VOL. 07 NO. 8,
FEBRUARY, 2025
E-ISSN 3026-8893
P-ISSN 3027-1061

African Scholar Publications & Research International
www.africanscholarpub.com

Journal of Education Research and Library Practice (JERLP)

Dilapidating State of Education in Nigeria and the Role of Computer Technology

Asemewalen, Nelson Osezele
Computer Science Department, Federal College of Education, Katsina
Corresponding Author: nelsonasemewalen@gmail.com
DOI: https://doi.org/10.70382/ajerlp.v7i8.016

Abstract

This research emphasizes the deteriorating condition of education in Nigeria, characterized by low enrollment rates, subpar quality, and insufficient funding. It further elaborates on the funding issue, identifying it as the fundamental cause of all other educational challenges in Nigeria. The study, which concentrated on the quality of teaching and learning, also examined how computer technology can enhance educational quality and assist in effectively managing the limited funds available to promote accountability and ensure quality. The proposed system consists of a network application that enables stakeholders in the education sector, from top officials to students, to oversee all activities within the network regarding fund allocation, training, teaching, assessment, and grading. This approach fosters accountability, ensuring that available funds are utilized appropriately and adequately to maintain quality. The research adopts blockchain technology for the development of the computer network, as it promotes accountability by guaranteeing that data remains transparent and unchangeable.

Keyword: Education, Quality, Funding, Computer, Technology, Network, Blockchain

Introduction

Investing in education is one of the most significant contributions a nation can make toward its future. As a potent catalyst for transformation, education enhances health and well-being, fosters social stability, and propels sustainable economic development. "There is one aspect that everyone can agree on: the significance of education — and here's the reasoning - education offers stability, ensures financial security, essential for equality, facilitates self-sufficiency, helps you achieve your aspirations, creates a safer environment, builds confidence, integrates you into society, contributes to economic growth at a national scale and can serve as protection" (UoPeople, 2025**)**..

However, education in many part of the world suffers much damage as a result of stakeholder's insensitivity. Nigeria's educational system for instance struggles with various issues, such as subpar quality, low enrollment rates, and insufficient funding. "A major issue confronting education in Nigeria is insufficient funding. Although the government has pledged to dedicate 26% of its yearly budget to education, this commitment has not been met, with the sector receiving less than 10% of the budget in recent years (UNESCO, 2021). This shortfall has led to a scarcity of resources, poor facilities, and low salaries for teachers" (Chinedu, 2023).

These problems have immensely affected the outcome of learning both in the area of short term and long term expectations. If the input to learning is poor then it is expected that the output will also be poor. Not only the students' performances are affected, their future performance at their work place and nation's economy are also affected. The Quality Gap highlights issues that lead to insufficient preparation capabilities within the current education system. The Outcome Gap addresses the impact on human capital caused by the inadequate skills stemming from subpar education (Oluwatoyin, 2023).

"Throughout the years, Nigeria's educational budget funding has consistently fallen short of UNICEF's recommendations. The 2024 budget earmarks ₦1.5 trillion for the federal ministry and an additional ₦81 billion allocated across other ministries, departments, and agencies. This allocation accounts for approximately 7.9% of the 2024 budget, slightly surpassing prior years The portion allocated for Universal Basic Education is 11.5% of the overall funding, while TETFUND receives 32.1%, and 56.24% is directed to other ministries, departments, and agencies" (Oladipo,

2024). The problem is that funds are either under allocated or misappropriated leading to poor quality education in terms of teaching, and learning, teaching resources and the teacher development.

"A significant issue facing the Nigerian education system is insufficient funding, which has for years led to scarcity of qualified teachers, poor educational infrastructure, and a deficiency of learning materials. Consequently, this has resulted in subpar educational quality and low literacy levels in the nation" (Obeza, 2023). "Nigeria contends with the issue of inadequate teacher quality, as a significant number of educators do not possess the essential qualifications and training. Furthermore, there is a deficit of teachers, particularly in rural regions, where many educational institutions either have very few or no qualified instructors at all. As reported by UNESCO (2021), Nigeria requires an extra 277,537 teachers to satisfy the minimum standards for the teacher-pupil ratio" (Chinedu, 2023). Skilled educators or teachers are the key influence on a student's educational experience.

In a system where the government both at state and federal level are finding it difficult to employ more teachers that are at least qualified, what then becomes the hope of the students? Private schools on the other hand are also finding difficult to retain or employ quality teachers because they are not willing to pay the price. This is affecting our student's performance."The Nigerian education system is confronted with numerous obstacles. According to a 2023 UNICEF report, 75% of children between the ages of 7 and 14 do not possess fundamental literacy and numeracy skills. In the 2017/2018 rankings by the World Economic Forum, Nigeria was placed 120th for the quality of its primary education and 117th for its tertiary education out of 137 countries" (Oluwatoyin, 2023).

Study Objectives

The main aims of this research paper are as follows:

1. To examine and evaluate the issues facing education in Nigeria
2. To provide an overview of how computer technology can help address the above identified challenges
3. To propose strategies for alleviating the issue of funding using computer technology

Issues Facing Education in Nigeria

Birabil, S. T. & Ogeh, O. W. M. (2020) in their study highlighted several challenges confronting education in Nigeria, including the absence of reliable

infrastructure, insufficient budget allocations, high expenses related to education, ineffective planning, and the failure to make use of educational research that has been carried out, among others. Simwa (2023) highlighted various challenges facing education in Nigeria, such as ineffective governance and administration, inadequate financial support and lack of attention to the education sector, corruption, substandard infrastructure and training resources, low-quality teachers, a high prevalence of examination malpractice, insufficient technical and vocational education, and inadequate parenting and guidance, among others.

"The education system in Nigeria is fraught with a multitude of challenges which include insufficient funding, leading to inadequate educational infrastructure, a lack of classrooms, teaching aids (such as projectors, computers, laboratories, and libraries), a shortage of qualified teachers, and a deteriorated or unhealthy learning environment as well as other social issues which include examination malpractices, cult activities, violence, and corruption" Odia (2007). Adanna, Jegede, and Ogunode (2022) highlighted issues such as insufficient funding, a lack of necessary infrastructure, a shortage of qualified teachers, corruption, problems related to security, inadequate supervision, subpar learning outcomes, and ineffective execution of Basic Education policies.

Findings from Lohnan (2019) showed that inadequate funding, administrative recklessness, non commitment of government to the educational sector and non-meritorious standard of recruitment are the major challenges hampering the institutionalization of quality education in the state. It was recommended among others that, the government should adhere to 26% budget funding allocation to education from national budget as recommended for African Government by United Nations Organization.

Addressing Education's Challenges using Computer Technology

"The integration of digital technologies has brought a significant transformation to the education system. It serves not just as a source of knowledge but also as a collaborator in information creation, a guide, and an evaluator. Advances in technology within education have simplified life for students. Rather than relying on pen and paper, students now utilize a variety of software and tools for creating presentations and completing projects. In comparison to a pile of notebooks, an iPad is much lighter. Similarly, accessing an E-book is more convenient than handling a heavy textbook. These approaches contribute to fostering greater interest in research" (Haleem et al. 2022).

Technology has the potential to enhance educational quality by making the learning experience more engaging, accessible, and tailored to individual needs. "Nigeria ought to adopt technological solutions to improve the educational standards in the nation. The government needs to equip schools with internet access, computers, and various tech devices to support the learning process. Furthermore, e-learning platforms can be created to allow students to reach educational resources from a distance (Obeza, 2023).

Additionally, it can assist students in cultivating critical thinking and essential skills for the 21st century.

Improved access

- Online learning: Students can obtain high-quality education from any location.
- Diverse materials: A wide array of online resources is available to students.

Enhanced engagement

- Interactive resources: Tools like games, videos, and simulations make the learning process more enjoyable.
- Multimedia content: Incorporating videos, audio clips, and interactive graphics enhances the learning experience.
- Virtual resources: Simulations and virtual laboratories enable students to practice and apply their knowledge effectively.

Personalized learning

- Adaptive learning technologies: Customize educational content to suit the specific needs of individual learners.
- Gamification strategies: Techniques such as points, badges, and leaderboards motivate learners to engage.

Collaboration

- Digital collaboration platforms: Support teamwork and allow students to work together on projects.
- Technology-driven assignments: Encourage students to assist each other and seek guidance from their teachers.

Critical thinking and 21st-century skills

- Technology-enhanced activities: Foster critical thinking and creativity among students.
- Easy information access: Technology enables students to find information with ease.

Here are four ways giving by EN NET (2018) through which computers can enhance learning in the classroom.

Educational Games : A lot of students, especially younger ones, find enjoyment in educational games. High-quality educational games can often distract children from the fact that they are learning. Games can motivate kids to engage with educational content. When students complete a game, both they and their teacher receive immediate feedback on their progress in specific skills.

Word Processing Software: Regardless of the subject or educational level, word processing software serves as an essential tool in the classroom. Students can use it to write up projects, lab reports, or anything else they need. Most word processing programs will identify misspellings and grammatical errors, allowing students to learn from their mistakes while also developing typing skills.

Digital Textbooks: Many modern textbooks come with digital versions that include interactive supplemental educational software. This form of interactive learning is often more captivating and enjoyable since students frequently overlook the fact that they are being educated. Additionally, one can obtain voice software that reads sections of the textbook aloud, which is particularly beneficial for difficult words and for students with various learning needs.

Teaching Websites: Numerous websites have been created specifically to assist students and educators. These platforms enable students within the same classroom to engage with one another through messaging and discussion boards. Teachers can also join in on the conversations, evaluate assignments, post grades, and maintain communication links with their students.

Computer technology has the potential to enhance education quality by offering students access to information, resources, and interactive activities. Additionally, it can assist students in developing skills such as teamwork, communication, and the ability to learn independently.

Ways in which computer technology can enhance education include:

- Information access: Students can utilize online databases, scholarly articles, and educational applications to find information.
- Engagement: Digital tools, like interactive whiteboards, allow students to actively engage in their learning.
- Personalized learning: Educators can design lessons that cater to the individual needs of students.
- Skills for the 21st century: Students can acquire technical skills relevant to future careers.

- Diverse learning styles: Technology can accommodate various learning styles among students.
- Self-directed learning: Students can develop the ability to learn autonomously.
- Research opportunities: Students can carry out research and investigate new topics.
- Immediate assessment: Educators can evaluate students in real-time.
- Decreased teacher workload: Technology can lighten the burden on teachers.

Examples of how computer technology might be applied in the classroom include:

- Online assignments for homework
- Digital grading systems
- Presentations and learning games
- Electronic libraries
- Platforms for project management
- Educational apps.

Explorance (2024) examines how adopting advanced technology in educational settings can boost student engagement and achievement rates.

Utilize Classroom Technology for Immediate Access to Information

One of the primary advantages of incorporating technology within the classroom is that it allows students to have quick access to a wealth of information and resources. With digital tools such as academic databases, project management systems, and study applications, learners can investigate a range of topics, perform research, and find materials that extend beyond conventional textbooks. Examples include Digital Content Repositories, Online Platforms and Systems, and Open Educational Resources (OER).

Gain Valuable Insights from Student Feedback Using AI

Student input manifests in various formats: course evaluations, rating websites, campus feedback, and other data collection methods. These comments frequently yield richer insights into student experiences than numerical ratings alone would provide.

This is where AI technology, such as Explorance MLY, plays a role. Purpose-built solutions like this facilitate the automation of student comment analysis, rapidly and effectively extracting meaningful insights rather than generic conclusions. The

entire approach helps educational institutions better comprehend student requirements and preferences.

Link Classroom Learning to Real-World Applications

Technology transcends physical classroom limits, bringing real-world experiences directly to students. For instance, a geology instructor might take students on a virtual excursion of the Grand Canyon, a venture that offers immersive learning beyond what traditional textbooks can provide.

Virtual guest speaker sessions also enable students to engage with professionals from various fields, connecting classroom lessons to real-world concepts and applications. This connection between theory and practice enhances student engagement by making the educational experience more pertinent and meaningful. Overall, technological tools assist in nurturing critical thinking by presenting students with varied viewpoints and real-world obstacles relevant to their fields, equipping them for future problem-solving and career choices.

Equip Students for Success in Today's Workforce

To thrive in the contemporary job market, students require more than basic knowledge—they need to be conversant with the tools and practices they will encounter in their careers. By incorporating more technology within the curriculum, educational institutions ensure students are poised for professional success after graduation. Skills such as Digital Literacy, Information Management, Adaptability, Creativity and Innovation, and Collaboration and Communication are vital.

Leverage Feedback to Accommodate Diverse Learning Styles

Tools like Explorance Blue and course evaluations simplify the feedback process, enabling students to share their insights easily. This immediate feedback aids educators in making data-informed decisions that influence institutional success and allows them to tailor their teaching strategies to meet individual learner needs, ensuring that all students are engaged and supported throughout their learning journey, allowing instructors to connect with every student, regardless of their location or challenges.

Educate Students on Responsible Digital Citizenship

Integrating technology into the classroom reinforces students' roles as digital citizens and instructs them on navigating the digital realm responsibly. As they

engage on social media and other platforms, students learn the significance of ethical conduct, data privacy, and cybersecurity, which will better prepare them to manage the complexities of the digital landscape as they enter the workforce.

Enhance the Educational Experience through Fun

Students interact with various technologies outside the classroom on a daily basis, meaning that introducing it into their learning environments can make education more engaging and enjoyable.

Research shows that infusing fun into education increases student engagement. A study conducted at Archbishop Williams High School and the Technical University of Denmark revealed that 97% of 149 students felt that gamified simulations made the material more captivating. Furthermore, coding can be introduced through educational platforms and apps that feature game-based tutorials. Augmented Reality (AR) and Virtual Reality (VR) technologies can also be employed to create immersive learning opportunities, allowing students to explore historical landmarks, dissect digital organisms, or visualize intricate concepts in 3D, thus enhancing their understanding through interactive visuals.

Handling the Problem of Insufficient Funding Using Computer Technology

Findings so far have shown that the main problem of education in Nigeria is inadequate funding. "Nigeria is a country that has not yet dedicated 26 percent of its budget to education, as suggested by the United Nations (UNESCO). This significantly impacts the educational system in the nation. A key challenge confronting education in Nigeria is underfunding" Birabil and Ogeh (2020). Sincerely speaking, it will be very difficult for the government of the day to allocate 26% of its budget to education as recommended by UNO and UNICEF. This is because of the many problems of the country which include insecurity which is draining a greater part of the Nation's budget. There is also a systemic failure in the country's political scene where leaders and the political class are insensitive to the education need and so do not address them.

Obeza (2023) suggested that "enhancing government funding, ensuring basic educational infrastructure is in place, advancing teacher training, adopting technology, and collaborating with the private sector are some effective measures for educational advancement in Nigeria" Teacher's training and advancement can also be computerized so that it will be easy for them to enroll into development courses online. Textbooks and notebooks can be converted from hardcopy to

softcopy within a single tab for each student in secondary and primary schools. This will reduce the load and cost of learning materials even though the use such tab needs to be controlled by parent and teachers. Presently, there is a big divide between the very few rich and a the very many poor. Textbooks are very expensive and many students can't afford them. That is to say many students don't read textbooks. But with the use of digital textbooks, many will have access thereby eliminating these reading gaps. The tabs can be customized or limited to access or installation of only children learning material thereby preventing corrupting content.

Technology has the potential to enhance government funding by making processes more efficient, transparent, and accountable. Lack of transparency and corruption has created loop holes for fund met for educational development to be diverted into personal use. As a result educational development is either halt or poorly implemented leading to poor quality education. The little fund budgeted by for education must be used appropriately such that its distribution is well documented and implementation properly monitored using computer technology. "In the face of growing calls for transparency, particularly regarding the administration of public finances, technologies like blockchain, e-government platforms, and data analytics are being recognized as crucial resources" **(**Shiadeh, S. A. A. 2023).

"In a similar vein, the public e-procurement systems assessed by Neupane, Soar, and Vaidya (2012) show considerable potential for combating corruption, diminishing chances for bribery while enhancing the accountability of government procurement procedures" (Shiadeh, S. A. A. 2023). We will adopt the use of blockchain technology in this work since it has the capacity to provide transparence and accountability in a network.

Why Blockchain Technology?

Blockchain technology enhances accountability by ensuring data is both transparent and immutable, while also streamlining processes (Rijanto, 2024). Blockchain in the following ways can enhances accountability:

Smart contracts

These contracts, which execute automatically, can disburse funds once specified conditions are fulfilled. For instance, an NGO might utilize a smart contract to allocate funds for medical supplies once a clinic meets defined performance metrics.

Traceable data

Blockchain enables the traceability of data origins, fostering trust and helping to mitigate fraud.

Automated processes

Blockchain technology can streamline operations such as data collection and validation, which minimizes errors and enhances the precision of reports.

Supply chain management

Blockchain aids in aligning transaction data among various stakeholders, which mitigates risks and boosts transparency.

Blockchain is a technique for documenting information that renders it challenging or nearly impossible for the system to be altered, compromised, or manipulated. It functions as a decentralized ledger that replicates and spreads transactions throughout the network of computers involved in it (Kitthu, 2025).

Proposed strategies for alleviating the issue of funding using computer technology

Companies in the educational technology sector are consistently working to develop innovative solutions to improve access to education for those who lack sufficient educational resources (Haleem et al. 2022). We can take advantage of this by establishing computer technology in the educational sector to cover all primary and post primary schools. This could include

1. Teaching and learning via Zoom platforms to cater for teachers' shortage: Up till this moment many private and government schools still struggles with teachers' availability especially in science and mathematical subjects. And where they are available many of them are not qualified. Schools can be combined to receive live lectures on subjects where teachers may be lacking. By this both learners and the teachers interacts and impart knowledge, providing opportunity for students to ask questions. This will also require smart boards for students to view the teacher and smart tabs for students to individually communicate with the teacher.
2. Online platforms where teachers can be trained, developed, screened and certified for increased capability and credibility.
3. A network application to monitor the distribution of funds from the top level administrators through to the lower level leadership in specific schools.

There should be a way of sending and receiving money needed to fund the schools such that both are acknowledged and well documented online. By this we'll know who and who received such and such money met for such and such projects. Moreover, we will be able to assess the projects after the deadline set for implementation.

4. Software applications that will ensure that all activities of teachers, including coverage of syllabus, marking of test and examination scripts, submission of result, meeting deadlines as well as students' performance are well documented for supervisory purpose.

All these will make the teachers give their best and enable the students also to get the best of learning necessary for their success both now and in the future. "Computers can help alleviate learning poverty when students from low-income areas have access to them. Additionally, having access to computers enables children to cultivate the skills necessary for success in their education and future endeavors" Borgen Project (2022).

Conclusion

The main problem of education is funding and this is affecting the quality of education in Nigeria. These problems include inadequate teachers and teaching resources as well as unqualified teachers. We have seen as elaborated in the study that with the help of computer technology the quality of teaching and learning can improve greatly. The study therefore tackled the problem of insufficient funding so that every fraudulent leakage is blocked so that the little funds available are well managed. To achieve this, the researcher gave suggestions which include online teaching/ training, evaluation and reward for students and teachers; provision of study materials online; monitoring and proper documentation of all activities such as fund distributions, course content coverage, meeting deadline etc. to guarantee accountability. Implementation will require the procurements of tabs, hardware, online applications such as zoom platforms, blockchain technology and more.

Recommendations

The researcher recommends the following

Government and private stakeholders should work together to see that the proposal given in this study are implemented properly and timely.

Other technologies should be experimented and compared with blockchain to determine the best technology for providing accountability in education management,

References

Adanna, C. M., Jegede, D. and Ogunode, N, J.(2022). Basic Education in Nigeria: Problems and Solutions. Central Asian Journal of Social Sciences and History, Volume: 03 Issue: 06 | Jun 2022 (ISSN: 2660-6836).

Birabil, S. T. and Ogeh, O. W. M. (2020). EDUCATION IN NIGERIA: CHALLENGES AND WAY FORWARD. International Journal of Academic Research and Reflection Vol. 8, No. 1, 2020 ISSN 2309-0405 Progressive Academic Publishing, UK Page 42 www.idpublications.org

Borgen Project (2022). Computers Can Reduce Learning Poverty in LMICS. https://borgenproject.org/computers-can-reduce-learning-poverty/

Chinedu, F. (2023). The State of Education in Nigeria: Challenges and Opportunities. Published Apr 11, 2023. https://www.linkedin.com/pulse/state-education-nigeria-challenges-opportunities-chinedu-friday

EN NET (2018). 4 WAYS COMPUTERS CAN ENHANCE CLASSROOM LEARNING. https://www.en-netservices.com/blog/4-ways-computers-can-enhance-classroom-learning/

Explorance (2024). 7 Ways Technology in the Classroom Enhances Student Success. August 23, 2024. https://explorance.com/blog/7-reasons-students-need-technology-classroom/

Haleem, A, Javaid, . M., Qadri, M. A. and Suman, R. (2022) Understanding the Role of Digital Technologies in Education: A review, Sustainable Operations and Computers, Volume 3, 2022, Pages 275-285, ISSN 2666-4127, https://doi.org/10.1016/j.susoc.2022.05.004.

Kitthu, H. A. (2025). What Is Blockchain Technology & How Does It Work. Lesson 1 of 33 Jan 21, 2025. https://www.simplilearn.com/tutorials/blockchain-tutorial/blockchain-technology#types_of_blockchain

Lohnan, N. N. (2019). Challenges to Educational Quality in Nigeria. *IJEDESR Vol. 5, No. 1*, p-ISSN: 2360-901X | e-ISSN: 2360-9028, February, 2019, https://internationalpolicybrief.org/wp-content/uploads/2023/10/ARTICLE9-56.pdf

Neupane, A., Soar, J., & Vaidya, K. (2012). Evaluating the Anti-Corruption Capabilities of Public E-Procurement in a Developing Country. The Electronic Journal of Information Systems in Developing Countries. https://doi.org/10.1002/j.1681-4835.2012.tb00390.x

Obeza, E. L. (2023). The Quality of Educational Development in Nigeria Educational Research Volume 14, Issue 2 Published**:** 31-Mar-2023, DOI: 10.14303/2141-5161.2023.257

Odia, L. O. (2007). Educational System in Nigeria: Problems and Prospects. Journal of Social Sciences, 14(1):86-85, DOI: 10.1080/09718923.2007.1197834

Oladipo, V (2024). 2024 JAMB Scores: The Impact of Budget Allocation on Education Outcomes. Veriv Africa. Published Jul 22, 2024. https://www.verivafrica.com/insights/2024-jamb-scores-the-impact-of-budget-allocation-on-education-outcomes#

Oluwatoyin, A. C. (2023). NIGERIAN EDUCATION CONUNDRUM: THE QUALITY GAP. Institute for governance and economic transformation. https://www.igetafrica.org/nigerian-education-conundrum-the-quality-gap/

Shiadeh, **S. A. A. (2023). The Role of Technology in Enhancing Transparency in Government Resource Allocation.** DOI:10.61838/kman.jrmde.2.3.2 https://www.researchgate.net/publication/381658109_The_Role_of_Technology_in_Enhancing_Transparency_in_Government_Resource_Allocation

Simwa, A. (2023). Problems of education in Nigeria in 2024 and potential solutions Updated August 10, 2023 at 2:45 AM. https://www.legit.ng/1104678-problems-education-nigeria-solutions.html

Rijanto, A. (2024). Blockchain technology roles to overcome accounting, accountability and assurance barriers in supply chain finance. Published in Asian Review of Accounting 16 January 2024, DOI:10.1108/ara-03-2023-0090

UoPeople (2025). Top 10 Reasons Why Is Education Important. **https://www.uopeople.edu/blog/10-reasons-why-is-education-important/**