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INFLUENCE OF DIGITAL DIVIDE AND INFORMATION INEQUALITY ON TEACHING AND STUDENTS‟ ACADEMIC PERFORMANCE IN BENUE STATE UNIVERSITY

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Abstract

This study ―Influence of digital divide and information inequality on teaching and students‟ academic performance in Benue State University‖ examined how the problem of digital divide affects information distribution and accessibility and the overall academic performances of students in higher institutions. The study reviewed concept such as information technology, digital divide, digital inequality and its impacts, importance of digital communication technology, causes of digital divide, consequence of digital divide. The study was anchored on technological determinism theory. The desktop research method was used for the study. The study concluded that digital divide is one of the major challenges affecting academic performances of students in tertiary institutions. The study recommended that efforts should be made to close the digital divide gap in order for students to improve in their academic performances.

Keywords: Digital technologies, Digital Divide, Information Inequality, Academic Performance.

Introduction

Digital technologies also refer to as electronic tools, are systems, devices and resources which generate, store or process data. Dig-ital technologies permeate and restructure all facets of economic and social activities. In some ways that when they are implemented, they tend to disrupt existing activities, while in others ways they have a more incremental impact and complement existing activities (Tommaso et al., 2021). These technologies have ushered in a new era that has enhanced extensive dissemination and accessibility of information. Zarma, Usman, and Mamza (2025) refer to digital technologies as information and communication technologies and in this light they submit that, the advent of Information and Communication

Technologies (ICTs) has ushered in a new era characterized by rapid information dissemination and accessibility.

The adoption and application of ICTs has facilitated activities in different sectors such as education, health, economy, administration or governance, and even human interaction on the digital space.

Moreover, there is great concern in the area of digital divide whereby, with the prevalence of information and communication technological gadgets such as computers, laptops, tablets, smartphones, interactive whiteboards, virtual reality, assessment and analytics tools, etc. a great number of students do not have the financial capacity to purchase these technologies nor even have access to them and this is what is considered ‗digital divide‖ in this study.

Digital divide as the gap between those who have access to information and communication technology (ICT) resources and those who do not have, transcends to the disparity between those with relevant ICT skills and those who do not have. Digital divide has affected information distribution and accessibility by students in tertiary institutions. Equitable access to information is an essential principle in a global information economy. Digital divide predominantly exists between those living in rural areas and those living in urban areas, between the educated and uneducated, between economic classes and on a global scale between more and less industrially developed nations (Zarma et al 2025).

In the educational sector digital technologies play significant roles ranging from documentation to information dissemination and accessibility. Moreover, it is germane to ascertain the implications of digital divide on academic performance of students specifically, in Benue State University, Makurdi where the problem of digital divide is assumed to be very common.

Statement of the Problem

The advent of digital technologies has changed a lot of human activities in different sectors including the educational sector. Nevertheless, in the educational sector there is concern about digital divide which is affecting a great number of students who do not have access to digital technologies resulting to information inequality in tertiary institutions which consequentially affects students‘ academic performances. This has become a thing of concern prompting this study so as to ascertain the influence of digital divide and information inequality on teaching and students‘ academic performance in Benue State University so as to facilitate the teaching and learning process and ensure information equality in order to improve students‘ academic performance in the institution.

Overview of Digital Technology

Digital technology according to Okachi, Julson, and Agaku (2022) is a branch of scientific or engineering knowledge that deals with the practical use of digital or computerized devices, methods, systems. Hongjun et al (2024) Digital technology is essentially a collection of technologies centered around digital information processing. It relies on modern electronic computer systems and accurately converts complex, diverse, and continuously changing information in the real world, such as

text, images, sounds, and videos, into discrete digital signals. These digital signals can be processed, stored, and transmitted at high speed and with high precision within the computer, enabling efficient processing and utilization of information.

Digital technologies therefore, encompass all electronic tools, systems, devices, and resources that generate, store, or process data. These technologies include smartphones, digital cameras, e-readers, scanners, and computer hard drives. Digital technologies also include broader innovations like the Internet, which allows individuals to communicate instantly across the globe, and the blockchain technology behind cryptocurrencies, creating secure and decentralized financial systems.

Digital technology according to Zakir et al (2025) serves as a catalyst for transformative shifts in the manner in which individuals engage in many activities including educational pursuits. The widespread use of digital technology throughout all sectors, including education, has served as a catalyst for students to embrace and utilize new technology. The application of digital technologies in the academic field has helped both the teaching and learning process resulting to improvement in students' academic performances where it is effectively applied. Owoseje (2023) in support of this submits that, the introduction of technology in education has transformed the traditional way of teaching and learning, offering endless possibilities to improve the educational experience.

The integration of technology in education has brought numerous benefits, including increased access to information, personalized learning, collaboration, and enhanced student engagement. Digital technologies have made it possible for students to access a wide range of educational resources from anywhere at any time, breaking down geographical and time barriers that once hindered learning. In this paper, the focus will be to understand the impact of technologies and digital divide in the educational sector focusing on the implications on students' academic performances.

Digital Divide

Digital divide according to Kumari, Lavanya and Padmambika (2024) refers to the unequal distribution of digital technology and internet access among different populations, resulting in a gap between those who have access to digital resources and those who do not. Hargittai (2021, p. 1) referring to it as ―Digital inequality defines digital divide as the disparities in digital access, skills, usage, and outcomes, which are influenced by individuals' societal positions and subsequently impact their life opportunities.‖ This divide has significant implications in today's digital age, where technology plays a crucial role in various aspects of life, including education, employment, healthcare, and governance.

The rapid pace of technological advancements has made digital literacy a necessary skill for individuals to fully participate in society and access essential services. Digital divide in academic parlance is the gap between the students who have access to digital technology at home and those who do not. The factors causing the gap include socio-economic status, ethnicity and geographic location, while socio-economic status is the focus of this study. Economic class remains a strong predictor

of disparities throughout the digital inequality stack, including quality of hardware, software, network access, usage patterns, and skills.

Academic performance of Students in Tertiary Institutions

Academic performance as used in this study refers to the ability of students to carry out their function as students, such as the ability to attend lectures and the capacity to complete academic and non-academic tasks (Zakir et al 2025). The level of student academic performance according to Mehrvarz et al., (2023) is measured based on indicators, components, or desired patterns; however, student academic performance is commonly measured using students' Grade Point Average (GPA). Academic performance is also assessed by measuring students' ability to study and administer academic activities and their academic success (Salendab, 2023).

Academic performance can be improved by integrating digital media with learning. The integration of digital technology into learning to improve students' academic performance is a challenge (Rad et al., 2023) for lecturers, students, and institutions. Empirically, the use of several functions of digital technology has made a significant contribution to improving student academic performance, as students can focus on increasing their interest and curiosity and learning more to acquire the information needed openly and responsibly

Causes of Digital Divide among Students of Tertiary Institutions in Nigeria

The gap between those who have access to digital technology and those who do not have according to Adie, Anthony, and Otu (2011) is caused by the following factors:

Affordability of digital technologies: this is a correlate of the digital divide. It basically refers to the ease with which an individual can purchase computers and peripherals, mobile devices, internet subscription data and other instructional resources that can be used by a learner to enable personalized remote learning comfortably.

Availability as a correlate of the digital divide refers to the presence of relevant electronic learning content, computers and mobile devices, internet access and adjacent infrastructure like electricity and good road networks. Ofuyatan, Opaluwa, and Adeola (2014) noted that ICT infrastructure is lacking in Nigerian Universities or in private universities (Yarhere, Obuzor & Fomsi 2020).

Accessibility, another correlate of the digital divide is the measure of digital literacy of an individual, language literacy of an individual, steady internet connectivity and level of compliance of computer and mobile devices that can collectively or singly make or mar the smoothness of a personalized remote learning effort.

Other causes of digital divide are: cost of digital devices, cost of deployment of digital infrastructures, Government policies, corruption, high cost of computers and other gadgets for deployment, level of literacy, level of income, willingness for adoption, cultural practices, political will, Power supply (Okocha & Edafewotu, 2022; Begazo, Dutz & Blimpo, 2023).

Dijk (2006) summarised these causes to include:

- The lack of ―mental access‖ which refers to lack of elementary digital experience.

- The lack of ―material access.‖ This refers to lack of possession of computers and network connections.
- The Lack of ―skill access‖ which is the lack of digital skills by the individual students.
- The Lack of ―usage access‖ means the lack of meaningful usage opportunities.

Implications of Digital Divide on Students‟ Academic Performances

Education in all facets has been advanced through the application of digital technologies. However, digital divide in the educational settings has grave implications on the academic performances of students. One of such implications as pointed out by Kaleem, Zafaaar and Jameel (2024) is that it reduces academic performance, as students lacking access to digital devices miss out on essential information that could enhance their education.

Another implication is that students with limited digital access are more inclined to require extra time to meet their learning objectives, which can hinder their ongoing growth. This clearly hinders of affects their academic performances unlike their peers who are privilege to have access to digital technologies.

Ahmad et al (2024), on the implications of digital divide on academic performance submit that the digital divide has far-reaching implications for education, encompassing various aspects that may not be immediately apparent. One of the primary effects is diminished academic performance, as learners without access to digital devices are deprived of valuable information that could advance their education. This invariably affects their academic performance.

Another implication of digital divide to academic performance of students is that's students with limited digital access and lower technological proficiency experience difficulties in accessing educational resources, engaging in online learning, and developing essential skills for academic success.

In a study by Okafor et al (2021) on ―Impact of digital divide on learning,‖ digital divide is said to have great impact on learning. It is said to negatively affects learner's abilities in the sense that those students who cannot afford or use technology effectively tend to lag behind in their academic pursuit that requires the use of technology. It is also said to creates loophole and decline in acquiring information technology skills; hinders effective teaching/ learning, communication and information dissemination among teachers and learners; and denies learners of what is happening around the globe due to lack of awareness, lack of access to information and communication technology, inability to purchase and explore the new technology services which help to develop one's potential and economic growth. All these affect or hinder academic performances of students.

Empirical Review

Difference scholarly works examined digital divide focusing on its causes, consequences and ways of addressing it. For instance, Kelly (2024) examined digital divide and social inequality. Using the desk research method to analyse other related studies on digital divide, the findings revealed that there exists a contextual and methodological gap relating to digital divide and social inequality. The study

underscores the necessity for targeted digital literacy programs that address specific needs of marginalized groups.

Wei & Hindman (2018) investigated the relationship between digital inequality and political participation in the United States. Their findings indicated that individuals with higher levels of digital access and skills were more likely to participate in political activities, both online and offline. Conversely, those with limited digital access and lower digital literacy were less engaged in the political process, which exacerbated existing political inequalities.

Again, another study by Hargittai and Dobransky (2017) explored the intersection of digital inequality and health information seeking behaviours among various demographic groups in the United States. Their findings highlighted significant disparities in internet skills across these groups, which directly impacted their health information-seeking behaviours. The study underscored the need to improve digital literacy across all demographics to ensure equitable access to health information. The authors recommended that public health initiatives include components that enhance digital literacy, particularly focusing on marginalized communities to bridge the gap in health information access and utilization.

Theoretical Underpinning

Two theories used for this study are Digital Divide Theory and the Knowledge Gap Theory. The Digital Divide theory according to Abdulkareem and Lennon (2023) was propounded by Van Dijk. The theory highlights on how personal and positional inequalities lead to unequal access to digital technologies, resulting in varying degrees of social participation The theory recognizes the influence of technology characteristics on access inequality and acknowledges that contextual factors shape the societal effects of digital technology. Also, the theory ascertains that personal traits can all impact these disparities. Hence, geographical, demographic and socio-economic factors (e.g., age, gender, income, belief/culture, education, employment, caste and language competency) determine the level of technology assessment and competency (Abdulkareem & Lennon, 2023). This theory provides a broader framework for this study, emphasising digital inequalities caused by variations in access and utilisation.

The Knowledge Gap Theory on the other hand, is a theory that was propounded by P. J. Tichenor, G. A. Donohue and Olien, C. N in 1970. The propounders believe that the increase of information in society is not evenly acquired by every member of the society. They stressed that people with higher socio-economic status tend to have better ability and what it takes to acquire information. Tichenor et al (1970) stressed that the knowledge gap can result in an increases gap between people of lower and higher socio-economic status. This theory compliments the digital divide theory in the sense that inability to have access to digital technologies be it is for socio-economic or any other reason could result to creating knowledge gap between those who have such access and those who do not have.

Methodology

The study adopted the desktop research methodology. This research method refers to the process whereby the researcher relies solely on the collection and analysis of secondary data from secondary sources. This implies that the research method does not require the researcher to go into the field for data gathering to obtain information from primary sources. In this process data is collected without fieldwork. Desk research method is basically involved in collecting data from existing resources hence it is often considered a low cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics which are easily accessed through the online journals, books, library, etc.

Conclusion

Digital technology has continued to be a significant invention that has continued to influence human activities in diverse ways. These technologies have been applied in areas such as education, economy, security, health, engineering, etc. However, contending challenges such as inadequacy of technological devices, lack of skilful manpower, has resulted to creating digital divide where some people are privilege to have access to technology while some do not. Closing the divide becomes necessary to ensure equal to information becomes necessary.

Recommendations

To address the problem of digital divide the following recommendations are made:

- The government has collaborative role to play by providing financial support in order for tertiary institutions to procure digital technologies to make it available and accessible for the students.
- There is need for individuals to study technologies in order to gain mastery skills to enable them use such technologies effectively. By so doing they will be able to appreciate the use of information technologies and have access to information.
- It is also necessary that the cost of maintaining these technologies must be put into consideration to ensure that there is no break down while they are in use.

References

Adie, P. I., Etta, A. B. & Otu M. O. (2021). Nigeria's Digital Divide and the Promise of Offline Internet for Remote Learning for Post-COVID19 Sustainability. *Inter-Disciplinary Journal of Science Education (IJ-SED),* 3(1), 117 – 127.

Ahmad, A. G., Mehmood, Z. & Ahmad, I. (2024). Impact of the digital divide on learning outcomes of students in Higher Education Institutes. *Human Nature Journal of Social Sciences,* 5(2), 152-159.

Begazo, T., Dutz, M. A. & Blimpo, M. (2023). Digital Africa: Technological Transformation for Jobs. World Bank Group. Available at: https://elibrary.worldbank.org.

Dijk, J. V. (2020). *The Digital Divide*. Cambridge UK, Medford MA: Polity Press.

Hargittai, E., Piper, A.M. & Morris, M.R. (2017). From internet access to internet skills: digital inequality among older adults. *Univ Access Inf Soc* (18), 881–890.

Hongjun, L. et al (2024). Digital technologies. *Journal of Digital Economy*, 3(11), 240-248.

Kaleem, M., Zafar, Q. & Jameel, A. B. (2024). Impact of digital divide on students' academic performance at Higher Level. *Journal of Innovations in Education and Social Sciences.* 2(1), 181-189

Kumari, S. S., Lavanya, P. & Padmambika, P. (2024). Bridging The Digital Divide: Addressing Inequality and Access Disparities. *The International Journal of Indian Psychology*. 12(3), 1151-1156

Ofuyatan, O., Opaluwa, E., & Adeola, A. (2014). Challenges and Effects of ELearning in the Development of Architecture and Engineering in Nigeria's Private Tertiary. Developing Country Studies, 4(23), 130-135.

Okafor, U. O., Okpala, P. K. & Chikwelu, E. E. O (2021). Impact of digital divide on learning. *The Information Society*. 19(1), 315-326.

Okachi, D. O., Julson, N. & Agaku, T. (2022). Effects of digital technologies on academic performance of Nigerian adolescents. https://orcid.org/00000001-5070-280X

Okocha, D. O. & Edafewotu, E. (2022). Bridging the Digital Divide in Nigeria. *The Journal of Development Communication,* 33(1), 45-54.

Okunola, A. (2021). Millions of Kids in Nigeria Can't Learn Because They Don't Have Internet. How Do We Close The _Digital Divide'? GLOBAL CITIZEN ASKS. Available at: https://www.globalcitizen.org/en/content/nigeria-schools-covid-19internet-isaac-oladipupo/

Okunola, O. M., Rowley, J. & Johnson, F. (2017). The multi-dimensional digital divide: Perspectives from an e-government portal in Nigeria. *Government Information Quarterly*, 34(2), 329-339.

Onyema, E.M (2019) Opportunities and challenges of use of mobile phone technology in teaching and learning in Nigeria-A Review, *International Journal of Research in Engineering and Innovation*, 3(6), 352-358.

Owoseje, F. (2023). Impact of Technology on Education; Analysis, Implications, Solutions. *Journal of Humanities and Social Science*, 6(7), 214-220.

Perpetua Ogechi V., Msughter, E A., Omotola, O., Ekeledirichukwu, T. O. & Muhammad, R. (2025). Accessing Digital Divide and Implications in Nigeria: The Media Dimension. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* 8(1), 1-12.

Ugo, S. U., Odey, B. E., Odey, H. O., & Abu, P. E. (2023). Impact of digital communication technologies on the Nigerian mass media: Implications and insights into disruptions. *A Journal of Contemporary Research*, 20 (4), 39-55

Van Dijk, J. (2006). *The Network Society. Social Aspects of New Media*. Second Edition. London: SAGE.

Wilson, E. J. (2004). *The Information Revolution and Developing Countries*. Cambridge, MA: MIT Press.

Yarhere, I. E., Obuzor, I. O., & Fomsi, E. (2020). Online learning using google classroom: undergraduate medical students and paediatric residents perspectives in the University of Port Harcourt, Nigeria. *International Journal of Tropical Disease & Health,* 8-15.

Zakir, S., Mohammaad, E. H., Susanto, P., Nisaa, V. Alam, M. K., Khatimah, H. & Mulyani, E. (2025). Digital literacy and academic performance: the mediating roles of digital informal learning, self-efficacy, and students' digital competence. *Front. Educ.* 10:1590274. doi: 10.3389/feduc.2025.1590274.