

Vocational and Technical Education Lecturers' Preparedness in Adopting the Emerging Technology Posed by Covid-19 Pandemic

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Abstract: The study was carried out to examine the preparedness of vocational and technical education lecturers in adopting the emerging technology posed by Covid-19 pandemic in Oyo State Colleges of Education, Nigeria. To achieve the objectives of the study, two research questions were developed and answered while one null hypothesis was tested at 0.05 level of significance. The study adopted survey research design. The population for the study consisted of 150 lecturers. Total enumeration sampling technique was used for this research work. The questionnaire was faced and content validated by two experts from the Department of Business Education and one expert from Industrial Technical Education Department, Tai Solarin University of Education, Ijebu-ode. Cronbach Alpha method was adopted to ensure reliability of the instrument with the coefficient of $r=0.96$. This shows that the instrument is highly reliable. The questionnaire was administered on 150 respondents and all were successfully retrieved. Mean and Standard deviation were used to answer data related to research questions while t-test analysis was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed that preparedness level of the Vocational and Technical Education lecturers on the use of available technological tools for teaching and learning is moderately high. Based on the findings, it was recommended among others that government through a relevant agency like Tertiary Education Trust Fund (TETFund) should assist in providing some adequate modern technological tools for Colleges of Education, school management should provide modern technological tools for the smooth running of teaching and learning, Seminars and Conferences on the use of modern technological tools be attended at an interval.

Keywords: Preparedness, Modern Technology Tools, Covid-19

INTRODUCTION

The spread of Covid-19 has left indelible experience across the globe. No economic activities were saved from the Virus called Covid-19. From the critical observations, Educational system suffered the most. In other to curb the menace of COVID-19 pandemic, the Nigerian government shut down all economic activities in the country including closing down of the schools at levels. Many universities, polytechnics, colleges of education even secondary schools around the world either postponed or canceled all campus activities to minimize gatherings and hence decrease the transmission of virus.

Due to the suspension of classroom teaching in many Colleges, Polytechnics and Universities, switch to the online teaching for undergraduate and graduate students becomes effective. This form of learning provides an alternative way to minimize either the contact between students themselves

or between the students and lecturers. However, many students have no access to the online teaching due to lack of either the means or the instruments due to economical and digital divide. Consequently, teachers face significant challenges in adapting to online teaching, and maintaining at least a minimum of communication with students and supporting students' learning and development through modern technological tools. Meanwhile, preparedness to utilize modern tools amid COVID-19 is sacrosanct to effective teaching communication.

Modern technological tools, however, are various Internet resources, services, facilities, platforms, open educational resources, e-library resources, virtual resources, social networks among others that are found on the global networks of computers. These technological tools are connected via a computer system to another computer system, digital devices or computer networks. Online technologies are the modern tools for effective education management, administration and instructional delivery, especially in higher institutions of learning (Uchendu, 2012; Agber & Agwu, 2013). Social media such as Facebook and Twitter are online platforms useful for connecting people as well as conveying of ideas and information. Streaming technologies are suitable for pushing video and audio contents to connect end users, while virtual learning environments help bridge the distance between the institution, course contents, tutors and the learners (Biello, 2009; Kaplan & Haenlein, 2010). There are also various tools used for effective instructional delivery, such as, Global Digital Library, Feed the Monster, Antura and the Letters, Bloom, eKitabu, World Around You, Bookshare, KitKit School, Sema, Worldreader, Google Meet, Zoom, Telegram, Whatshap. The functionality of these tools depends largely on the effective utilization on the part of lecturers. It is on this basis, that prompted the researcher on the need to investigate on the lecturers' level of preparedness.

Preparedness is the state of being prepared for or willing to engage in a particular activity. Mikre (2011) affirms factors such as attitude, motivation, computer anxiety and computer self-efficacy as factors affecting lecturers' preparedness to use computers during classroom sessions. The importance of lecturers to the use of technology in the classroom cannot be over emphasized, the way student relates and interact with Internet technologies is complex and they identify with its values and benefits, nonetheless, they need lecturers to guide them while using it for educational purposes (Prasetyono et al., 2021). Lecturers are the driving factor that enables the deployment of technology to aid the learning process (Erişti et al., 2012).

Preparedness is the willingness to embrace change, is a major requirement for successful integration of technology as it provides learners opportunities to learn and apply the required 21st century skills. Given the relentless advent of ICT in education arena, its use in enhancing lesson delivery has been widely discussed and adopted in many higher education institutions globally. American Psychological Association, as one of its recommendations has encouraged lecturers to reckon implementing ICT integrated learning environment for students (Li et al., 2018). In this regard, Vrasidas (2015) is quite skeptical as institutions may have necessary ICT facilities, but there may be other shortfalls such as lack of time for lesson preparation and unsupportive curriculum design. He reiterates that just having the resources does not imply that ICT can be easily implemented, but there needs to be the presence of other supportive factors and one such factor is staff preparedness (Vrasidas, 2015). That is why Yunus (2007) is assertive that before ICT can be effectively integrated teachers should be provided adequate training and support in ICT and pedagogy. There is no doubt why staff preparedness and motivation need to be considered as important factors for the successful assimilation of technology in schools. This lack of confidence could be due to the administration of the different tools and learning platforms.

Meanwhile, the teacher's motivation to adopt technology is an immensely important area to explore and study. In order to use technology in the best possible manner, it becomes imperative that the teacher should be willing to accept and adopt it for the teaching activities (Prasetyono et al., 2020). Thus, it becomes essential to understand the teachers' behavior, which influences the acceptance and the adoption of technology for the curriculum and learning. Nigeria has witnessed an increase in the usage of technology adoption because of a high number of young people in the country. In the study of Alqahtani & Rajkhan (2020) on e-learning critical success factors during

the covid-19 pandemic, the preparedness of e-learning execution played a large role in boosting the educational process during the covid-19 pandemic. [Soetan & Coker \(2018\)](#) carried out a study on university lecturers' readiness and motivation towards utilizing online technologies for instructional delivery in Kwara State, Nigeria. The results reveal that lecturers do access online technologies; however, at a relatively low extent. The authors concluded that university lecturers in Kwara State were relatively ready and highly motivated to utilize online technologies for instructional delivery. Hence, it is interesting to study the motivational factors and the intentions of teachers working in the management institutions to use technology. The study thus aims to understand the relationship of the factors which helps in the adoption of technology in the higher education and to understand the relationship of demographic characteristics on the behavioral intention (BI) to use technology.

Motivation is a drive that pushes an individual to act and perform specific tasks and actions. An individual if motivated will attain good results as compared to the others who lack motivation ([Pinder, 2014](#)). Motivation can either be intrinsic, which is concerned with the rewards of the job itself or extrinsic, which is related to the rewards surrounding a job. Intrinsic rewards are more satisfying and motivating to an individual ([Herzberg, 2008](#)). In order to enhance the classroom teaching, teachers' motivation becomes extremely crucial ([Carson & Chase, 2009](#)). The quality of instruction by the teacher determines the knowledge gained by the students and the achievement of the learning outcomes.

It must be established that the current situation came suddenly giving no time for teachers/facilitators training and development. However, teachers/facilitators presently are mostly computer literates and online savvy. However, it must be established that neither technology nor technological tools directly influence learning environment, it is the effective integration of it that makes the difference in learning ([Earle, 2002](#)). Meanwhile, there is no doubt why preparedness of vocational and technical education lecturers in adopting the emerging technology posed by covid-19 pandemic needs to be considered as important factors for the successful assimilation of learning in Oyo State Colleges of Education.

LITERATURE REVIEW

Concept of preparedness

Preparedness is the state of being prepared for or willing to engage in a particular activity. [Mikre \(2011\)](#) affirms factors such as attitude, motivation, computer anxiety and computer self-efficacy as factors affecting teachers' readiness to use computers during classroom sessions. The importance of teachers to the use of technology in the classroom cannot be over-emphasised. The way student relates and interact with Internet technologies is complex and they identify with its values and benefits, nonetheless, they need teachers to guide them while using it for educational purposes. Teachers are the driving factor that enables the deployment of technology to aid the learning process ([Erişti et al., 2012](#)). Teachers will use technology in teaching when there exist positive attitudes about such usage, both for the effectiveness of the teachers and for the learning outcomes of their students. Teachers' attitudes are major predictors of the use of new technologies in instructional settings and these attitudes towards technology shape not only the teachers' personal experiences but also the experiences of the students being taught ([Onasanya & Adegbija, 2007](#)).

To be prepared for the inclusion of the technology in education, teachers need to be sensitized about the implications of its usage in the class and its impact on students learning. [Hope \(1997\)](#) postulated that, in adopting the technology, the most confronting factors are teachers' reactions to the psychological effects of change and their learning to use microcomputer technology, especially for classroom purposes. Hence, successful adoption of technology in the classroom is dependent on the school administrators providing an individualized, differentiated process of training and implementation to the educators ([Gray, 2001](#)). The readiness to use Internet is fostered by the development of positive attitudes by the university lecturers towards technology, acquisition

of requisite skills and external factors such as the institutional readiness which includes the school's provision of an ICT enabled environment, as well as frequent motivation of staff to engage technology for classroom instruction (Mikre, 2011).

Modern Technological Tools for Teaching

Modern technological tools, however, are various Internet resources, services, facilities, platforms, open educational resources, e-library resources, virtual resources, social networks among others that are found on the global networks of computers. The word 'online' denotes a connection via a computer system to another computer system, digital devices or computer networks. Online technologies are the modern tools for effective education management, administration and instructional delivery, especially in higher institutions of learning (Uchendu, 2012; Agber & Agwu, 2013). Social media such as Facebook and Twitter are online platforms useful for connecting people as well as conveying of ideas and information. Streaming technologies are suitable for pushing video and audio contents to connect end users, while virtual learning environments help bridge the distance between the institution, course contents, tutors and the learners (Biello, 2009; Kaplan & Haenlein, 2010).

For Punie et al. (2006), there is a widespread belief that ICTs have an important role to play in changing and modernizing educational systems and ways of learning. They consider that ICT can be approached in different ways and that there is no single concept of learning through it. Juárez-Varón et al. (2013), models available for distance learning can be synchronous, those in which teaching must be carried out in a real time. Teachers and students coincide, despite not being in the same physical space. They can be asynchronous, where the interaction activity between teachers and students take place at different times and locations. The authors list the technologies available for synchronous teaching:

Videoconferencing: a two-way simultaneous audio and video communication process that allow communication between groups of people located in different physical spaces. This is a modern technology that allows users in different locations to hold lectures face-to-face without having to move to a single location together.

Teleteaching: where only audio and voice exist. Rani & Surana (2015) also include various technologies such as Computer-mediated communication, interactive TV, telephone, software and multimedia network. As for the asynchronous, we must point out the educational e-learning platforms, teleteaching classrooms that allow recording sessions or classes with an audio and video system. Teachers can also use channels such as YouTube or Vimeo and finally Forums or Blogs (Juárez-Varón et al., 2013). Obviously, these tools can be accompanied by a guide for the student, a calendar to indicate for example homework deadlines, the possibility of including announcements or specific news. In addition, there are also repositories where the student will find documents related to the subject in addition to the tasks that must be carried out. Finally, there is the possibility, through teleteaching platforms, to carry out exams and subsequently to include the qualifications.

Google Classroom: This is a free web service that is developed by Google for schools that aims to simplify creating, distributing and grading assignments in a paperless way with the purpose of streamlining the process of sharing files between lecturers and students.

Zoom: This is a video communication that provides video telephony and online chat services through a cloud-based peer-to-peer software platform that is used for distance education and social relations.

Whatsapp: This is a freeware, cross-platform, messaging and voice over IP service owned by Facebook, Inc. It allows users to send text messages and voice messages, make voice and video calls and share images, documents, user location and other media.

Blog: This is an online journal or informational website that displays information in a reversed chronological order with the latest post appearing first. It is a platform where a writer shares his/her view on any subject.

Bloom: Bloom enables teachers, parents and children to easily create leveled and decodable children's books in any language. Books can be adapted from shell books, or new resources created using Bloom software's templates for basic books, picture dictionaries and wall calendars, with images available from its free illustration library. Do not want to create the books yourself? Access the Bloom Library, with basic leveled and decodable books available in more than 220 languages.

Worldreader: Worldreader was an early ACR-GCD grant recipient and is a standout educational resource that needs inclusion on a list like this. Worldreader provides people in the developing world with free access to a library of digital books via e-readers and mobile phones. Since 2010, over 13 million people across 47 countries have read from Worldreader's digital library of thousands of e-books and they have a special COVID-19 effort. Main image is copyright Worldreader.

Edmodo: this is an educational tool that connects teachers and students, and is assimilated into a social network. In this one, teachers can create online collaborative groups, administer and provide educational materials, measure student performance, and communicate with parents, among other functions. Edmodo has more than 34 million users who connect to create a learning process that is more enriching, personalized, and aligned with the opportunities brought by technology and the digital environment.

Projeqt: is a tool that allows you to create multimedia presentations, with dynamic slides in which you can embed interactive maps, links, online quizzes, Twitter timelines, and videos, among other options. During a class session, teachers can share with students' academic presentations which are visually adapted to different devices.

Theoretical Framework

A theory provides guiding principles, which are of great assistance in solving day-to-day problems. It is that part of science or art that deals with general principles and methods as opposed to practices, a set of rules or principles, for the study of a subject etc. A theory of a simple subject consists of a body of principles, generalization, models, policies, laws etc, and these help in the advancement of knowledge in the field. The purpose of this section is to review theories that are related to this study. The theories considered most appropriate for this study is illustrated below:

Teacher Efficacy Theory

This theory was propounded by Berman cited by [Kiamba & Mutua \(2017\)](#), the theory indicated that the extent to which the teacher believes he or she has the capacity to affect student's performance. The proponents of this theory believe that student's motivation and performance are very significant reinforcers for teaching behavior and hence teachers who have high level of efficacy are able to control or at least strongly influence student achievement and motivation. In addition, Rotter (1966) opined that teacher efficacy correlates with teacher preparedness and suggests strategies used in improving the efficacy of in-service teachers. The researcher says teacher preparation includes the ability of the teacher to deliver the instructional process with confidence and prepare the recommended documentation; in this case they may include lesson plans, schemes of work, lesson notes, and records of work among others.

This theory is related to the present study in the sense that it emphasized on the teacher's preparedness to develop more curiosity/interest in the new methods for modern tools for the preparation of lesson notes, downloading of instructional materials and evaluation of students through available technological tools.

Statement of the Problem

It has been acknowledged that the integration of modern technological tools in education has made tremendous impact on the effective delivery of instruction in any academic environment. [Yusuf \(2005\)](#) indicated that the internet is an essential tool for teaching, learning and research activities in education setting. With the emergence of Covid-19 pandemic, the Federal Government of Nigeria gave directive on the closure of the schools irrespective of their status Colleges of

Education inclusively, during this period, the Oyo State Colleges of Education were closed down in an attempt to observe Federal Government Covid-19 protocol. In order to avoid academic disruption, the use of modern technological tools become imperative for teaching and learning. Therefore, the online teaching become essential and this can only be facilitated by the use of modern technological tools and significantly, the preparation of lecturers to embrace it for teaching and learning becomes essential.

It was observed that, the use of these modern technological tools was hesitated by some Vocational and Technical Education lecturers in Oyo State Colleges of Education and this could be based on their level of the preparedness on the use of modern technological tools on teaching and learning. This may have a lot of negative implications on the curriculum, quality of manpower and competitive skills among the graduates of Colleges of Education in Oyo State. Hence, this study, therefore examine the preparedness of vocational and technical education lecturers in adopting the emerging technology posed by Covid-19 pandemic in Oyo State Colleges of Education. This study sought to achieve two specific objectives: (i) examine level of lecturers' preparedness to adopt modern technological tools for teaching and learning in Oyo State Colleges of Education. (ii) to determine how vocational and technical education lecturers could be motivated to incorporate emerging technology for teaching and learning in Oyo State Colleges of Education.

METHOD

This study adopted a survey research design. The population for this research comprised of 150 Vocational and Technical Education lecturers from three Colleges of Education in Oyo State. There was no sampling for the study, total enumeration sampling technique was used for this study because, and the size of the population is manageable to carry out the study. The instrument used for data collection was self-structured developed by the researcher titled: Use of Modern Technological Tools Questionnaire (UMTQ). The questionnaires were divided into two sections, A and B. Section A dealt with personal data of the respondents which includes, gender and work experience while Section B of the questionnaire was further divided into 2 parts: Part 1 covers research question 1 on the levels of lecturers' preparedness to the adoption of modern technological tools for teaching and learning in Oyo State Colleges of Education, and it contains 10 items. Part 2 covers research question 2 on the ways vocational and technical education lecturers could be motivated to incorporate emerging technology for teaching and learning in Oyo State Colleges of Education, and it contains 10 items.

The instrument was faced and content-validated by two experts in the Department of Business Education and one expert in the Department of Industrial Technical Education Department, Tai Solarin University of Education, Ijebu-Ode, Ogun State. Reliability test was carried out to determine the consistency of the instrument in collecting the data as required, data collected was subjected to analysis using Cronbach alpha method and a value of 0.69 was obtained, this showed that the instrument was reliable.

Data were analyzed using Mean and Standard deviation to answer research questions while t-test statistics was used to test research hypotheses at the 0.05 level of significance. Decision rule: for research question one, the rating scale for mean responses was structured on High Level (HL) 3.50 – 4.00, Moderate Level (ML) 2.50 – 3.49, Low Level (LL) 1.50 – 2.49, Not Ready (NR) 0.0 – 1.49. For research question two, any item with a mean score of 2.5 and above were accepted while any item with a mean score below 2.50 were rejected.

For hypotheses, when the observed p-value is less than the fixed value p-value (0.05), the null hypotheses were rejected. On the other hand, when the observed p-value is greater or equal to the fixed p-value (0.05), the null hypothesis was accepted. The hypothesis: is there is no significant relationship between the mean responses of male and female lecturers on the levels of lecturers' preparedness to adopt Modern Technological tools for teaching and learning in Oyo State Colleges of Education.

RESULT AND DISCUSSION

Result

Research Question One: What are the levels of lecturers' preparedness to the adoption of modern technological tools for teaching and learning in Oyo State Colleges of Education?

Table 1. Mean and Standard Deviation of Responses on Level of Lecturers' Preparedness to the Adoption of Modern Technological Tools for Teaching and Learning

S/N	Item Statements	Mean	SD	Remarks
1.	I am always ready to learn requisite skills on new modern technological tools to teach students	3.63	.58	HL
2.	I do sensitize my colleagues to teach with modern technological tools	3.22	.67	ML
3.	I do adopt zoom to explain practical concepts to the students	2.64	.92	ML
4.	I do attend seminars on the use of modern technological tools	3.18	.75	ML
5.	I do develop confidence in the use of modern technological tools in teaching the students	3.26	.71	ML
6.	I do evaluate information through the use of modern technological tools	3.24	.72	ML
7.	I do evaluate information through the use of modern technological tools	3.10	.93	ML
8.	I do use my financial resources to accumulate modern technological tools for classroom usage	2.95	.95	ML
9.	I do monitor changes in classroom related modern technological tools	2.92	.76	ML
10.	I do attend seminars on the use of modern technological tools	3.23	.68	ML

Source: Field study (2022)

Table 1 reveals that all the lecturers are moderately ready to adopt modern technological tools for teaching and learning in their various Colleges. This is indicated by the mean values ranging from 3.10 to 3.26 with the standard deviation of 0.58 to 0.92. This indicates that their responses are not too widespread except item 1 which indicated high level with mean value of 3.63. Summarily, preparedness on the adoption of modern technological tools for learning and teaching of Vocational and Technical Education lecturers in Oyo State Colleges of Education is of moderate level.

Research Question Two: What are the ways vocational and technical education lecturers could be motivated to incorporate emerging technology for teaching and learning in Oyo State Colleges of Education?

Table 2. Descriptive Statistic of How Vocational and Technical Education Lecturers Could Be Motivated to Incorporate Emerging Technology for Teaching and Learning

S/N	Item Statements	Mean	SD	Remarks
1.	Provision of seminars and conferences allowance to possess the required skills on the use of modern technological tools for teaching	3.26	.73	Accepted
2.	Provision of internet facilities should be adequate	3.16	.71	Accepted
3.	There should be provision of alternative power supply e.g. Solar to support the utilization of facilities.	3.27	.77	Accepted

S/N	Item Statements	Mean	SD	Remarks
4.	Incentives should be provided and prompt for optimal productivity on the use modern technological tools	3.64	.56	Accepted
5.	Cost of internet data should equally be subsidized	3.50	.62	Accepted
6.	Available facilities be adequately maintained/repared	3.30	.73	Accepted
7.	ICT infrastructure should be provided always	2.73	.73	Accepted
8.	Good internet connectivity should always be maintained for utilization	3.36	.64	Accepted
9.	There should be training and retraining programme for effective utilization of modern technological tools	3.48	.74	Accepted
10.	Standard be set on the utilization of facilities by the lecturers.	2.76	.67	Accepted

Source: Field study (2022)

Table 2 reveals that all the mean score was all above the cut-off point of 2.50 which indicated that all the lecturers believe that there should be ways of motivating them to incorporate emerging technology for teaching and learning in their various Colleges. The standard deviations of the items were ranging from 0.56 to 0.77 indicating that their responses are not too widespread, except that of 0.90. Summarily, motivational factors determine how to incorporate emerging technology by Vocational and Technical Education lecturers in Oyo State Colleges of Education mean responses were all being agreed upon.

Test of Hypothesis:

The hypothesis was tested using t-test and was tested at 0.05 level of significance.

H₀: There is no significant relationship between the mean responses of male and female lecturers on the extent of lecturers' preparedness to adopt Modern Technological tools for teaching and learning in Oyo State Colleges of Education.

Table 3. T-test Result of the Mean Response of Male and Female Respondents on the Extent of Lecturers' Preparedness on the Use of Modern Technological Tools for Teaching and Learning

S/N	Group	N	Mean	SD	T	df	P-value	Decision
1.	Male	105	31.08	4.77	-1.28	148	0.21	NS
2.	Female	45	32.15	4.64				

* $P > 0.05$

Source: Generated by Researcher using SPSS 20.0 from questionnaire response (2022)

The analysis of data in Table 3 reveals that there are 105 male and 45 female respondents in the study. The table shows the mean and standard deviation of male and female responses ($\bar{x}=31.08$, $SD=4.77$) and ($\bar{x}=32.15$, $SD=4.64$), the result indicates the response values of $p > 0.05$ which is 0.21. Therefore, the null hypothesis was accepted, signifying that there is no significant difference between the mean responses of male and female lecturers on the use of modern technological tools for teaching and learning in Oyo State Colleges of Education ($t_{148}=P > 0.05$). Thus, the null hypothesis that states that there is no significant relationship between the mean responses of male and female Vocational and Technical Education lecturers was accepted and the alternative hypothesis rejected. This implies that male and female respondents do not differ in their

opinion regarding the level of preparedness to adopt modern technological tools for teaching and learning.

Discussion

Table 1 reveals that all the lecturers are moderately ready to adopt modern technological tools for teaching and learning in their various Colleges. This is indicated by the mean values ranging from 3.10 to 3.26 with the standard deviation of 0.58 to 0.92. This indicates that their responses are not too widespread except item 1 which indicated high level with mean value of 3.63. Preparedness is the state of being prepared for or willing to engage in a particular activity. This finding is supported by Hope (1997) postulated that, in adopting the technology, the most confronting factors are teachers' reactions to the psychological effects of change and their learning to use microcomputer technology, especially for classroom purposes. Hence, successful adoption of technology in the classroom is dependent on the school administrators providing an individualized, differentiated process of training and implementation to the educators (Gray, 2001). The preparedness to use Internet is fostered by the development of positive attitudes by the lecturers towards technology, acquisition of requisite skills and external factors such as the institutional preparedness which includes the school's provision of an ICT enabled environment, as well as frequent motivation of staff to engage technology for classroom instruction (Mikre, 2011).

Table 2 reveals that all the mean score was all above the cut-off point of 2.50 which indicated that all the lecturers believe that there should be ways of motivating them to incorporate emerging technology for teaching and learning in their various Colleges. The standard deviations of the items were ranging from 0.56 to 0.77 indicating that their responses are not too widespread, except that of 0.90. The findings show that there are ways on how vocational and technical education lecturers could be motivated to incorporate emerging technology for teaching and learning in Oyo State Colleges of Education. They include the following among others: provision of internet facilities should be adequate, there should be provision of alternative power supply such as, solar to support the utilization of modern technological tools, cost of internet data should equally be subsidized, ICT infrastructure should be adequately provided. This is in line with the assertion of Sharma & Srivastava (2019) who reiterates that the adoption of ICT in higher education is dependent on many factors, including the motivation level of the teachers, the infrastructure provided to the teachers, training programs conducted to use technology, the attitude of the teachers, their self-belief and the social influence (SI).

The analysis of data in Table 3 reveals that there are 105 male and 45 female respondents in the study. The table shows the mean and standard deviation of male and female responses ($\bar{x}=31.08$, $SD=4.77$) and ($\bar{x}=32.15$, $SD=4.64$), the result indicates the response values of $p>0.05$ which is 0.21. Therefore, the null hypothesis was accepted, signifying that there is no significant difference between the mean responses of male and female lecturers on the use of modern technological tools for teaching and learning in Oyo State Colleges of Education ($t_{148}=P>0.05$). The findings contradict the findings of Van Braak (2001) who proposed that female students exude lower confidence or knowledgeability than males about using computers. Onasanya et al. (2011) assert that given the low level of utilization of ICTs for instructional purposes in Nigeria, male teachers are more computer literate and utilize ICTs for instructional purposes than their female counterparts. However, current trends and technological advancements have seen an uptake of equal parity in male and female use of technological devices. A change gradually being felt even across the education sector.

Generally, Modern technological tools, however, are various Internet resources, services, facilities, platforms, open educational resources, e-library resources, virtual resources, social networks among others that are found on the global networks of computers. The word 'online' denotes a connection via a computer system to another computer system, digital devices or computer networks. Online technologies are the modern tools for effective education management, administration and instructional delivery, especially in higher institutions of learning (Uchendu, 2012; Agber & Agwu, 2013). Social media such as Facebook and Twitter are online platforms

useful for connecting people as well as conveying of ideas and information. Streaming technologies are suitable for pushing video and audio contents to connect end users, while virtual learning environments help bridge the distance between the institution, course contents, tutors and the learners (Biello, 2009; Kaplan & Haenlein, 2010). In order to attain this goal, it requires preparedness as well as motivation of the lecturers in order to use the available modern technological tools for teaching and learning as confirmed by the findings of this study. The findings of this study indicated that, preparedness of lecturers in using modern technological tools by Oyo State Colleges of Education is moderately high and the motivational tools put in place were being agreed upon. It was also shown that, there is no significant relationship between male and female respondents on the level of lecturers` preparedness to adopt modern technological tools for teaching and learning in Oyo State Colleges of Education.

Based on this fact, the researcher posited a theory titled Teacher Efficacy Theory (TET). This theory conceptualizes on teachers` preparedness which includes the ability of the teacher to deliver the instructional process with lesson plans, schemes of work, lesson notes, and records of work among others. It also relates great efficacy with positive attitude about teaching as well as high level of confidence in the teachers, mastery of content by the teachers. This means that teachers must be ready to deliver of his service at any point in time. It is hoped that with the adoption of this theory, teachers would be ready to make use of available modern technological tools when need arises and the set goals for teaching and learning will be easily attained and actualized.

CONCLUSION

Based on the findings of the study, it was revealed that, preparedness level on the use of modern technological tools is moderately high, and how vocational and technical education lecturers were motivated to incorporate emerging technology for teaching and learning were agreed upon. It was therefore concluded that Vocational and Technical Education lecturers` level of preparedness to adopt modern technological tools for teaching and learning in today`s academic environment is encouraging. This is because available technological tools in education require high preparedness and at the same time putting them into use is the most important for effective instructional delivery and the motivational tools be put in place appropriately for the high extent in using modern technological tools for teaching and learning. The major limitations to this study are availability of time to carry out this study but nevertheless the quality of work is not vitiated.

RECOMMENDATIONS

Based on the findings and conclusion of the study, the following recommendations were made:

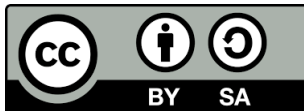
1. The government through a relevant agency like Tertiary Education Trust Fund (TETFund) should assist in providing some adequate modern technological tools for Colleges of Education.
2. The school management should provide modern technological tools for the smooth running of teaching and learning, basically provision of internet facilities should be given utmost priority.
3. Vocational and Technical Education lecturers in Colleges of education need to develop greater curiosity on the use of modern technological tools for teaching and learning because it will enable them to persist and pursue lay down goals in teaching without any form of discouragement.
4. It is essential for the government to provide necessary technological tools and also motivate them by organizing seminars and conferences for them to be able to adopt the tools appropriately.
5. Vocational and Technical Education lecturers in Colleges of education should make sure that they make use of the available resources judiciously and make sure that the tools are well maintained and at the same time Seminars and Conferences on the use of modern technological tools be attended at an interval.

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