UNIVERSITY TEACHERS' COMPETENCE IN THE USE OF NEW TECHNOLOGIES IN CURRICULUM DELIVERY IN NIGERIA

Chika Nma Chukwuma-Nosike (Ph.D)
Faculty of Education, Imo State University
nmadaddy@gmail.com

Abstract

This descriptive survey investigated University Teachers' Competence in the use of new Technologies in Curriculum Delivery in Nigeria. Three research questions guided the study. The population comprised all lecturers/teachers in public universities in Nigeria. Multi-stage, cluster, and simple random sampling techniques were used to select a sample of one hundred and sixty (160) teachers from four public universities in Imo and Abia states, South-East, Nigeria. A two-section rating scale titled University Teachers' Competence in Use of New Technologies in Curriculum Delivery (UTCUNTCD) was used for data collection. The instrument was validated by three specialists in Educational Measurement and Evaluation, Educational Technology, and Curriculum Studies. The reliability of the instrument was determined using the Pearson Product-Moment Correlation Coefficient (r) test and the test-retest method, and it obtained a coefficient index of 0.83. The research questions were answered using the mean and standard deviation. Findings of the study revealed that personal computers, routers, Bluetooth, wireless accessories, projectors, PowerPoint, Artificial Intelligence AI tools, e-portfolios, digital teaching approaches, and online learning platforms are types of new technologies that university teachers can use for curriculum delivery. Findings also revealed that lack of adequate teacher training, conservatism towards the use of new technologies, and continuous use of conventional teaching methods indicated university teachers' low competence in the use of new technologies for curriculum delivery. Based on the findings, it was recommended that the provision of funds, training for teachers, free Wi-Fi, and power supply are ways of enhancing university teachers' competence in the use of new technologies for effective curriculum delivery in Nigerian Universities.

Keywords: *curriculum delivery, new technologies, university teachers, competence*

Introduction

Curriculum delivery is the stage that comes after curriculum development, and is usually carried out in a school setting. At the university education level, curriculum delivery is seen as a vital exercise as it guarantees the impartation of knowledge, skills, and values to the learners when conducted effectively by the teachers. Over the years, in most developing countries, especially in Nigeria, curriculum delivery has been carried out mostly using the conventional traditional chalk-and-talk way of teaching and learning by teachers. The COVID-19 pandemic highlighted new possibilities and innovations in the education system worldwide. Over time, the world standard in education keeps shifting daily with the invention and introduction of more new ways of teaching and learning with technology, against the conventional didactic styles used in the past. Some of these possibilities and innovations include a concentration on the use of new technologies, especially in promoting effective curriculum delivery. The focus presently is strictly on ways teachers can improve curriculum delivery using available new technologies that promote speed, competency, and efficiency.

Evidence from previous studies shows that the use of technologies in teaching and learning has been extensively studied by many researchers, such as Chukwuka (2025), Chukwuma-Nosike (2025), Rafiq, Iqbal, & Afzal (2024), Chukwuma-Nosike (2024), Akram, Abdelrady, Al-Adwan, & Ramzan (2022), and Chukwuma-Nosike & Offorma (2022). Some of these studies were conducted on the impact of technologies in teaching and learning in higher education (Chukwuka, 2025; Rafiq, Iqbal, & Afzal, 2024; Mishra & Abbashree, 2024; Amadioha & Akor, 2020); emerging new technologies in higher education Bozalek, Ng'ambi & Gachago, (2013), prospects of using technologies and curriculum delivery (Chukwuma-Nosike, 2025; Chukwuma-Nosike & Offorma 2022; Rambe, 2016; Sanders, 2012), technologies and students well-being, Frontiers Editorial (2021), technologies and teachers competence Alieto, Abequibel-Encarnacion, Estigoy, Balasa, Eijainsantos & Tores-Toukounidis 2024; Merial, Akuner & Temir 2012), technologies and teachers perceptions Akram, Abdelrady, Al-Adwan, & Ramzan (2022), challenges in the use of technologies (Chukwuma-Nosike, 2020; Ellis 2016).

Findings from these studies indicated that technologies are learner-friendly, skill-building, and vital, but require teachers' competence for effective use during curriculum delivery at the university level. This makes these studies relevant to the present study. Still, the researcher observed that no identified studies so far have been carried out, particularly on university teachers' competence in the use of the new technologies in curriculum delivery, especially in Nigeria. Thus, this formed the strong background for embarking on the present study on university teachers' competence in the use of new technologies in curriculum delivery.

Technologies presently give life, meaning, and speed to teaching and learning activities, especially in universities. There are old and new technologies in use in education, but currently, the emphasis is on new technologies. New technologies refer to any new productive digital techniques that offer a significant improvement (whether measured in terms of increased output or savings in costs) for a given process in a specific historical context (Encyclopedia.com, 2018). Omede (2015) described new technologies as modern digital and electronic tools, which include computers, mobile devices, internet resources, and assistive technologies, that enhance communication, teaching, learning, and service delivery beyond traditional methods. In other words, new technologies are digital tools, peripherals, and accessories that have recently emerged from existing technologies that aid in increasing speed and efficiency in teaching and learning. The dimension of curriculum delivery has changed over the last few years with the introduction of new technologies in education.

These new technologies have improved the way things are done, especially in education. Summarily, new technologies are digital instructional tools and systems designed to enhance and support student engagement, facilitate personalized learning, and align pedagogical goals with technological affordances in curriculum delivery (Warr, Driskell, Langran, Mouza, & Schmidt-Crawford, 2023; Frontiers Editorial, 2021). New technologies come in varied forms, natures, and categories and serve diverse purposes. The types of new technologies that university teachers use during curriculum delivery include Artificial Intelligence (AI) tools, online learning packages and platforms, computer software, such as PowerPoint, ARCHCAD, high-definition devices such as smartphones, iPads, projectors, pointers, wearable technologies, Bluetooth, routers, e-library,

and many others. Most of these new technologies are utilized with the aid of computers, laptops, palm tops, iPads, and smartphones of different kinds.

These new technologies enable smooth, efficient curriculum delivery that meets global standards and expectations. For instance, the varied online learning packages/platforms can be adopted and used by public university teachers to achieve effective curriculum delivery and coverage. These technologies go beyond ordinary hardware or software; they provide dynamic instructional opportunities, personalized learning pathways, teaching approaches, multimedia interaction, data-informed feedback, as well as serve as instructional materials that align with pedagogical goals rather than acting as add-on gadgets (Warr et al., 2023; Frontiers Editorial, 2021). With the Artificial Intelligence AI tools such as the chatbots-ChatGPT, Co-Pilot, Gemini, Grammarly, and others, the university teachers can prepare lesson notes, lesson plans, and carry out effective assessments seamlessly during curriculum delivery (Chukwuma-Nosike, 2025).

The components of an education system include the teacher, learner, curriculum, and school. The curriculum has been described by many specialists as the formal blueprint document that contains all the planned and unplanned learning contents, experiences, activities, instructional materials, methods, and evaluation techniques that the learner must be exposed to under the auspices of the school for the total change of behaviour (Chukwuma-Nosike, 2024; Offorma, Ikonta. & Ogunleye, 2019; and Duru, 2016). The curriculum document can be said to have achieved the desired objectives only when the learning contents, experiences, and activities in it have been delivered to the learners in the school. Thus, Curriculum delivery is the actual process of transferring the contents of the curriculum by the teacher to the learners under the auspices of the classroom in a school for learners' change of behaviour.

Curriculum delivery is a very important activity in university education, especially in Nigeria. Many authors have tried to explain curriculum delivery from their divergent points of view (Chukwuka, 2025; Edionwe, 2024; Ereke & Agwu, 2022; and Kanno, 2019). Curriculum delivery, according to Ereke & Agwu (2022), is described as the process of actualizing the planned curriculum in the classroom and school setting through the coordinated participation of varied stakeholders (learners,

teachers, administrators, and technologists) to achieve the stipulated goals and objectives of education. Chukwuka (2025) described curriculum delivery as the dynamic interaction between teachers, learners, content, pedagogical approaches, and technological tools to facilitate the learning process. This implies that curriculum delivery is an all-encompassing action of interaction between the teacher and learner in the classroom aimed at transferring curriculum content in order to accomplish the stated behavioural objectives.

The prospects of university teachers' use of new technologies in curriculum delivery are numerous. The effectiveness of curriculum delivery depends largely on how teachers deliver its content to achieve the stipulated educational objectives. Educational technologies have become valuable tools for achieving these objectives efficiently (Alieto et al., 2024; Merial, Akuner & Temir, 2012). University teachers, as major curriculum implementers, currently benefit significantly from integrating technologies into teaching. Adeoye, Adanikin and Adanikin (2020) identified several prospects of teachers' use of technologies in curriculum delivery, including reducing classroom shortages through online lectures, encouraging active learner participation, supporting self-paced learning, and enabling lecturers and students to teach and learn in comfortable environments, thereby improving satisfaction and reducing stress. Similarly, technology-based teaching approaches promote comprehensive curriculum content coverage (Chukwuma-Nosike, 2025). Chukwuma-Nosike (2024) further observed that artificial intelligence tools can reduce teachers' workload in lesson planning, presentation, assessment, test construction, marking, and grading.

The shift in trend, globally, towards the new digital technologies has placed more demand on university teachers. Advancement in technology requires teachers to strengthen their digital competencies and remain abreast of emerging knowledge and skills for effective teaching (International Community for Education Technology [ICEDT], 2021). Although universities increasingly adopt new technologies to improve curriculum delivery, successful implementation requires teachers to demonstrate adequate competence in their use. The university is the last educational level where learners acquire knowledge and competencies for adulthood and labour-market participation (FRN, 2014). Consequently, university teachers have a significant responsibility to ensure effective curriculum

delivery through appropriate technological integration to achieve the intended educational objectives.

These new technologies can be used in diverse ways by university teachers to meet the needs of all learners. The new technologies can be used to give lectures in physical and virtual classes (Chukwuma-Nosike & Offorma, 2022). These technologies help to make learning interactive during curriculum delivery. Learners with various special needs- physically challenged, migrant children, refugees, internally displaced, and religious, cultural, and gender stereotyped children can be taught easily with the aid of the new technologies. These sets of learners, without the new technologies in the past, lacked access to education (Mbakwem, Chukwuma-Nosike & Ukwuoma, 2017). The birth of new technologies and teachers' use of them has promoted effective curriculum delivery, especially during the recent COVID-19 pandemic lockdown (Chukwuma-Nosike & Offorma, 2020). The blended and flipped classroom approaches enable continued learning even outside the physical classroom setting (Chukwuma-Nosike, 2025). In other words, the new technologies have made curriculum delivery, especially at the university level, borderless and with no limit for all learners.

In all these prospects, teachers' competence in the use of the new technologies is required. Teachers' competence refers to teachers' ability in terms of skill competence to effectively use the new technologies during curriculum delivery. Konig, Jager-Biela, and Glutch (2020) and Meral, Akuner, and Temiz (2012) explained that teacher competence towards the use of technologies refers to teachers' professional knowledge and application of technologies in teaching and learning situations. The level of teacher competence towards the use of new technologies determines the extent of achievement of the stipulated learning objectives. Teachers' conservatism towards the use of technologies, especially the new emerging technologies, sometimes indicates their level of incompetence. Many teachers still resist changes and find it difficult to embrace the use of digital technologies (Chukwuka, 2025; Rafiq, Iqbal, & Afzal, 2024; and Mishra & Abbashree, 2024). Their lack of competence is seen in their continuous preference for didactic, conventional methods of curriculum delivery despite the existence of new technologies Alieto et. al., 2024; Merial, Akuner & Temir, 2012). They develop a laissez-faire attitude towards

learning and using technologies during lesson delivery (Chukwuma-Nosike, 2020).

University teachers at this age still see the use of technologies during curriculum delivery as tasking and demanding. Rambe (2016) and Sanders (2012) suggested that the technological development of teachers could be organized in the form of in-service online training, teachers' collaborative workshops, practical seminars, and conferences for the training and re-training of teachers on digital technology for curriculum delivery. Hence, there is a need for strict compliance with the training of teachers using technologies, which will improve teachers' competence in the use of technologies during curriculum delivery, especially in universities.

Theoretically, this study is hinged on the self-efficacy learning theory by Albert Bandura (1997). Bandura explained that self-efficacy implies people's beliefs in their capabilities to exercise control over their own functioning and over events that affect their lives. University teachers' sense of self-efficacy can provide the foundation for motivation, well-being, and personal accomplishment, especially when it comes to the use of new technologies as they emerge. According to the proponent's work, teachers' self-efficacy refers to teachers' belief in their ability to succeed in specific situations, such as using technologies. The extent to which university teachers perceive such efficacy in themselves may influence whether or not they take action or invest effort in a situation (Lopez-Garrido, 2020). So, self-efficacy in teachers could serve as a decisive tool for increasing teachers' competence and willingness to adopt the use of new technologies during curriculum delivery.

Statement of the Problem

Teachers' competence in the use of new technologies is vital in ensuring effective curriculum delivery in universities. Currently, new technologies have been embraced globally, and for Nigeria's students and other students across Africa to match this new trend, they need to be exposed to these technologies by their teachers immediately. This can be achieved as university teachers competently include and practice effective technology-based curriculum delivery in the classrooms using the new technologies. The new technologies hold valuable prospects of ensuring improved digital skills acquisition for both teachers and learners. Thus, the need for

university teachers to possess the necessary competence required to use the new technologies for effective curriculum delivery at that level of education.

It has been observed by the researcher that most university teachers in Nigeria tend not to use technologies during curriculum delivery, as many of them still use more of the traditional analogue form of curriculum delivery. This sometimes tends to reveal their level of competence in the use of technology. Thus, could university teachers lack the competence required to use the new technologies for effective curriculum delivery?

The purpose of this study is primarily to find out university teachers' competence in the use of the new technologies in curriculum delivery in Nigeria. Secondly, to identify the different types of new technologies that teachers can use during curriculum delivery. Thirdly, to ascertain ways of improving university teachers' competence towards the use of the new technologies during curriculum delivery.

Research Questions

The following research questions guided the study.

1. What are the new technologies university teachers can use for curriculum delivery in Nigeria?
2. How competent are university teachers in using the new technologies in curriculum delivery in Nigeria?
3. In what ways can university teachers' competence be enhanced to promote effective use of new technologies in universities in Nigeria?

Method

The descriptive survey design was applied in this study. The population of the study consists of all lecturers in public universities in Nigeria. The sample size for the study consists of one hundred and sixty (160) lecturers selected from four (4) universities in Imo and Abia States through multi-stage, cluster, and simple random sampling techniques. The cluster sampling technique was used to select the South-East out of the six Nigerian geopolitical zones. Two states, Imo and Abia, were selected out of the five states that make up the South-East Geo-political Zone, and two

universities were also selected from each of the states. The simple random sampling technique was used to select the teachers/lecturer's sample.

The instrument used for the study is a four-point researcher-made rating scale titled: ***University Teachers' Competence in Use of New Technologies in Curriculum Delivery*** **(UTCUNTCD).** It was constructed on a four-point scale with response options of (Strongly agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The rating scale has three sections, and it is made up of 35 items. The first cluster has 17 items, which sought the respondents' agreement on the different types of new technologies that can be used by university teachers for effective curriculum delivery; the second cluster, which is made up of 10 items, sought information on the university teachers' competence in the use of the new technologies in curriculum delivery; while the third cluster, which is made up of 8 items, sought respondents' views on ways of improving university teachers' competence for effective use of the new technologies in curriculum delivery.

The instrument was validated by three specialists in Educational Measurement and Evaluation, Curriculum Studies, and Educational Technology. The reliability of the instrument was determined through the test-retest method, and a coefficient of 0.83 was obtained using the Pearson Product-Moment Correlation Coefficient (r). The instrument was administered and re-administered after a two-week interval to the same number of lecturers in public universities in Anambra State, which is in the same geo-political zone as Abia and Imo States. The researcher made use of four trained research assistants. The instrument was collected on the spot, and the analysis was done using the mean, cluster mean, and standard deviation.

The cut-off point for the mean responses was 2.5. Any item that has a mean of (Mean $\geq$ 2.5) represents agreement, which means the respondents agreed with the statement, while items with mean scores $\leq$ 2.5 were regarded as rejected (disagreed), which means that the respondents disagreed with the statement.

Results

Table 1: Mean responses on different types of new technologies that are used for curriculum delivery

	ITEMS	**RESPONSES TEACHERS**		
S/N	**Types of new technologies used for curriculum delivery include:**	**Mean**	**SD**	**Result**
1.	Online learning packages- webinars, Zoom, Google Meet, Skype, Google Classroom, emails	3.7	0.63	Agreed
2.	High-definition projectors, pointers	3.8	0.52	Agreed
3.	Microphones, speakers	3.8	0.53	Agreed
4.	Computers, laptops	4.0	0.56	Agreed
5.	Smartphones, tablets, iPad	3.6	0.33	Agreed
6.	Ear pieces, Bluetooth, iPod	3.5	0.31	Agreed
7.	Internet accessories and data	3.8	0.33	Agreed
8.	Routers of various kinds	3.5	0.34	Agreed
9.	Artificial Intelligence (AI) tools- ChatGPT, Co-Pilot, etc	3.0	0.33	Agreed
10.	Automation e-portfolio	3.4	0.32	Agreed
11.	Robotics	3.4	0.32	Agreed
12	Handheld devices	3.6	0.30	Agreed
13.	Computer software –PowerPoint	3.8	0.44	Agreed
14.	e-library and podcasts	4.0	0.42	Agreed
15.	e-grade books	3.5	0.38	Agreed
16.	Televisions and radio	3.0	0.30	Agreed
17.	Social media- WhatsApp, LinkedIn, VPN, Telegram	3.7	0.63	Agreed
	Cluster grand/pooled Mean	**61.1/3.6**		

Data in Table 1 show the university teachers' responses to some types of new technologies that can be used in curriculum delivery. This is shown by their mean responses to all items, which are above 2.5, respectively. The cluster mean of 61.1/3.6 indicated teachers' respondents' high rating agreement that AI tools, computer laptops, softwares packages like power point, e-library, on-line learning packages- webinars, zoom, skype, google meeting, high-definition projectors with pointers, micro phones and speakers, smart phones, internet are some types of new

technologies teachers can use for curriculum delivery in the university. Thus, research question one was answered affirmatively.

Table 2: Mean responses on university teachers' competence in the use of new technologies in curriculum delivery.

	ITEMS	**RESPONSES TEACHERS**		
S/N	**University teachers' competence in the use of new technologies includes:**	**Mean**	**SD**	**Result**
18.	Prefers using conventional methods most of the time for curriculum delivery	3.9	1.40	Agreed
19.	Sees new technologies as being hard and stressful to use	3.7	1.30	Agreed
20.	Conservative towards operating the new technologies in the classroom themselves, preferring to use an assistant	3.6	1.34	Agreed
21.	Teachers' competence in the use of the new technologies is very low	3.9	1.41	disagreed
22.	Teachers are reluctant to apply the new technologies during curriculum delivery	3.6	1.34	Agreed
23.	Lacks adequate competence in using the new technologies, such as online learning packages	3.8	1.41	Agreed
24.	Rarely go to the internet to locate useful information for the development of lesson plans	3.7	1.33	Agreed
25.	Lacks the skill and competence to integrate the use of new technologies into their subjects' curriculum delivery	3.8	1.34	Agreed
26.	Conservatism towards understanding how new technologies can enhance student learning	3.4	1.32	Agreed
27.	Rarely encourage the use of software like PowerPoint during curriculum delivery	3.7	1.36	Agreed
	Cluster grand/pooled mean	**37.1/3.7**		

Data in Table 2 show the teachers' responses on university teachers' competence in the use of new technologies for curriculum delivery. Their

mean responses to all the items were all above 2.5 (Mean > 2.5). The grand mean/pooled mean of 37.1/3.7 indicated teachers' high rating agreement that teachers are conservative towards the use of the new technologies, lack adequate competence in using online learning packages, computers, projectors, wireless peripherals, software such as PowerPoint, internet, and prefer using the conventional methods during curriculum delivery. The above items show university teachers' incompetence in the use of new technologies during curriculum delivery.

Table 3: Teachers' mean responses on ways of improving university teachers' competence in the use of new technologies in curriculum delivery

	ITEMS	**RESPONSES TEACHERS**		
S/N	**Ways of improving university teachers' competence in the use of new technologies include:**	**Mean X**	**SD**	**Result**
28.	Providing adequate funding by the government.	3.6	1.38	Agreed
29.	Employing more technologically competent academic staff.	3.7	1.40	Agreed
30.	The government providing adequate technological infrastructural facilities, such as personal computers, laptops, modems, and power banks for teachers.	3.6	1.38	Agreed
31.	Providing free WIFI, e-library, online internet services, and access.	3.7	1.41	Agreed
32.	Formulating policies that will emphasize teachers' use of new technologies in curriculum delivery in public universities.	3.6	1.38	Agreed
33.	Sponsoring enhanced practical technology training for teachers.	3.8	1.42	Agreed
34.	Effective monitoring of teachers' use of technologies during curriculum delivery.	3.9	1.43	Agreed
35.	Allowing teachers to continue using conventional methods during curriculum delivery	1.7	0.45	Disagreed
	Cluster grand/pooled mean	**27.6/3.4**		

Data in Table 3 show the respondents' mean responses on ways of improving teachers' competence in the use of new technologies during curriculum delivery, which are above 2.5 (Mean > 2.5) except one item that was rated 1.7 ($Mean < 2.5$) by the teachers. The cluster pooled mean of 27.6/3.4 indicated teachers' strong agreement that providing funds, infrastructural facilities such as personal computers, modems, power banks, enhanced internet networks and bandwidth, effective monitoring and supervision of the use of technologies during teaching, curbing teachers conservatism through training of teachers on practical use of technologies for teaching, and employing more technology-compliant teachers are some of the ways of improving university teachers competence in the use of new technologies during curriculum delivery.

Discussion

The results, as presented in Table 1, revealed the different types of new technologies that university teachers can use in curriculum delivery. From the items, the researchers found that computer laptops, AI tools, software packages like PowerPoint, e-library, online learning packages- webinars, Zoom, Skype, Google Meet, high-definition projectors with pointers, microphones and speakers, smartphones, and free internet access are some types of new technologies university teachers can use for curriculum delivery. This is in line with the findings of Mishra and Abhashree (2020) and Raouna (2020) that Zoom, webinars, emails, Skype, and video teleconferencing are some new technological tools that can be used for educational purposes.

In further corroboration, Alieto et. al. (2024), Lieberman (2020), and Burns (2020) emphasized that teachers' continuous use of new technologies, especially the online learning platforms, which increased during the COVID-19 pandemic era have assisted in promoting efficient curriculum delivery. It is worthy to note that the international communities across the world and most private universities during the recent pandemic did not stop schooling because their teachers used online learning platforms to continue curriculum delivery, as well as conduct conferences and workshops irrespective of teachers'/learners' locations. Thus, public university teachers need to improve their competence and embrace the use of new technologies for effective curriculum delivery.

The results of research question 2, as shown in Table 2, highlighted respondents' responses regarding university teacher competence in the use of new technologies during curriculum delivery. All the respondents agreed that teachers are conservative towards the use of new technologies and lack adequate competence in using online learning packages, computers, projectors, wireless peripherals, software such as PowerPoint, and surfing the internet. This agrees with the opinion of Edionwe (2024) and Kanno (2019) that the "how" of the teaching (instructional methodology) is as important as the "what" (content). This shows that one important resource for effective curriculum content delivery and meaningful learning is the instructional methodology used by teachers. The new technologies serve a dual purpose of being both tools and methods, but require teachers' competence to make them yield the necessary outcome. Considering the global trend of activities, university teachers' use of new technologies during curriculum delivery will help to improve the academic standard and teachers' and learners' technological competence.

The results, as presented in Table 3, revealed ways university teachers' competence can be improved towards the use of new technologies in curriculum delivery. From the items, the researchers found that providing funds, infrastructural facilities such as personal computers, modems, power banks, enhanced internet networks and bandwidth, effective monitoring and supervision of teachers' use of technologies during teaching, curbing teachers' conservatism through training of teachers on practical use of technologies for teaching, and employing more technology-compliant teachers are some of the ways of improving university teachers' competence in the use of new technologies during curriculum delivery. This finding is in agreement with Alieto et. al. (2024) and Rafiq, Iqbal, & Afzal (2024) that technology is the key to modern teaching and learning; therefore, teachers who are chief implementers of all curricula should constantly be exposed to practical training and retraining on technology to equip them appropriately for curriculum delivery. Considering the fact that the world is almost going digital, adequate knowledge of the new technologies by university teachers will improve their technological competence to a great extent, which will help them effectively use them in curriculum delivery.

Conclusion

The need to emphasize the university teachers' competence in the use of new technologies in curriculum delivery has become necessary. This is because the benefits of teachers' use of new technologies, such as online learning packages, projectors, and free internet Wi-Fi during curriculum delivery, help to improve and increase teachers' competence. Thus, it is essential that university teachers should be exposed to training and retraining to improve their competence in the use of new technologies in curriculum delivery.

Recommendations

Based on the findings, the researcher made the following recommendations:

1. New technologies, both physical and internet-based, such as Computers, AI tools, laptops, projectors, online teaching and learning, and an e-library with free Wi-Fi and internet should be provided in the schools to provide access to new technologies for teachers' use during curriculum delivery.
2. Sufficient facilities and resources should be provided to university teachers to practice the use of new technologies in the teaching-learning process. They should be given an environment in which they can develop their technology-based competencies required for effective curriculum delivery.
3. Constant professional development training and re-training programmes should be organized for the university teachers, in which emphasis should be laid down on the development of ICT, especially on new technologies, and pedagogical competencies for use during curriculum delivery.

References

Adeoye, I. A., Adanikin, A. F., and Adanikin, A. (2020). COVID-19 and E-Learning: Nigeria Tertiary Education System Experience. *International Journal of Research and Innovation in Applied Science* (IJRIAS) | V, (V), May 2020, 28-31. www.rsisinternational.org https://www.researchgate.net/publication /341574880_COVID-19_and_E-Learning_Nigeria_Tertiary_ Education_System_Experience.

Akram, H., Abdelrady, A.H., Al-Adwan, A.S., and Ramzan, M. (2022). Teachers' perceptions of technology integration in teaching-learning practices: A systematic review. Frontiers in Psychology. (2022), 13, 10.3389/fpsyg.2022.920317 Frontiers | Teachers' Perceptions of Technology Integration in Teaching-Learning Practices: A Systematic Review

Alieto E., Abequibel-Encarnacion, B., Estigoy, E., Balasa, K., Eijansantos, A., and Torres-Toukoumidis, A. (2024). Teaching inside a digital classroom: A quantitative analysis of attitude, technological competence, and access among teachers across subject disciplines. *ScienceDirect,* 10 *(2*), https://doi.org/10.1016 /j.heliyon.2024.e24282

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. Freeman.

Bozalek, V., Ng'ambi, D., and Gachago, D. (2013). Transforming teaching with emerging technologies: Implications for Higher Education Institutions. *South African Journal of Higher Education*, 27(2), 419-436

Burns, M. (2020). Taking it online: Virtual teaching with webinars https://elearningindustry.com/online-virtual-teaching-webinar-technologies

Chukwuka, N. J. (2025). *The impact of digital tools on curriculum delivery in public and private secondary schools in Awka South Local Government Area. Bulletin of Educational Management and Innovation*, 3(1).

Chukwuma-Nosike, C. (2025). Utilising the flipped classroom approach for Business education curriculum implementation in South-East Nigerian Tertiary Institutions. *African Journal of Social and Behavioural Sciences (AJSBS)*, 15(5), 2129-2140. https://journals.aphriapub.com/index.php/AJSBS

Chukwuma-Nosike, C. (2025). Prospects and ways of utilizing AI tools in the future. In P.A. Okebukola (ed.). *Handbook on Artificial*

Intelligence and Quality Higher Education: AI and curriculum development for the future. Slough, Sterling Publishers, 127-138.

Chukwuma-Nosike, C. (2024). *Dynamics of Curriculum Studies*. Joe Mamkpa Publishers

Chukwuma-Nosike, C. & Offorma, G.C. (2022). Classroom without walls: Prospects and challenges of using technologies for effective teaching in post-COVID-19 pandemic Era in Nigerian public universities, Journal of Nigerian Academy of Education (JONEAD), 18(1), 259-276.

Chukwuma-Nosike, C. (2020). Constraints to effective technological curriculum content delivery in state universities in South-East, Nigeria. *The Nigerian Academy of Education (NAE) 2019 Conference Proceedings,* 137-145

Duru, V.N. (2016). *Curriculum Studies: Concepts, development and implementation*, Owerri: Avan Global Publications

Edionwe, N. (2024). *Curriculum objectives and instructional delivery of business education programmes in Delta State tertiary institutions. FUOYE International Journal of Business and Economics Education,* 1(1), 179-188.

Ellis, J.L. (2016). Edsurge Embracing the Wall-less Classroom https://www.edsurge.com/news/2016-11-09-will-edtech-bring-back-the-open-classroom

Encyclopdia.com, (2018). New technology. https://www. encyclopedia.com>newtechnology

Ereke, J. S., & Agwu, S. N. (2022). *Curriculum delivery and security challenges in language education in Nigeria. IOSR Journal of Research & Method in Education* (IOSR-JRME), 12(3), 48-56.

Frontiers Editorial. (2021). *New educational technologies and their impact on students' well-being and inclusion process*. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2021.753471

ICEDT (2021) 5 Teaching strategies teachers shouldn't overlook in this era. https://www.icedt.org/icedt-blog-details.php/id=15

Lieberman, M. (2020). Zoom use skyrockets during coronavirus pandemic, prompting wave of problems for Schools. https://www.edweek.org›technology›zoom-use-skyrockets

López-Garrido, G. (2020). Self-efficacy theory. *Simply Psychology* https://www.simplypsychology.org/self-efficacy.html

Kanno, T.N. (2019). Overview of curriculum process and andragogical imperatives for the effective teacher. 41st Inaugural Lecture of Michael Okpara University of Agriculture, Umudike, 15 May.

Konig, J., Jager-Biela, D., J., and Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: Teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education*. 43 94). 608-622

López-Garrido, G. (2020). Self-efficacy theory. SIMPLY PSYCHOLOGY https://www.simplypsychology.org/self-efficacy.html

Mbakwem, J.N. & Ike, P.O. (2018). *Teaching and learning: What principles? What Methods?* 2nd Ed. ONII Publishing House.

Mbakwem, J.N., Chukwuma-Nosike, C., and Ukwuoma, C.N. (2015). Implementation of (MDGs) on education for all and gender empowerment: the girl-child education challenges. *Journal of Curriculum Studies* (CON), 22 (2), 208-220

Merial, M. Akuner, C.& Temiz, I. (2012). Competencies of teachers' use of technology in teaching and learning processes. *Elektronika ir Elektrotechnika* 18(10), 93-97

Mishra, L. and AbhaShree, T. (2020). Online teaching-learning in higher education during the lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*. 1, 100012 https://www.sciencedirect.com/science/ article/pii/S2666374020300121

Offorma, G.C.; Ikonta, N.R. & Ogunleye, A.O. (2019). *Essentials of Curriculum Studies*, Abuja: Nigerian Academy of Education Publication

Omede, A. A. (2015). The realities of implementing inclusive education in Nigerian primary schools. *European Scientific Journal*, 11(28), 246–256.

Rafiq, S., Iqbal, S., & Afzal, A. (2024). *The impact of digital tools and online learning platforms on higher education learning outcomes, Al-Mahdi Research Journal* 5, (4), (April-June 2024), 359-368

Rambe, P. (2016). The role of educational technology in the design and delivery of curricula programmes: A case of STEPS at a University of Technology. *The African Journal of Information Systems*, 8(2), 1-31.

Raouna, K. (2020). 27 best online platforms. https://www.virginiahistory.org/sites/default/files/uploads/Collections_EducatorResources_Skype_getting-started.pdf

Sanders, J.E. (2012). Technology and the delivery of the curriculum in the future: opportunities and challenges. *Medical Teacher Journal*, 34(7), 534-538.

Warr, M., Driskell, S. O. S., Langran, E., Mouza, C., & Schmidt-Crawford, D. A. (2023). *Curriculum design for technology infusion: A continuous collaborative process*. *Contemporary Issues in Technology and Teacher Education, 23*(1).