Innovations

Assessment of TVET Institution's Readiness for Adoption of Technology Enhanced Learning in Practical Instruction Delivery

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Abstract

Problem: The study aims to assess the level of readiness of TVET institutions on adoption of technology enhanced learning (TEL) in practical instruction delivery in Nigerian universities. The study focused on two aspect of TEL readiness namely technological readiness of faculty members and technical support readiness of the TVET institutions. Design/methodology/approach: The study adopted descriptive survey research design. The population for the study was 360 lecturers from 6 TVET institutions, each from six geopolitical zones of the country that accepted to join in the study. A 20-item questionnaire titled TVET Institution's Readiness for Adoption of Technology Enhanced Learning Questionnaire (TIRATELQ) was developed and face validated by five experts from TVET institutions in Nigeria. Cronbach Alpha reliability method was used for establishing the internal consistency of the instrument which yielded a reliability 0.82, indicating that it was reliable. Data was collected through the use of Google forms. The collected data were analyzed using mean (X) and standard deviation (SD) to answer the researcher questions, while ANOVA statistic was used to test the two null hypotheses at 0.05 level of significance. Findings: The study found that most lecturers in TVET institutions have low skill in the use of blogs, video clips, social media, Youtube and audio recording and that the institutions do not provide technical support and training to academic staff which implies that the institutions' readiness for adoption of technology is low. Conclusion: There has been increased pressure for the adoption of technology enhanced learning for instruction delivery in TVET institutions occasioned by the Covid-19 pandemic which disrupted academic activities. Hence, this study was carried out to assess the level of readiness of TVET institutions on the adoption of technology enhanced learning in practical instruction delivery. The study concludes that the technological skills readiness of TVET institutions are low and also that technical support for the adoption of TEL are not put in place by TVET institutions. TVET institutions in Nigeria are therefore encouraged to make policies that would promote technical support for academic staff in relation to the adoption of technology enhanced learning in instruction delivery. Thus, this study therefore contributes to existing literature as work has not been done on e-readiness in relation to TVET teacher institutions in Nigeria.

Keywords: Technology enhanced learning, TVET, Readiness, Technological skills, Technical support.

Introduction

The global economy has recently experienced a shift due to the outbreak of the pandemic. This shift has affected every sector of the economy and most especially the education sector. Many sectors of the world has witnessed changes brought about by the Covid-19 pandemic. The changes have led to technological innovations in the way and manner in which task and jobs are been executed (Kabir, 2020). The educational sector especially vocational and technical education and training (TVET) been the heart of development of any economy should not be left out but must adjust and adapt to the sechanges.

TVET is a broad-based education system designed to equip individuals with knowledge and skills to be employed and the ability to create employment for self-reliance (Sigdel, 2018). According to National Policy of Education (2014), TVET is a broad concept that refers to the training of individuals to acquire practical skills, knowledge, competences and attitude in technologies and sciences that would enable the individual contribute to the economic and social life in the society. To be self-reliant entails being in consonance with the technological age and the ability to contribute meaningfully to the society one belongs. Therefore, TVET teacher institutions should device means of delivering instruction in such a way that current technologies are deployed in the teaching and learning process while the practical skills requirement are maintained (Kabiru&Abdullahi, 2020). This is because some TVET educators erroneously assert that technology cannot be deployed for teaching practical courses. TVET teacher institutions should to be able to train individuals that would be self-reliant by adopting technology enhanced learning tools in the teaching and learning systems.

Technology enhanced learning (TEL) are tools that can be employed by educators to facilitate learning. In the opinion of Thanaraj and Williams (2016), TEL is any learning tools employed by the teacher to make the learning environment more interesting and effective. Hence, TEL is the channel through which a facilitator of knowledge interacts with the learners without the restrictions of space or time. The United Nations has set up goals which every nation of the world is expected to pursue and achieve by 2030. Among the 17- goals agenda for sustainable development include goal five which emphasized on the need to "ensure inclusive and quality education for all and promote lifelong learning" (UNECSO, 2017). Inclusive and quality education cannot be achieved in this 21st century without the use of technology in dissemination of knowledge. Producing individuals that can compete favourably with their counterparts globally can only be feasible when technology is incorporated in the educational system. Despite the importance and need for higher institutions of learning in this 21st century to adopt technology in teaching and learning as a global necessity, it is imperative to take into cognizance the level of e-readiness of the institutions in question without which the entire effort would be of no effect (Mercado, 2008).

Readiness is a measure of the interest and ability to do or face a task. In terms of technology adoption, readiness refers to the preparedness of an organization or institution (including its personnel) to accept the benefits inherent in technology in proffering solutions to the problems they face (Kiula, Waiganjo&Kihoro, 2017). It entails providing all the requirements needed for effective adoption of technology in any given system to ensure successful transition (Mosa, Mahrin, & Ibrahim, 2016). In the same vein, Elsaadani and Alzahrani (2018) declared that institutions of learning are said to be e-ready when the right technological tools are made available and the faculty members are equipped with the skills needed to utilize the available facilities. Elsaadani and Alzahrani (2018) further asserted that the use of technology in institutions of learning makes learning interesting and encourages flexibility on the part of both educators and learners.

In the opinion of Kabir (2020), for e-readiness to be effective, faculty members and students must achieve threefold readiness including physical readiness (have access to technological facilities such as computer, smartphones and internet connectivity among others, technological readiness (possess the requisite skills to utilize the available facilities) and psychological readiness which entails a change in perception and acceptance of the benefits which technology offers. In line with the above assertion, Kiula, Waiganjo and Kihoro (2017), posited that the element of technology readiness entails empowering the available human resources within the established process (institution) with the right technology to function effectively and achieve the identified goals. The authors further asserted that enhancing the three component involves developing a good human relationship, establishing best practices (technical support) and providing enabling technologies that would be user friendly and can be adapted in the existing system. Hence, the people need to be trained with skills to use the available technology, technical support that would encourage educators to adopt technology need to be provided. However, achieving these threefold readiness in a developing country like Nigeria poses some challenges. This is because most schools cannot afford to procure facilities while others who have available facilities do not have a functional technical support in place to ease the implementation of technology in the teaching and learning process.

Furthermore, for effective adoption of technology in the higher educational institutions, teachers need to be trained and equipped with the requisite skills needed to employ technology in the classroom. It is obvious that most teachers in the higher institutions of learning do not possess the technical skills needed to effectively employ technology to facilitate learning. This statement is supported by the assertion of Kabir, Islam and Deena (2020), that most instructors in the higher education are not trained and hence do not have the skills to use these technologies in teaching. Teaching skills can be improved over time as the lecturers advance on the job. Furthermore, Mukhula, Manyiraho, Atibuni, and Olema, (2021) posited that institutional readiness on the adoption of technology is in relation to the quality of its human resources, availability of facilities and technical support in operation in the institution. The inability of tertiary institutions to fully adopt technology is as a result of lack of technological skills by the educators, unavailability of technical support for educators, inadequate ICT facilities and the educators' perception on the usefulness of technology (Obiri-Yeboah, Kwarteng, and Kyere-Djan, (2013).

Theoretical Framework

The theoretical framework for this study is based on the Unified Theory of Acceptance and Use of Technology (UTAUT). The theory was developed by Venkatesh, Morris, Davis and Davis in 2003. The tenets of the theory stated that for individuals or organizations to adopt technology, there must be a behavioural intention that serves as a motivator for the adoption. This theory is therefore postulated four key variables or constructs namely performance expectancy, effort expectancy, social influence, and facilitating conditions that explained the various intentions for acceptance or adoption of technology. The performance expectancy variablesuggested thatthe ability of an individualto view a technology as a tool that will facilitate his/her job outcomes, the higher the probability of that individual to adopt the technology. Effort expectancy variableexplained that individuals would easily adopt a technology that is user friendly without much need for rigorous training. Social Influence stressed that employees will likely adopt a technology when they perceive that their employers expects them to use such technology. While the last variable, facilitating conditions posited that when there are modalities put in place in an existing system to provide technical support when the need arises, individuals would be willing to adopt the available technology based on the fact that they would receive assistance whenever the need arises.

This theory is related to the present study because the study is based on the readiness of TVET institutions on the adoption of technology enhanced learning in Universities in Nigeria. Further the theory stressed on the perception of ease of use as a major factor affecting technology adoption which has to do with the level of skillspossessed. The theory also suggest that there should be technical support to facilitate the adoption of technology. All these construct are in line with the two purposes of this study.

Review of Related Literature

The study conducted by Mosa, Mahrin and Ibrahim (2016) on the technological aspects of e-learning readiness in higher education revealed the four most important factors that signify institutional readiness of adoption of technology to include technology, learners, content and resources and while the least factors were finance, security, laws and regulations. In the study of Kiula, Waiganjo and Kihoro (2017), it was found that people, process and technology has a high influence on the level of e-readiness of an institution. By implication when the human resources are well equipped with information and technological skills, and the right process (technical support) is put in place and there is availability of digital facilities, then an institution is said to be ready for the adoption of technology enhanced learning. Another study by Kabir, Islam and Deena (2020) revealed among others that faculty readiness (skill level) is the most crucial factor in technology-enhanced learning adoption in tertiary institutions. Hence when institutions of higher learning adequately equip their staff, provide the required support system and facilities then they would be psychologically ready to adopt technology.

In the same vein, the study of Dubey (2020) on factors affecting relative advantage of technology-enhanced learning in higher education found that availability of digital resources, subjective norms, institutional branding and interest in a subject matter positively affect the relative advantage of using technology enhanced learning among students. In another study by Lucero, Victoriano, Carpio and Fernado (2021), it was discovered that the availability of technological facilities predicts the adoption of e-learning for teaching and learning process. Hence for an institution to be e-ready, technological facilities such as internet connectivity, computers or laptops and other educational resources need to be provided for both educators and learners to ensure effective e-learning transition. Furthermore, technical support is another factor that encourages the adoption of technology in teaching and learning. In the opinion of Yilmaz, (2011) teachers in higher institutions of learning without technical support would likely be reluctant to adopt technology due to fear of been interrupted abruptly during teaching and learning process. Hence, TVET institutions that desires to incorporate technology in their teaching and learning process must provide technical support for teachers as a way to inspire and encourage them to adopt technology irrespective of the teaching experience of the educators.

 Teaching experiences of teachers do not have any significance effect on the quality of instruction and students' performance (Plomp et al, 2009 in Graham, White, Cologon&Pianta, 2020). Teachers with less teaching experiences are most likely to integrate ICT in their teaching more than the experienced teachers (Yilmaz, 2011). By implication, teaching experience of lecturers does not translate to their ability or readiness to adopt technology in their teaching activity.

The literatures reviewed shows that studied conducted in relation to e-readiness focused majorly on students' readiness factor and shows that students are ready to adopt technology in learning if the facilities are provided and when faculty members are willing to implement it in the teaching process. More so, most of the reviewed literatures were work conducted in developed countries mostly outside Nigeria. Work has not been done on e-readiness in relation to TVET teacher institutions in Nigeria being institutions saddled with

the responsibility of equipping recipients with technical skills and development. As no meaningful development can be seen in a nation without quality education for its citizenry in this present global economy. It is no news that classroom activities at one point in time faces disruptions due to pandemics and other natural hazards necessitating the global demand for the use of technology as an alternative means to facilitate teaching and learning.

The outcome of this research work would be beneficial to the administrators of universities in Nigeria as they would realize the factors required to be made available for effective e-learning implementation in their respective institutions. Also faculty members would benefit from the outcome of this study as they would discover the technological skills that would be needed to adopt technology enhanced learning tools in teaching and learning process. The government of Nigeria would not also be left out as they would realizethe demand and requirements for higher institutions of learning to be able to adopt technology in their system to compete globally with their counterparts in other countries.

Purpose of the Study

The general purpose of this study was to assess TVET educator institution's readiness for adoption of TEL in practical instruction delivery. Specifically, the study sought to determine:

1. technological skills readiness of TVET institutions on the adoption of TEL in higher education institutions that offer TVET educator programmes

2. technical support readiness of TVET institutions on the adoption of TEL in higher education institutions that offer TVET educator programmes

Research Questions

1. What are the technological readiness of TVET institutions on the adoption of TELin higher education institutions that offer TVET educator programmes?

2. What are the technical support readiness of TVET institutions on the adoption of TEL in higher education institutions that offer TVET educator programmes?

Hypotheses

The following hypotheses were tested at 0.05% level of significance

$H0_1$ Teaching experiences of TVET lecturers is not a major source of significant difference on technological skills readiness for adoption of Tel in Nigerian Universities.

$H0_2$ Location of TVET institutions is not a major source of significant difference on their technological skills readiness for adoption of Tel in Nigerian Universities.

Methodology

The study adopted a descriptive survey research design. A survey design according to Nworgu (2015) is a type of design in which data is collected so as to use such data to describe a given situation. This design is suitable for this study because it seeks to describe the level of e-readiness of TVET institutions in Nigeria. The study was conducted in six TVET institutions located in six geopolitical zones of the country. The

population of the study comprised 360 TVET lecturers from six institutions namely University of Nigeria, Nsukka; University of Uyo, Uyo; Yaba College of Technology, Lagos; Benue State University, Makurdi; and AbubakarTafawaBalewa University, Bauchi and Kaduna Polytechnics, Kaduna representing South-East, South-South, South–West, North–Central, North–East and North-West geopolitical zones respectively who agreed to participate in the study. Out of the 360 population, 318 responseswere found valid and used for the data analysis.

A 20-items structured questionnaire titled TVET Institution's Readiness for Adoption of Technology Enhanced Learning Questionnaire (TIRATELQ) was used for data collection. The questionnaire was divided into two parts 1 and 2. Part one solicited information on the demographic aspect of the population. While part two was further divided into two sections A – B. Section A solicited information on technological skills readiness of TVET institutions in Nigeria and it has 11 items. The rating scale were a five point Likert scale of Very High Performance (VHP) 4.50-5.00; High Performance (HP) 3.50-4.49; Uncertain (UC) 2.50-3.49; Moderate Performance (MP) 1.50-2.49; Low Performance (LP) 1.00-1.49. Section B solicited information on the institutional support readiness of TVET institutions with 9-items with scale of Yes, No or No idea. The instrument was validated by five experts in various TVET institutions in Nigeria. Data was collected with the use of Google forms through emails and WhatsApp platforms with the help of five research assistants.

Data was analyzed using Mean ($\overline{X}$), Percentage (%) and Standard Deviation (SD) to answer the research questions. Standard deviation was used to determine the measure of how close or far the responses of the respondents are from the mean. Cut-off point were used to interpret the analyzed data as items with a mean of 3.50 were regarded as high skill performance level while items with mean score below 3.50 were referred as low skill performance level using a 5-point rating scale. ANOVA was be used to test the hypotheses at 0.05 level of significance with 297 degree of freedom (df). ANOVA was used because it is suitable for small groups and for comparing three groups. Therefore, when the calculated p-value is greater than or equal to the critical value of 0.05, the H_0 was not rejected, but when the calculated p-value is less than the critical value of 0.05, the H_0 was rejected. Statistical Package for Social Sciences (SPSS) version 21 was used to analyze the collected data to ensure the accuracy of the analysis.

Results

Research Question 1: What are the technological readiness of TVET institutions on the adoption of TELin higher education institutions that offer TVET educator programmes ?

Table 1: Mean Ratings (X), Standard Deviation (SD) of Respondents on Technological Skills Readiness of TVET Institutions on the Adoption of TEL in Universities in Nigeria

S/N	Technological skill readiness level of TVET lecturers on the use of technology enhanced learning tools	X	SD	DEC.
1	Blogs	2.88	1.15	LSPL
2	Lecture Slides	3.60	.72	HSPL
3	Video Clips	3.12	.96	LSPL
4	Social Media	3.10	.88	LSPL
5	Learning Objects	3.42	.81	LSPL

6	Google Applications	3.68	.65	HSPL
7	Microsoft Office	3.52	.72	HSPL
8	Microsoft Team/Zoom/Skype	3.50	.76	HSPL
9	YouTube	3.24	.94	LSPL
10	Email	3.54	.73	HSPL
11	Audio Recordings	3.12	.96	LSPL
	Cluster Mean	**3.29**	**0.86**	**LSPL**

Key: *X= Mean, SD = Standard Deviation, DEC = Decision, HSPL = High Skill Performance Level, LSPL = Low Skill Performance Level*

The data presented in Table 1 showed the mean ratings and standard deviation of respondents on the 11 technology enhanced learning tools's skills readiness of TVET institutions in Nigeria. The Table shows that item 1, 3-5,9-11 have their mean ratings ranged from 2.88 to 3.42, indicating that those items are technological skills that are lowly possessed by TVET lecturers. On the other hand, items 2, 6-8 have their mean ratings ranged from 3.50 to 3.68 indicating that the items are technological skills highly possessed by TVET lecturers. Also, the standard deviation (SD) values on all the items in the Table ranged from 0.72 to 1.15, which indicated that there is similarities in the opinions of the respondents, and that their opinions are not far from the mean.

Hypothesis 1: Teaching experiences of TVET lecturers is not a major source of significant difference on technological skills readiness for adoption of TEL in higher education institutions that offer TVET educator programmes.

Table 2: Analysis of Variance of TVET Institutions on Technological Skills Readiness on the Adoption of TEL in Universities in Nigeria Based on their Teaching Experiences

S/N	Technological skill readiness level of TVET lecturers on the adoption of technology enhanced learning tools based on location	SSB	SSW	MSB	MSW	Df b	dfw	F	Sig	Dec.
1	Blogs	12.36	379.32	6.18	1.28	2	297	4.84	.009	S
2	Lecture slides	1.94	154.06	.968	.519	2	297	1.87	.157	NS
3	Video clips	1.31	157.21	.653	.529	2	297	1.23	.293	NS
4	Social media (Facebook, WhatsApp, Telegram)	.253	230.75	.127	.777	2	297	.163	.850	NS
5	Learning objects	1.02	192.06	.510	.647	2	297	.789	.455	NS
6	Google applications (classroom,	.008	125.27	.004	.422	2	297	.010	.990	NS

	drive, doc, sheet, slide, form, chats, sites, meet, etc)									
7	Microsoft office	1.383	298.62	.691	1.01	2	297	.688	.504	NS
8	Microsoft team, zoom, skype	1.525	169.48	.763	.571	2	297	1.34	.264	NS
9	YouTube	10.516	247.85	5.26	.852	2	291	6.17	.002	S
10	Email	8.093	234.91	4.05	.791	2	297	5.12	.007	S
11	Audio recording	.918	270.67	.459	.930	2	291	.493	.611	NS
	Summary	**.150**	**81.27**	**.075**	**.274**	**2**	**297**	**.274**	**.760**	**NS**

Key: SSB = Sum of square between, SSW = Sum of square within, MSB = Mean square between, MSW =Mean square within, dfb = Degree of freedom between, dfw = Degree of freedom within, F= F-ratio, sig. = significance, Dec. = Decision

Table 2 presents the summary of analysis of variance of the mean responses of lecturers based on their teaching experience on technological skill readiness of TVET institutions foradoption of technology enhanced learning tools in Nigerian universities. The Table showed that significant difference does not exist in the mean ratings of TVET institutions on 8 out of 11 technology enhanced learning tools with their F-value which ranged from 0.163 to 1.87 and a p-value of 0.157 to 0.990, at 297 degree of freedom which is higher than 0.05 level of significance, indicating that there is no significant difference in the mean responses of TVET institutions based on their teaching experience on technological skill readiness in Nigerian universities. On the other hand, there is a significant difference in the mean ratings of TVET institutions based on their teaching experience on three items with F-value of 4.84-6.17 and p-value of 0.002-0.009 at 297 degree of freedom which is lower than 0.05 level of significance indicating that there is a significant difference in the mean ratings of TVET institutions. But the cluster F-value and P-value 0.274 and 0.760 respectively which is greater than 0.05 level of significant. Hence the null hypothesis of no significant difference was upheld.

Hypothesis 2: Location of TVET institutions is not a major source of significant difference on their technological skills readiness for adoption of Tel in Nigerian Universities.

Table 3: Analysis of Variance of TVET Institutions on their Technological Skills Readiness on the Adoption of TEL in Universities in Nigeria Based on their Location

S/N	Technological skill readiness level of TVET lecturers on the use of technology enhanced learning tools	SSB	SSW	MSB	MSW	dfb	Dfw	F	Sig	Dec.
1	Blogs	47.47	344.21	11.87	1.17	4	295	10.17	.000	S
2	Lecture slides	23.67	132.33	5.92	.449	4	295	13.19	.000	S
3	Video clips	15.68	142.84	3.92	.484	4	295	8.10	.000	S
4	Social media (Facebook,	1.78	229.22	.445	.777	4	295	.572	.683	NS

	WhatsApp, Telegram)									
5	Learning objects	26.64	166.44	6.66	.564	4	295	11.81	.000	S
6	Google applications (classroom, drive, doc, sheet, slide, form, chats, sites, meet, etc)	15.19	110.09	3.80	.373	4	295	10.18	.000	S
7	Microsoft office	10.51	289.49	2.63	.981	4	295	2.68	.032	NS
8	Microsoft team, zoom, skype	8.16	162.84	2.04	.552	4	295	3.70	.006	S
9	YouTube	14.51	243.86	3.63	.844	4	289	4.30	.002	S
10	Email	1.12	241.88	.280	.820	4	295	.341	.850	NS
11	Audio recording	31.36	240.23	7.84	.831	4	289	9.43	.000	S
	Summary	**3.917**	**77.507**	**.979**	**3.73**	**4**	**295**	**.263**	**.006**	**S**

Key: SSB = Sum of Square Between, SSW = Sum of Square Within, MSB = Mean Square Between, MSW =Mean Square Within, dfb = Degree of Freedom Between, dfw = Degree of Freedom Within, F= F-Ratio, Sig. = Significance, Dec. = Decision

Table 3 presents the summary of analysis of variance of the mean responses of lecturers based on their location on technological skill readiness of TVET institutions on adoption of technology enhanced learning tools in Nigerian universities. The Table showed that significant difference does not exist in the mean ratings of lecturers in TVET institutions on 3 out of 11 technology enhanced learning tools with their F-value which ranged from 0.341 to 2.68 with a p-value of 0.032 to 0.850, at 297 degree of freedom which is higher than 0.05 level of significance, indicating that significant difference does not exist in the mean responses of lecturers in TVET institutions based on their geographical location on technological skill readiness in Nigerian universities. On the other hand, significant difference exist in the mean ratings of lecturers in TVET institutions based on their geographical location on eight items with F-value of 3.70-13.19 with p-value of 0.000 to 0.006 at 297 degree of freedom which is lower than 0.05 level of significance indicating that there is a significant difference in the mean ratings of lecturers in TVET institutions. But the cluster F-value and P-value 6.77 and 0.143 respectively is greater than 0.05 level of significant. Hence the null hypothesis of no significant difference was upheld

Research Question 2: What are the technical support readiness of TVET institutions on the adoption of TEL in Nigeria?

Table 4: Percentage Responses of TVET Institutions on the technical support readiness on the adoption of TEL in Nigerian Universities

S/N	TVET Institutional Technical Support Readiness	Yes		No		Dec.
		N	%	N	%	
1	Providing support and training to academic staff	78	24.5	240	75.5	NA
2	Providing platforms for sharing good practice (e.g., networks; show and tell meetings)	102	32.1	216	67.9	NA
3	Dissemination channels for TEL practices (e.g., internal conferences, show and tell, newsletters)	84	26.4	234	73.6	NA
4	TEL website and online training resources.	96	30.2	222	69.8	NA
5	Allowing academic staff development time	144	45.3	174	54.7	A
6	Provision of student internships/ partnerships	84	26.4	234	73.6	NA
7	Provision of case studies featuring innovative TEL practice.	18	5.7	300	94.3	NA
8	Availability of instructional designers	72	22.6	246	77.4	NA
9	Awards or financial incentives for the design and development of TEL	54	17.0	264	83.0	NA

Key: N= Number, % = Percentage Response, NA = Not Available, A = Available

The Table 4 above, showed that all the items except item 5 got more percentage response on the negative implying that these technical supports are not available in TVET institutions in Nigeria.

Discussion of Findings

The findings of the study presented in Table 1 revealed the technological skills level possessed by TVET lecturers on the adoption of TEL tools for practical instructional delivery. The study found technological skills level that are highly possessed by TVET lecturers for the adoption of TEL tools to include: lecture slide, email, Google applications, Microsoft teams, zoom and skype and Microsoft office. While blogs, video clip, social media, learning object, youtube and audio recording are possessed at low skills level. The result of the ANOVA showed that teaching experience is not a major source of significant difference in the mean responses of TVET lecturers on technological skills readiness of TVET institutions. Furthermore, the ANOVA result revealed that geopolitical location is a major source of significant difference in the mean responses of TVET lecturers on technological skills readiness for adoption of TEL by TVET institutions in Nigeria. By implication TVET lecturers are not well skilled in the use of TEL tools that would be able to facilitate learning and appeal to the learners in their environment. The present learners are technological driven and would learn better when learning is channeled through technology which is the language they seems to understand quickly.

The above findings of the study is consistent with the findings of Mukhula, Manyiraho, Atibuni, and Olema, (2021) who found that that institutional readiness on the adoption of technology is in relation to the quality of the technological skills its human resources employ in the use of available technical facilities in teaching and learning. Having good technological skills would eliminate the possibility of redundancy of

available technical facilities in TVET institution. Another study by Kabir, Islam and Deena (2020), revealed that most instructors in the higher education are not trained and hence do not have the required skills to use available technologies in teaching. They further declared that faculty readiness is the most crucial factor in technology-enhanced learning adoption in tertiary institutions that when institutions of higher learning adequately equip their staff, provide the required support system, then the lecturers would be psychologically ready to adopt technology.

The study further found that teaching experience of lecturers do not significantly affect their level of technological skills for adoption of technology. This is in agreement with the study of Graham, White, Cologon and Pianta (2020) who found that the teaching experience of teachers do not have any significance effect on the quality of instructions and the use of technology for teaching and learning. In another study conducted by Yilmaz (2011), it was found that teachers with less teaching experience are most likely to integrate ICT in their teaching more than the experienced teachers. By implication, teaching experience of lecturers does not translate to their ability or readiness to adopt technology in teaching.

The findings of the study presented in table 3 revealed the responses of lecturers on technical support readiness of TVET institutions. The percentage responses showed the following below: 240 out of 318 (75.5%) of the respondents are of the opinion that TVET institutions do not provide support and training to academic staff, 216 (67.9%) agreed that TVET institutions do not provide platforms for sharing good practice (e.g., networks; show and tell meetings), 234 (73.6%) responded there is no dissemination channels for TEL practices (e.g., internal conferences, show and tell, newsletters), 222 (69.8%) agreed that there is no TEL website and online training resources, 300 (94.3%) accepted that there is no provision of case studies featuring innovative TEL practice, 246 (77.4) agreed that the availability of instructional designers does not exist while 264 (83.0) accepted that there is no awards or financial incentives for the design and development of TEL. On the contrary, 174 (54.7) agreed that TVET institutions gives time to academic staff to develop themselves. Therefore, it is evidenced from the study that TVET institutions in Nigeria do not have technical support for the adoption of technology enhanced learning and as such are not ready to adopt TEL.

The findings of this study are in agreement with the Yilmaz, (2011) who found that most lecturers who are not well skilled are usually reluctant to adopt technology due to fear of being interrupted abruptly during teaching and learning process when there is no available technical support in place. Hence, TVET institutions that desires to incorporate technology in their system must provide technical support for teachers as a way to inspire the educators to adopt technology. In the study of Kiula, Waiganjo and Kihoro (2017), it was found that people, process and technology have a high influence on the level of e-readiness of an institution. By implication when the human resources are well equipped with information and technology skills, and the right process (technical support) is put in place, then an institution is said to be ready for the adoption of technology enhanced learning.

Conclusion

Technology enhanced learning tools has been discovered as the way forward to solve the problem of disruptions of classroom learning during emergency periods. In the present era, technology should be employed in the educational system to raise individuals that would be able to make meaningful contribution in the global economy. Hence, this study was carried out to assess the level of readiness of TVET institutions on the adoption of technology enhanced learning in practical instruction delivery. The study focused on the technological skill and the technical support readiness of TVET institutions in Nigeria. The study found that the technological skills readiness of TVET institutions are low and also that technical support for the adoption

of TEL are not put in place. This therefore implies that at this present time and age, most TVET institutions are not ready to adopt technology enhanced learning tools in their instruction delivery.

Recommendations

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

1. Lecturers in TVET institutions should develop their technological skills on the use of technology enhanced learning tools to avoid disruption of teaching and learning activities during emergency periods.

2. TVET institutions should put in place technical support policies that would be available to handle technical challenges that may be faced by lecturers as they adopt technology enhanced learning tools.

3. TVET institutions should organize workshops and training for lecturers on the use of technology enhanced learning tools as a way of showing commitment to the use of technology in the institution.

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