

Table 2 indicates an overall high extent of knowledge transfer among lecturers with the use of multimedia resources (weighted mean = 2.99). The results show that the most highly use multimedia resource slide

presentation (mean = 3.28), followed closely by a projector (mean = 3.15), the third highest-rated construct was computer system (mean = 3.09). Others include Internet (mean = 2.98), CD ROM (mean = 2.93), television (mean = 2.89), video (mean = 2.86) while motion pictures (mean = 2.73) the least frequently used. Overall, there a generally high frequency of use of multimedia resources among the lecturers. Implying that the lectures regarded the multimedia resources are part of the teaching and forking toolbox that has the potential to enhance their teaching ability and styles.

Research question 3: What are the factors militating against lecturers use of multimedia resources in knowledge transfer at Adeleke University?

Table 3: Factors militating against the use of multimedia among lecturers in knowledge transfer

S/N	Factors that limits the use of Multimedia	Strongly Disagree	Disagree	Agree	Strongly Agree	Mean	SD
7	Lack of understanding of the value or possible benefits of multimedia facilities	10(12.5)	7(8.8)	45(56.3)	18(22.5)	2.89	0.90
5	High cost of technology	19(11.3)	15(18.8)	33(41.3)	23(28.8)	2.88	0.96
9	Lack of perceived economic or other benefits	8(10.0)	14(17.5)	40(50.0)	18(22.5)	2.85	0.89
4	Inadequate capital on the part of the individual lecturer	13(16.3)	7(8.8)	42(52.5)	18(22.5)	2.81	0.97
1	Lack of supportive infrastructures	13(16.3)	10(12.5)	38(47.5)	19(23.8)	2.79	0.99
3	inadequate training	13(16.3)	10(12.5)	40(50.0)	17(21.3)	2.76	0.97
6	Wrong choice of software or software inadequacy	19(23.8)	5(6.30)	39(48.8)	17(21.3)	2.68	1.07
8	Non-existent of service	14(17.5)	16(20.0)	37(46.3)	13(16.3)	2.61	0.96
2	Lack of time to spend on technology	20(25.0)	23(28.8)	22(27.5)	15(18.8)	2.40	1.06
10	Not user-friendly	30(37.5)	23(28.8)	20(25.0)	7(8.8)	2.05	0.99
11	Hard to use	34(42.5)	28(35.0)	14(17.5)	4(5.0)	1.85	0.89
	Weighted average					2.60	0.97

Source: field survey 2019

able 3 reveals that the most important factors militating against the use of multimedia and knowledge transfer among lecturers were lack of understanding of the value or possible benefits of multimedia resources utilisation (mean = 2.89), the second most identified factor was the high cost of technology (mean = 2.88), lack of perceived economic benefits of multimedia resources (mean = 2.85), inadequate capital on the part of the individual lecturer (mean = 2.81). Others include lack of supportive infrastructures (mean = 2.79), inadequate training (mean = 2.76), software inadequacy (mean = 2.68), non-existent of service (mean = 2.61), lack of time to spend on technology (mean = 2.40), not user-friendly (mean = 2.05) while hard to use was the least construct (mean = 1.86). These findings imply that no matter how perfect or well-intended is any new idea, there will always be some important factors militating its success. Besides, this outcome suggests that the introduction and use of multimedia resources in the university is key to effective knowledge transfer among lecturers and students.

Testing of hypothesis

Ho1: There is no significant influence of multimedia resources utilization on knowledge transfer among lecturers at Adeleke University

Table 4: Influence of multimedia resources utilization on knowledge transfer among lecturers at Adeleke University

Model	Coefficients				t	Sig.
	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta			
(Constant)	-.677	.592			-1.144	.257
Television	1.396	.976	.128		1.430	.157
Slide presentation	2.494	.613	.217		4.067	.000
Projector	.075	.974	.007		.077	.036
Computer	-.492	.621	-.036		-.794	.430
Video	.074	.784	.007		.095	.925
Internet	4.551	.492	.354		9.242	.000
CD Rom	1.381	.804	.128		1.718	.090
Motion Pictures	1.045	.728	.095		1.436	.156

Dependent Variable: Knowledge transfer.

R = .991

R² = .982

Adjusted R² = .980

F = 376.742,

Sig. p value= .000

Table 4 revealed that the multimedia resources utilization altogether explained 98% of the variance explained in Knowledge transfer among the lecturers. It revealed further that the f-statistics (10, 68) = 376.742,) with its corresponding probability of 0.000 indicated that the model is statistically fitted and significant. This implies a strong relationship between multimedia resources utilization and knowledge transfer among lecturers. In addition, the results indicates that; slide presentation ($\beta = 2.494$, $t = 4.067$, $p < .05$); use of projector ($\beta = 0.075$, $t = .077$, $p < .05$) and Internet use ($\beta = 4.551$, $t = 9.242$, $p < .05$) significantly influenced knowledge transfer among the lecturers. Implying that knowledge transfer among the lecturers at Adeleke University is accompanied with multimedia resources utilization by the lecturers. This findings is not silent on the power of multimedia use in knowledge transfer and hence helps acknowledge its potentials in effective knowledge transfer by lecturers in the university setting.

Discussion of Findings

Five key issues were examined in this study namely adequacy of available multimedia resources at Adeleke University; the extent to which lecturers engaged in knowledge transfer using multimedia resources; factors militating against lecturers use of multimedia resources in knowledge transfer at Adeleke University; the influence of multimedia resources utilization on knowledge transfer among lecturers at Adeleke University and gender perception on the adequacy of multimedia resources at Adeleke University. Multimedia resources available at the university are moderately adequate. The benefit of multimedia resources goes beyond lecturers but also provide opportunities for students to learn from and about each other even when they do not have the opportunity to learn with students from other professions (Levett-Jones, Gilligan, Lapkin & Hoffman, 2012). With regards to the extent to which lecturers engaged in knowledge transfer using multimedia resources; findings indicate an overall high

extent of knowledge transfer among lecturers with the use of multimedia resources. The implication of this findings tally with the studies of as Yoeung *et al* (2017) who contended that knowledge transfer practices serve as mediators between students and lecturers' relationship and collaboration. In other study, it has been established that effective knowledge transfer practices will also enhance students learning outcomes (Opeke & Opele, 2014).

With regards to factors militating against the use of multimedia resources and knowledge transfer among lecturers at Adeleke University; findings revealed that top among the factors include lack of understanding of possible benefits of multimedia facilities; high cost of technology; lack of perceived economic or other benefits; inadequate capital on the part of the individual lecturer was the most reported factors. Besides, Hong, et al, (2011); Nasaruddin and Ismayatim (2013); Njiraine (2019) identified the design and technical functionality of the software itself, high cost of technology, lack of supportive infrastructures, and wrong choice of software or software inadequacy as part of the factors militating against the use of multimedia resources and knowledge transfer among lecturers in the University.

The findings have contribution to the general body knowledge on the need to fully explore the power of multimedia resources for effective knowledge transfer in Nigerian universities. This will not encourage easy transfer of knowledge but implies that university lecturers in Nigerian universities are also moving with the happenings across the globe. Many scholars have alluded to the beauty of multimedia resources in knowledge transfer. A popular multimedia resource is the information communication technology (ICT). The study of Kullberg (2011) who explored Swedish Teacher' and student's perspectives of the use of ICT in the English classroom setting, indicated that students showed a more positive attitude to ICT than the teachers and they would like to adopt computers more in the classroom. Others scholars such as Manurung and Mihardi (2018), who examined improved problem-solving ability using interactive multimedia in teaching of ideal gas documented that the problem-solving ability of students who learned physics using interactive multimedia-based problem solving was better than students who learned through conventional methods. As expressed in O'Callaghan, *et al*, (2015) who examined the use of lecture recordings in higher education, students are positive about the availability of lecture recordings which help them to make significant use of the recordings because it increase student overall learning outcomes.

Conclusion

The outcome of this study revealed that lecturers' use of multimedia resources in knowledge transfer cannot be overemphasized in the university setting. Overall, the current study indicates a moderate level of multimedia resources availability at Adeleke University and a high extent of knowledge transfer among lecturers with the use of multimedia resources among the lecturers in the university. The findings indicate that multimedia technologies are important in the transfer of knowledge and collaboration among lecturers. Also, as indicated in this study, there are many factors militating against the use of multimedia resources by lecturers for knowledge transfer at Adeleke University notably lack of understanding of the benefits of multimedia resources utilization, the high cost of technology, lack of perceived economic values of multimedia resources utilization and inadequate capital on the part of the individual lecturer to purchase personal multimedia resources for personal use. The findings of the current study suggests that the more the lecturers engage in the use of multimedia resources the more interesting the class will be and the more enjoyable to the students and colleagues.

Recommendations

The following recommendations were suggested:

1. The university authority should sustain the current use of multimedia resources in the university for sustainable knowledge transfer among lecturers and students.
2. The internet connectivity in the university should be improved upon for sustainable online classes thereby sustainable effective knowledge transfer from lecturers to students at all levels
3. The university should provide more funding for the purchase of more multimedia resources for the use of students and lecturers

References

- Agbagbue, A. O. S. (2018). Utilization of instructional media for teaching business studies in Emohua Local Government Area in Rivers State. *International Journal of Innovative Education Research*, 6(1):94-100.
- Agrawal, A. K. (2001). University-to-industry knowledge transfer: Literature review and unanswered questions. *International Journal of Management Reviews*, 3(4): 285–302.
- Argote, L. (2011) Organizational learning research: past, present and future. *Management Learning*, 42(4): 439–446
- Argote, L., & Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage of firms. *Organizational Behaviour Human Decision Processes*, 82:150–169.
- Argote, L., & Fahrenkop, E. (2019). Knowledge transfer in organizations: The role of members, tasks, tools, and network. A dissertation submitted to Tepper School of Business, Carnegie Mellon University.
- Akinoso O. (2018). Effect of the use of multimedia on students' performance in secondary school mathematics. *Global Media Journal*, 16(30):109.
- Altınışık, S., & Orhan, F. (2002). Sosyal Bilgiler Dersinde Çoklu Ortamın Öğrencilerin Akademik Başarıları ve Derse Karşı Tutumları Üzerindeki Etkisi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi* 23: 41-49.
- Aytan, T. & Başal, A. (2015) Türkçe Öğretmen Adaylarının Web 2.0 Araçlarına Yönelik Algılarının İncelenmesi. *Turk Stud* 10: 149-166.
- Battistella, C., Alberto, F., D.T., & Roberto, P. (2015). Inter-organisational technology/knowledge transfer: a framework from critical literature review. *Journal of Technology Transfer* online, 10, Jan. 2015. Available at: DOI 10.1007/s10961-015-9418-7
- Chang, S., (2007). Academic perceptions of the use of Lectopia: A University of Melbourne example. In ICT: Providing choices for learners and learning. Proceedings of Ascilite, Singapore <http://www.ascilite.org.au/conferences/singapore07/procs/chang.pdf> 6/1/08.

- Cuarteros, J B. Sapungan, R. M..Manalo, R Talattad D. L. (2016).Multimedia and e-learning integration in the FFS Gulf College Classrooms. *International Journal Advances in Social Science and Humanities*, 4 (06): 12-22 available at www.ijassh.com.
- Cummings, J. L., &Teng, B. (2003). Transferring R&D knowledge: The key factors affecting knowledge transfer success. *Journal of Engineering and Technology Management*, 20: 39–68.
- Dalacosta, K., Kamariotaki-Paparrigopoulo, M., Palyvos, J.A&Spyrellis, N (2009).Multimedia application with animated cartoons for teaching science in elementary education. *Journal of Computers and Education*, 52: 741-748.
- De Long, D. W., & Fahey, L. (2000).Diagnosing cultural barriers to knowledge management. *Academy of Management Executive*, 14(4), 113–127.
- Ezekwe, E.A, Onwe, S.O., &Larry, U.E., (2014), Digitaldivide among academic staff of Ebonyi State University Abakaliki Nigeria: *A Discourse Universal Journal of Management and Social Sciences*, 4(1): 1-8.
- Humaira, M. A Rasmitadila, Widyasari, R. R&Kardaya.D. (2019). 1st International Conference on Advance and Scientific Innovation (ICASI) IOP Conf. Series: *Journal of Physics: Conf. Series* 1175 (2019) 012213. IOP publishing doi:10.1088/1742-6596/1175/1/012213.
- Hong, D., Suh, E., & Koo, C. (2011) Developing strategies for overcoming barriers to knowledge sharing based on conversational knowledge management: A case study of a financial company. *Expert Systems with Applications*, 38, PP.14417–14427.
- Idris, H., Nurhayati, N. & Satriani, S. (2018). Developing computer-assisted instruction multimedia for educational technology course of coastal area students. *Earth and Environmental Science*, 156: 012049. doi :10.1088/1755-1315/156/1/012049
- John, H. C..Nwosu, J. C &Akorede O J (2018).Availability and accessibility of ICT-based instructional tools in Medical Colleges in Ogun State. *European Journal of Health and Biology Education*, 7(1): 2165-8722. <https://doi.org/10.29333/ejhbe/89728>.
- Konan, N. (2013). Educational supervisors’ locus of control. *Eurasian Journal of Educational Research*, 51: 45-64.
- Kullberg, T. (2011).Swedish Teachers and students’ view on the use of ICT in the English classroom. Unpublished BA, thesis Linnaeus University, Spain.
- Lam, K. W., Hassan, A., Sulaiman, T., & Kamarudin, N. (2018). Evaluating the face and content validity of an instructional technology competency instrument for University Lecturers in

- Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(5), 367–385. <http://dx.doi.org/10.6007/IJARBSS/v8-i5/4108>
- Hamzah, M. I. & Razak, K. A. (2014). Multimedia usage among Islamic education lecturers at higher education institution. *International Education Studies*, 7(130):213-217. doi:10.5539/ies.v7n13p157 URL: <http://dx.doi.org/10.5539/ies.v7n13p157>.
- Inkpen, A. C., & Tsang, E. W. (2005). Social capital, networks and knowledge transfer. *Academy of Management Review*, 30(1), 146–165
- Kumar, J. A., & Ganesh, L. S. (2009). Research on knowledge transfer in organizations: A morphology. *Journal of Knowledge Management*, 13(4): 161–174.
- Levett-Jones, T., Gilligan, C., Lapkin, S., & Hoffman, K. (2012). *Inter-professional education for the quality use of medicines: Designing authentic multimedia learning resources*. *Nurse Education Today*, 32(8): 934–938. doi:10.1016/j.nedt.2011.10.013
- Manurung S. R. & Mihardi S. (2018). Improved Problem-Solving Ability after using Interactive Multimedia in Teaching of Ideal Gas. *Indian Journal of Science and Technology*, 11(36), DOI: 10.17485/ijst/2018/v11i36/130452.
- Mowery, D. C., Oxley, J. E., & Silverman, B. S. (1996). Strategic alliances and interfirm knowledge transfer. *Strategic Management Journal*, 17: 77–91
- Muslem A. & Abbas, M. (2016). The Effectiveness of immersive multimedia learning with peer support on English speaking and reading aloud. *International Journal of Instruction*. 10 (1) available at www.e-iji.net.
- Nasaruddin, F.H, & Ismayatim, W.F. (2013). Factors affecting the usage of multimedia teaching tools by university lecturers. 4th International Conference on Computer Science and Information Technology (ICCSIT'2013) Oct. 6-7, 2013 Dubai (UAE).
- Nasrifan M.N., & Saidon, Z. L. (2017). Developing and testing a self-learned interactive multimedia courseware for music aural lesson. *International Journal of Academic Research in Business and Social Sciences*, 7(9). 2222-6990. DOI: 10.6007/IJARBSS/v7-i9/3332
- Njiraine, D. (2019). Enabling Knowledge Sharing Practices for Academic and Research in Higher Education Institutions. *Journal of Information and Knowledge Management*, 9(3). DOI: 10.7176/IKM. Available at www.iiste.org.
- O'Callaghan, F. V. Neumann, D.L. Jones, L & Creed, P. A. (2015). The use of lecture recordings in higher education: A Review of Institutional, Student, and Lecturer Issues.
- Olojede. J. C. (2016). Perception and attitudinal behavior of lecturers' in the use of information and communication technology tools in teaching/learning in Michael Okpara University of Agriculture

Umudike. *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, 16 (3):21-43.

- Onotai L. O., Tabansi, P. N. & Asuquo, E. (2012), Medical student's perception of traditional method and multimedia use for lecture delivery at the University of Port Harcourt, Nigeria. *International Educational Research journal*, 3(7):576-582.
- Opeke, R.O., &Opele, J.K. (2014). Assessment of knowledge sharing behaviours of postgraduate students in selected Nigerian Universities. *Journal of Information and Knowledge Management*. 4(11): 102-106
- Oyeleye A. O. (2018). Locus of Control as Correlate of Lecturers' Use of Multimedia Technologies in Colleges of Education in Southwest, Nigeria.
- Paulo Kushnir, L., Berry, K., Wyman, J., & Salajan, F. (2011). Lecture capture: Good student learning or good bedtime story? An interdisciplinary assessment of the use of podcasts in higher education. In T. Bastiaens & M. Ebner (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2011* (pp. 3168-3178).
- Reagans, R., &McEvily, B. (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly*, 48, 240–267
- Susila, H. R. Muslim, S. & Syahril, Z. (2018).Interactive multimedia to enhance students' engagement. *ICSTI*, October 19-20, Yogyakarta, Indonesia .DOI 10.4108/eai.19-10-2018.2281286.
- Szulanski, G. (2000). The process of knowledge transfer: A diachronic analysis of stickiness. *Organizational Behavior and Human Decision Processes*, 82(1): 9–27.
- Tsai, W. (2001). Knowledge transfer in intra-organizational networks: Effects of network position and absorptive capacity on business unit innovation and performance. *The Academy of Management Review*, 44(5): 996–1004
- Udim D. K. &Etim E. A. (2016).Use of multimedia in teaching and learning of political science in University of Uyo, Akwa Ibom State. *Nigeria. Research in Pedagogy*, 6(2): 154-170 available at DOI: 10.17810/2015.42.
- Van Wijk, R., Jansen, J. J. P., & Lyles, M. A. (2008). Inter and intra organizational knowledge transfer: A meta-analytic review and assessment of its antecedents and consequences. *Journal of Management Studies*, 45(4): 830–853.
- Wambui, T. W., Wangombe, J. G., & Muthura, M. W. (2013).Linking human resource management to knowledge transfer for organizational development. *International Journal of Business and Social Science*, 4(12): 169-183.x

Williams, A., Birch, E., & Hancock, P. (2012). The impact of online lecture recordings on student performance. *Australasian Journal of Educational Technology*, 28, 199-213.

Yoeung, S., Sinsen, T., Roem, R., Loy, N., & Ros, S. (2017). Perceived organizational support, knowledge creation, knowledge transfer, and learning performance: An empirical study of higher education institutions in Siem Reap, Cambodia. *International Journal of Management, Accounting and Economics*. 4(5): 519-541.

Yünkül, E., & Er, K.O. (2014) The effect of multimedia software course on student attitudes. *Eğitimde Kuram ve Uygulama* 10: 316-330.