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SELF ASSESSMENT OF DIGITAL LEARNING PLATFORMS ON UNDERGRADUATE STUDENTS' PROFICIENCY IN ECONOMICS EDUCATION IN PRINCE ABUBAKAR AUDU UNIVERSITY, AYINGBA.

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Abstract

The researcher investigated self-assessment of digital learning platforms on undergraduate students' proficiency in economics education in Prince Abubakar Audu University, Ayingba, Kogi State. Three research questions and one hypothesis guided the study. A descriptive survey research designed was used while the study adopted both quantitative and qualitative methodologies. A total population of 1001 economics education undergraduates of Prince Abubakar Audu University, Kogi State constitute the unit from 100 level to 400 level. This research adopted simple random sampling to sample the 300 level students which are made up of 220 students. The undergraduate students were grouped into male and female. While some instruments were damaged or wrongly filled, 212 students filled their questionnaires correctly and considered ok for the study. Data analysis tool included means, standard deviations, and independent samples t-tests, conducted using the Statistical Package for the Social Sciences. The descriptive statistics were used to answer the research questions while the t-test was used to test the hypothesis at 0.05 level of significance. The findings revealed that digital learning platforms is significantly effective in enhancing the undergraduate student proficiency in economics education. The study recommended that government and the school management should enhance technical reliability of the teachers and students to improve integration, application, accessibility and utilization of digital learning tools in tertiary institutions.

Keywords; Education, Technology, Self-Assessment, Digital Learning Platforms, Proficiency, Economics Education.

Introduction

Education has been affected by ICT, which has undoubtedly affected teaching, learning and research. Education is a fundamental human process; a matter of values and action. Education of any nation is a crucial tool for her socio-economic development (Isiozor, et al., 2017).

Technology, in one form or another, has always been part of the teaching and learning environment. It is part of the teacher's professional toolbox. In other words, it is among the resources that teachers use to help facilitate student learning. Technology has changed dramatically over recent decades. The increasing variety and accessibility of technology has expanded the toolbox and the opportunities teachers have to use technology for effective teaching (Anum, et al., 2021). Now, technology integration in education has become an inevitable and transformative force for the transition of education into a global market. In this 21st century, Technology has changed the global macroeconomic landscape. Globally, humans are experiencing an extraordinary transitioning. While increased technology adoption has helped many people in their daily lives, for some groups, traditional face-to-face learning methods are increasingly supplemented or replaced by digital technologies, which offer greater accessibility, flexibility, and interactive learning experiences for economics education students (Odijie & Golley 2025; Alam et al., 2021; Al-Fraihat et al., 2020).

Economics Education Economics is subject discipline thought in Nigerian tertiary institution, especially in teacher training programmes. Economics education is a social science course that focuses on how educational methodologies can be applied in the teaching and learning of economic behaviour of human beings towards its choice of commodity, incorporates scarce productive resources and the distribution of the scarce resources for consumption, in such a way that cost is reduced. , Economics is a social science that adopts methodological and analytical approach in solving the basic needs of the micro and macro society (Anum, & Patterson, 2021). It is important that of economics education undergraduate be proficient in the use of digital learning platform and its gadgets since the usefulness of technology cannot be over emphasized. A digital learning platform is an online environment designed to facilitate educational experiences through technology. These platforms enable learners to access a variety of resources, courses, and interactive tools, promoting engagement and knowledge acquisition. Digital technologies have evolved from stand-alone projects to networks of tools and programmes that connect people and things across the world, and help address personal and global challenges. Digital innovation has demonstrated powers to complement, enrich and transform education, and has the potential to speed up progress towards Sustainable Development Goal 4 (SDG 4) for education and transform modes of provision of universal access to learning. It can enhance the quality and relevance of learning, strengthen inclusion, and improve education administration and governance. In times of crises, distance learning can mitigate the effects of education disruption and school closures (UNESCO 2024). With the rapid development of digital technology and the continuous advancement of Internet + Education, teaching and learning in digital environments have gradually become inevitable trends of reform and innovation in higher education. Furthermore, college students' learning environment is also transitioning from traditional space to ICT-enriched digital space, presenting digital learning is becoming a new normal of college students' learning and development.

The rapid advancement of digital technologies has transformed the educational landscape globally, reshaping how knowledge is delivered, accessed, and assessed. In higher education,

digital learning platforms have become integral to teaching and learning processes. These platforms promise flexibility, accessibility, and personalized learning experiences. However, despite their increasing adoption, questions remain about their effectiveness in enhancing undergraduate students' proficiency in specific disciplines, particularly Economics Education. Economics, as a field of study, requires not only theoretical understanding but also analytical, problem-solving, and application skills. The extent to which digital learning platforms foster these competencies among undergraduates is still uncertain, creating a pressing need for systematic evaluation. Another dimension of the problem lies in the diversity of digital platforms themselves. Some platforms emphasize content delivery, while others focus on assessment, collaboration, or gamification. Without a clear framework for evaluating their impact, institutions risk investing in tools that may not align with the specific learning outcomes of Economics Education. For instance, a platform designed primarily for rote memorization may not adequately support the development of critical thinking and analytical skills required in economics. This mismatch between platform capabilities and educational objectives underscores the need for self-assessment studies that capture students' perspectives on how these tools influence their learning. In summary, the problem centres on the uncertainty surrounding the effectiveness of digital learning platforms in enhancing undergraduate students' proficiency in Economics Education. While these platforms hold promise, their actual impact remains underexplored, particularly from the perspective of students themselves. Key issues include the variability of platform capabilities, infrastructural and contextual challenges, misalignment with traditional assessments, and the multidimensional nature of proficiency in economics. Without systematic self-assessment studies, educators and policymakers lack the evidence needed to make informed decisions about integrating digital platforms into Economics Education. Addressing this problem is essential to ensure that digital learning not only complements traditional methods but also genuinely enhances students' competence, confidence, and readiness to apply economic knowledge in real-world contexts.

The main purpose of this study is on self-assessment of digital learning platforms on undergraduate students' proficiency in economics education in Prince Abubakar Audu University, Ayingba, Kogi State. Specifically, the study sought to: -

1. Assess undergraduate students' perceptions of digital learning platforms' effectiveness in economics education.
2. Evaluate the impact of digital learning platforms on students' proficiency in economics.
3. Identify challenges faced by undergraduate students when using digital learning platforms for economics education

The following research questions were posed by the researchers in line with the purpose to guide the study:

- How do undergraduate students perceive the effectiveness of digital learning platforms in enhancing their economics education?

- What impact do digital learning platforms have on undergraduate students' proficiency in economics?
- What challenges do undergraduate students face when using digital learning platforms for economics education?

The following null hypotheses were formulated and tested at 0.05 level of significance:

- **H_1:** There is no significant difference in economics education proficiency between male and female undergraduate students using digital learning platforms

Literature Review

A digital learning platform is an integrated, web-based software system designed to facilitate education, training, and knowledge management through technology. These platforms (e.g., LMS, LCMS) provide a virtual environment to host, deliver, track, and manage interactive educational content, fostering both synchronous and asynchronous learning, and allowing, for example, personalized, anytime-anywhere access. A digital learning platform is an online, technology-driven environment that facilitates, manages, and supports the entire educational process, offering, from anywhere, access to courses, content, and interactive tools. These platforms foster personalized learning, collaboration, and engagement through multimedia resources, real-time analytics, and assessments, transforming traditional education into a flexible, accessible, and interactive experience. According to digital learning Institute (2026), A Digital Learning Platform (DLP) is a generic term for online learning platforms. Digital learning has become part of our everyday lives, either as part of our work through corporate training and development, for our own personal projects or hobbies, or as part of ongoing education.

Digital learning platforms' capacity to evolve with the changing needs of diverse economics education student population and the ability of the school management to maintain and update these platforms determine their long-term sustainability. While digital platforms are scalable, research shows that they lose some of their lustre when they cannot adapt to the unique requirements of students from a variety of socioeconomic backgrounds. Digital learning greatly enhances student outcomes, such as test scores and retention rates, in high-income regions where schools have access to modern technology and students have dependable internet connections. However, low-income communities suffer from worse academic performance and lower completion rates because support systems such as digital literacy programs and technical assistance are not available. Digital platforms have high potential for supporting learning processes. However, existing studies focus on the use of digital platforms among governmental organizations (Falco & Kleinhans, 2018; Johnson et al., 2021; Rolland et al., 2018),

Digital learning platforms like Moodle, Blackboard, Canvas, and Google Classroom, as well as video conferencing and virtual classrooms like Zoom, Google Meet, and Cisco Webex, have transformed economics education classroom. These platforms make instructional information easily accessible, encouraging teamwork and self-directed learning. Digital learning platforms

have transformed the teaching of economics education, especially in higher education. Researchers like Shah (2024) who examined the economics of education: evaluating the impact of digital learning platforms, found out that government investment has a positive coefficient of 0.00198, meaning that an increase in investment (in millions of USD) is positively correlated with completion rates. Digital learning platforms has both its benefit and issues when compared to more traditional ways of learning from an economic point of view. Unfortunately, the way classrooms, lecture halls, and other on-campus buildings are constructed means that traditional education has high fixed costs. Fixed costs that put a lot of stress on school budgets include building upkeep, utilities, teacher pay, and running the school. Because digital learning platforms do not need as much physical infrastructure, they can grow faster and spend less on technology-based lessons. Schools should have buildings, grounds, and services like cafeterias, libraries, labs, dorms, and residence halls. These investments in infrastructure are necessary to meet the standards of today's schools, but they can be costly and often need to be kept up to date and fixed over time (Shah 2024).

Digital learning platforms are increasingly recognized for their potential to address gender ine qualities and promote inclusivity. These platforms offer tailored educational experiences that cater to the unique needs and challenges faced by girls and boys in the digital space. One great thing about digital learning platforms is that they can help students who might not be able to go to a regular school. Students who live in low-income, rural, or otherwise inaccessible areas can get an education despite physical and logistical problems by using online resources. Online learning environments are also great for students who have disabilities or other issues that make going to a regular school hard. To be available, this, on the contrary, needs digital infrastructure, like having the right devices and a steady internet connection. People in low-income countries cannot get to these resources, which is a big problem when we try to minimize the digital divide. A lot of money needs to be spent on infrastructure, supporting systems, and teacher training before digital platforms can fully live up to their promise of making education more accessible. The goal of these platforms is to make learning more personalized, but if accessibility is not a top priority, it may make inequality worse. Some things that might make digital education less accessible are a lack of content in multiple languages, not enough help for students with disabilities, and user interfaces that are not well thought out. Digital platforms have also been studied for their function in collaborative learning, a key component of Sociocultural Theory. Lin et al. (2019) found that collaborative work and peer assessment platforms significantly increased learners' practical confidence. Luo et al. (2022) also noted that virtual classrooms foster meaningful relationships. Teacher's presence in online learning has also been discussed. Borup et al. (2020) found that Zoom and Canvas users were more engaged and proficient in language. The study also found teacher availability inconsistencies, especially in longer sessions, which may limit platforms' efficacy. Despite their growing use, platform-specific issues are understudied. Huang and Zhang (2021) found that user interface complexity and content localization may hurt user experience. Furthermore, privacy risks related with data harvesting on platforms such as Google Classroom

and Microsoft Teams have been noted (Alqahtani et al., 2022), but less study has studied the impact of these concerns on students' preparedness to utilize digital technologies.

Proficiency is the possession of skills and ability to operate and handle technical works. In this study proficiency implies the ability of students to handle and operate digital learning platform issues, use of application software, use of internet resources, peripheral ICT equipment, learning management system such as Moodle, Blackboard, Canvas, and Google Classroom as well as video conferencing and virtual classrooms like Zoom, Google Meet, and Cisco Webex. It is therefore necessary that economics education undergraduate students possess skills in manipulation of keyboard, type-set with computer, create a basic presentation package, modify colours of text, lines and spaces on a slide, access an internet site via its website address, send and receive e-mail messages, use the web camera to communicate on the Internet, connect and use different categories of digital printers, display a slide within a presentation, select the slide layout command, select Microsoft word from the sub menu and create a new document and save. Gaining proficiency in the above major areas of digital learning platforms will help the students to apply such skills to their education and also help to acquaint them with new technological innovations. One way of determining or evaluating the proficiency of someone is through self-assessment.

Self-assessment of digital learning platforms is a generally positive, though varied, impact on undergraduate students' proficiency in economics education. While digital tools foster increased engagement, self-directed learning, and improved understanding of complex economic concepts, their effectiveness is heavily dependent on the student's own digital literacy, access to infrastructure, and the quality of the pedagogical design. This is an assessment of economics education students' abilities and feelings towards digital learning platforms they are exposed to during their school days. According to Wardana et al (2022) argued that it is important evaluation that must be carried out as a reference for digital learning platforms, looking at various conductive and contextual issues related to this research. Assessment is often carried out or studied with a focus on the positive effects it has on the student's proficiency in economics education resulting from the use of digital learning platform. In other words, the role of digital learning platforms in enhancing undergraduate students proficiency in economics education involves the evaluation of the process of participating in some form of critical thinking. Bloom's (1956) Taxonomy of Educational Objectives certainly supports this idea. Bloom placed assessment at the top of the cognitive hierarchy of educational goals for learning. For an important class of learning outcomes, the instructional system must make explicit provision for students themselves to acquire assessment expertise. It is argued that providing direct and authentic evaluative.

Theoretically, this research is anchored on Constructivist Learning Theory (CLT) and Technology Acceptance Model (TAM). CLT positions students as active constructors of meaning who integrate new information with prior knowledge through exploration, collaboration and reflection (Mohammed & Kınyo 2020; Albert & Emery 2017). Digital learning platform sharpen this constructivist edge by surrounding learners with manipulable

resources: interactive smartboards transform static lessons into tactile problem-spaces, while e-learning platforms Google Classroom or Zoom open peer-to-peer dialogue beyond the classroom walls (Lascsakova 2024; Afify 2018). Recent evidence confirms that such technology-rich, learner-centred environments deepen engagement, higher-order thinking and retention (Farrelly et al. 2024; Jayasinghe 2024). TAM complements CLT by explaining why students embrace or resist the very tools that could facilitate active learning. Davis (1989) argues that adoption hinges on perceived usefulness (PU) and perceived ease of use (PEOU); subsequent extensions add attitude, social influence and behavioural intention (Hong et al. 2011; Salloum et al. 2019). TAM studies thus direct attention to external levers interface design, help-desk responsiveness, policy incentives that can shift perceptions and intentions. Nonetheless, critics note the model's limited sensitivity to structural barriers: affordability, connectivity and device ownership can veto adoption even when PU and PEOU are high (Joseph 2024; Ozokeraha & Omotegbona 2020). CLT and TAM provide a dual-lens framework for this desk-based review of e-learning platforms, interactive smartboards and educational software at Delta State Polytechnic, Otefe-Oghara. CLT clarifies how these tools should stimulate deeper learning through interactive tasks, collaborative knowledge-building and authentic problem-solving while TAM elucidates whether students perceive them as accessible and worthwhile, and therefore actually use them (Farrelly et al. 2024; Salloum et al. 2019). Integrating the two theories allows the study to interrogate both pedagogical effectiveness and adoption dynamics, revealing points where instructional design succeeds yet user acceptance falters. By mapping empirical findings onto this composite framework, the research can recommend holistic interventions upgraded infrastructure, targeted digital-literacy workshops, faculty development programmes that simultaneously nurture constructivist learning and improve technology acceptance, closing the performance gap highlighted in Nigerian tertiary education.

Empirically, Moca, and Badulescu, (2024) study examined how digital literacy skills influence students' ability to engage with economics subjects through digital platforms. Findings revealed that students with higher digital literacy demonstrated better comprehension and application of economic concepts. Iro-Idoro, and Jimoh, (2025) investigated the relationship between digital literacy and students' proficiency in research activities, including economics-related tasks. Results showed that while students increasingly use digital tools, limited skills hinder their ability to produce credible academic outputs. Similarly, Agbede, (2025) using a quasi-experimental design, this study assessed how virtual learning technologies impact economics students in Abuja, Nigeria. Findings indicated significant improvements in students' interest and achievement when digital platforms were integrated into teaching. Habib (2024) analyzed e-learning initiatives such as the National Open University of Nigeria (NOUN) and mobile-based platforms. Results showed that e-learning positively influenced skill acquisition and workforce readiness, including economics-related competencies, though challenges like low digital literacy persisted. Adetona, (2024) employed the Technology Acceptance Model (TAM), this mixed-methods study examined EdTech adoption among undergraduates. It found that perceived usefulness, infrastructure quality, and digital literacy

significantly predicted students' engagement and proficiency in economics education. In view of the increasing importance of digital learning platform, this study extends existing digital learning platform frameworks by integrating emerging dimensions of critical awareness related to proficiency of economics education undergraduate. Specifically, this research conceptualizes digital learning platform not only as the technical ability to use digital platforms, but also as a socio-cognitive capacity to critically assess, verify, and ethically engage with proficiency.

Methodology

The study adopts a descriptive survey design. A descriptive survey design is used to describe characteristics of a population being studied. It aims to provide a snapshot of the current state of affairs, often using questionnaires (creswell, 2014). A total population of 1001 economics education undergraduate of Prince Abubakar Audu University, Kogi State constitute the unit from 100 level to 400 level. This research adopted simple random sampling to sample the 300 level students which are made up of two hundred and twenty students (220 students. The undergraduate students were grouped into male and female. The inclusion criteria included only returning undergraduate students who has spent at least two years in school, excluding fresh students and Final year students. Primary data for the study was obtained through questionnaires filled by economics education undergraduate students. While some were damage or wrongly filled, two hundred and twelve (212 students) filled their questionnaires correctly and considered ok for the study. The questionnaires were subjected for face and content validity by specialist from Education Technology, Measurement and Evaluation and Economics Education unit. with the same items were administered to economics education undergraduate students. Internal consistency was established on a one-shot method of administration using Cronbach alpha statistic with an index of 0.86 indicating high reliability of the research instrument. The rating scale was administered by hand and was retrieved personally by the researchers to ensure a high percent return rate Data analysis included means, standard deviations, and independent samples t-tests, conducted using the Statistical Package for the Social Sciences (IBM SPSS Version 20,). The descriptive statistics were used to answer the research questions while the t-test was used to test the hypothesis at 0.05 level of significance. Decision rule: any score below the criterion means of 2.5 is rejected and any score above of the criterion mean is accepted.

Result

Research Question 1

How do undergraduate students perceive the effectiveness of digital learning platforms in enhancing their economics education?

Table 1: The Mean and Standard Deviation of how do undergraduate students perceive the effectiveness of digital learning platforms in enhancing their economics education

S/N	Item Statement	Male n=103			Female n=109		
		$\bar{X}$	SD	Decision	$\bar{X}$	SD	Decision
1	Digital learning platforms make economics concepts easier to understand	3.00	1.12	Agree	2.56	1.15	Agree
2	I prefer digital platforms over traditional lectures for economics.	3.14	1.07	Agree	2.76	1.18	Agree
3	Digital platforms help e engage more with economics material.	3.22	.90	Agree	3.12	.86	Agree
4	I find digital resources (videos, simulations) useful for economics	3.08	1.05	Agree	3.11	1.11	Agree
5	Digital platforms improve my economics exam performance	2.81	1.33	Agree	2.51	1.41	Agree
6	I enjoy using digital platforms for economics learning	2.92	1.11	Agree	2.64	1.18	Agree
7	Digital platforms provide sufficient support for economics assignments	3.06	1.01	Agree	3.05	1.03	Agree
8	I feel more confident in economics due to digital platforms	2.89	1.24	Agree	2.76	1.22	Agree
9	Digital platforms make economics learning more interactive	3.22	.90	Agree	3.29	.99	Agree
10	Overall, digital platforms enhance my economics learning experience	3.08	1.05	Agree	3.06	.98	Agree
	CLUSTER MEAN	**3.04**	**0.95**		**2.89**	**1.11**	

The analysis of Table 1, which presents the mean and standard deviation of how undergraduate students perceive the effectiveness of digital learning platforms in enhancing their economics

education, indicates a high extent of perception. The mean scores across all ten indicators range above the criterion mean, with a grand mean of 3.04 for the male and 2.89 for the female students, suggesting that digital learning platforms make economics concepts easier to understand, digital platforms help me engage more with economics material, and digital platforms enhance my economics learning experience. The findings imply that digital learning platforms is significantly effective in enhancing the undergraduate student's proficiency in economics education.

Research Question 2: What impact do digital learning platforms have on undergraduate students' proficiency in economics?

Table 2: The Mean and Standard Deviation of impact do digital learning platforms have on undergraduate students' proficiency in economics?

S/N	Item Statement	Male n=103			Female n=109		
		$\bar{X}$	SD	Decision	$\bar{X}$	SD	Decision
11	Digital platforms improve my understanding of economics concepts	3.08	1.16	Agree	2.80	1.26	Agree
12	I perform better in economics tests using digital platforms	3.11	1.09	Agree	3.13	1.21	Agree
13	Digital platforms enhance my ability to apply economics principles	3.11	1.09	Agree	3.02	1.14	Agree
14	I retain economics information better through digital learning	3.14	1.13	Agree	3.13	1.21	Agree
15	Digital platforms help me analyze economics data more effectively	3.11	1.09	Agree	3.08	1.15	Agree
16	My economics grades have improved since using digital platforms	3.08	1.05	Agree	2.89	1.27	Agree
17	Digital platforms develop my critical thinking in economics	3.36	.93	Agree	3.26	.89	Agree
18	I can solve economics problems faster using digital tools	3.06	1.01	Agree	2.96	.96	Agree

19	Digital platforms increase my interest in economics topics	3.08	1.20	Agree	2.59	1.36	Agree
20	I am more motivated to learn economics due to digital platforms	2.94	1.17	Agree	2.73	1.14	Agree
	CLUSTER MEAN	**3.11**	**1.09**		**2.96**	**1.16**	

The analysis of Table 2, which presents the mean and standard deviation of the impact digital learning platforms have on undergraduate students' proficiency in economics education, indicates a high impact of perception. The mean scores across all ten indicators range above the criterion mean, with a grand mean of 3.11 for the male and 2.96 for the female students, suggesting that digital learning platforms have a high impact undergraduate students' proficiency in economics education. The findings imply that digital learning platforms significantly impacted the undergraduate student's proficiency in economics education.

Research Question 3: What challenges do undergraduate students face when using digital learning platforms for economics education?

Table 3: The Mean and Standard Deviation of the challenges do undergraduate students face when using digital learning platforms for economics education

S/N	**Item Statement**	**Male n=103**			**Female n=109**		
		$\bar{X}$	**SD**	**Decision**	**$\bar{X}$**	**SD**	**Decision**
21	I struggle with technical issues on digital platforms	2.56	1.15	Agree	3.00	1.12	Agree
22	Internet connectivity affects my use of digital platforms	2.76	1.18	Agree	3.14	1.07	Agree
23	I find digital platforms less interactive than traditional classes.	2.16	1.19	Disagree	2.19	1.26	Disagree
24	Digital platforms lack sufficient economics resources	1.70	1.09	Disagree	1.61	.99	Disagree
25	I face difficulties navigating digital platforms for economics.	2.51	1.41	Agree	2.81	1.33	Agree

26	Digital platforms require more self-discipline than traditional classes	2.64	1.18	Agree	2.92	1.11	Agree
27	I miss face-to-face interactions in digital economics classes	2.16	1.11	Disagree	1.78	1.05	Disagree
28	Digital platforms are not user-friendly for economics learning	2.76	1.18	Agree	2.89	1.24	Agree
29	I have limited access to devices for digital learning	3.29	.99	Agree	3.22	1.05	Agree
30	Digital platforms don't cater to my learning style in economics	1.55	.91	Disagree	1.67	.99	Disagree
		2.41	1.14		2.52	1.12	

The analysis of Table 3, which presents the mean and standard deviation of the challenges undergraduate students face when using digital learning platforms for economics education. Both the male and female students agreed on items 21,22,25,26,28 and 29, but disagreed with items 23, 24, 27 and 30. A mean score of 2.41 was recorded for the male students which is below the criterion score and seen as disagreed, while the females' students had a mean score of 2.52 which is above the criterion score and was overly agreed. This simply mean than the male students disagreed with the challenges while the female students agreed with the challenges.

Test of Hypotheses

H_1: There is no significant difference in economics education proficiency between male and female undergraduate students using digital learning platforms

Table 4: Independent t-test summary of participants' overall perception of undergraduate students using digital learning platforms. Undergraduate (n = 212).

Students	**N**	**$\bar{X}$**	**S. D**	**df**	**t-value**	**p-value**
Male	103	2.85	1.07	2.10	0.399	0.690
Female	**109**	2.79	1.12			

Results of the hypothesis testing, presented in Table 4, showed no significant difference in perception between male and female Economics Education undergraduate (P= -0.69). This

result indicates that participants had a high perception on digital learning platform on undergraduate students' proficiency in economics education.

Discussion

This study investigated self-assessment of digital learning platforms on undergraduate students' proficiency in economics education, Nigeria. digital learning platforms is a significant measure of undergraduate students' proficiency in economics education as it adopts best practice in pedagogical approach. The findings indicate that participants generally perceived digital learning platforms with strong perceptions regarding the degree to which it impacts undergraduate students' proficiency in economics education.

The overall positive perception (mean=3.04 & 2.89) aligns with findings from previous studies among tertiary students. Adebowale, et al., (2025); Al-Mawee (2021); & Sun et al., (2020) Adebowale, et al., (2025) study shows that multimedia resources and interactive exercises on digital platforms like Moodle and Blackboard help students enhance core language abilities, similar to Sun et al. (2020) and Al-Mawee (2021). The strong improvement in writing (mean increase = 5.4 points, d = 1.35) and listening (mean increase = 4.1 points, d = 1.02) supports earlier studies finding that gamified exercises and video-based training work.but in contrast with other findings (El Mourabit et al, 2023; Hamdan, et al., 2020; & Nasrat, et. al., 2020). For example, Hamdan et al. (2020), choosing the right pedagogical model affects or has consequences for online learning. Teachers have to put in a significant amount of extra work when creating an online course, as indicated by Nasrat et al. (2020). El Mourabit et al. (2023) contend further that a large number of students educators in underdeveloped nations lack experience translating their subject matter expertise into virtual content

Participants also noted the **w**hat impact do digital learning platforms have on undergraduate students' proficiency in economics. They perceived digital platforms improve my understanding of economics concepts, they perform better in economics tests using digital platforms, digital platforms enhance my ability to apply economics principles, it retain economics information better through digital learning, digital platforms help me analyze economics data more effectively, economics grades have improved since using digital platforms, digital platforms develop my critical thinking in economics, can solve economics problems faster using digital tools, digital platforms increase my interest in economics topics and makes the student more motivated to learn economics due to digital platforms. In consonance to this finding is Dedi et al., (2026) digital platforms enable learners to practice skills in interactive contexts, enhancing retention and application. Stockwell (2016) found that mobile-assisted learning impacts learner autonomy and personalized learning experiences. Blake (2013) reported that technology-enhanced instruction improves both linguistic skills and critical thinking competencies.

The findings also revealed the challenges undergraduate students face when using digital learning platforms for economics education. While the male students fell below the criterion mean but the female students agreed on the identified challenges. In agreement to this finding

is Abou, and Alnajjar, (2024) low digital health literacy and digital knowledge were impacting tool utilization, among students. Adebowale et al., (2025 reported in their study that participants experienced various obstacles to learning. One issue was the lack of real-time engagement with teachers and peers, which impaired speaking and listening abilities. Platform crashes, bad internet connectivity, and obsolete software disrupted learning. Internet access concerns (74.5%) were the biggest hurdle, followed by instructor engagement (61.5%) and comments (49%). These issues align with Luo and Yang's (2021) results on the digital divide and learning outcomes.

The results of this study also showed no significant difference in the overall perception of Economics Education proficiency by undergraduate, indicating that both the male and female undergraduate students had similar views on digital learning platforms. This result is in agreement with the findings of Piyali, and Priya (2025),whose findings shows that there was significant difference in access to digital education between male and female. The positive t value indicates that the male students have a significantly higher level of access to digital education compared to female students. In contrast, Olugbade et al., (2025) study underscore the pressing need for ongoing evaluation of digital training programs to ensure they remain responsive to the unique needs of girl educators.

Conclusion

This study shows how digital learning platforms have impacted the proficiency of economics education undergraduates. Digital learning platforms such as Interactive, multimedia, and gamified learning components develop their critical thinking in economics, as revealed by this study. Discussion forums and individualized feedback have also increased student engagement and motivation, creating a flexible learning environment. Despite these successes, challenges persist. Some users have had trouble studying due to internet access and platform instability. Lack of instructor involvement on digital platforms has also revealed academic relationship challenges, as well as the students lack of self-discipline especially with the male student, compared to the traditional classes. These limits stress the need for stronger technical infrastructures and pedagogical frameworks to maximize platform potential. This research suggests more extensive online education possibilities beyond economics education learning outcomes. Effectively used digital tools can foster critical thinking, teamwork, and lifelong learning. However, more research is needed to understand their benefits fully. Future research should examine the cultural adaptation of digital learning platform content for various learners, with the inclusion of learners in rural areas, and the long-term effects of digital education on academic success and employment.

Recommendations

4. Government and the school management should enhance technical reliability of the teachers and students to improve integration, application, accessibility and utilization of digital learning tools in tertiary institutions.

5. Universities should provide digital literacy programs that educate students on the best ways of using digital platforms, online privacy and data protection

6. University administrators and government agencies should work towards improving access to educational software by providing licensed versions of essential academic programs. This can be achieved through institutional subscriptions, ensuring affordability for all students. Also, technology departments and institutional IT support teams should focus on improving digital infrastructure by expanding internet connectivity and providing ongoing technical support to ensure the seamless adoption and utilization of learning technologies.

References

Abou, H. & Alnajjar, H. (2024) Digital proficiency: assessing knowledge, attitudes, and skills in digital transformation, health literacy, and artificial intelligence among university nursing students. *BMC Medical Education 24(508) 2-11* *https://doi.org/10.1186/s12909-024-05482-*

Adebowale, A. A., Omidun, D. O., Abiahu, N., & Odetayo, I. O. (2025) Examining the impact of digital learning platforms on English Language proficiency of tertiary institution Students in Lagos. *International Journal of African Research and Sustainability Studies, 7(2) 61-80 DOI: https://doi.org/10.70382/caijarss.v7i2.005*

Adetona, B. O. (2024). *The Future of Digital Learning: Post-Pandemic EdTech Adoption in Nigeria and Globally.*

agbede, o. (2025). effect of virtual learning technology on economics students' learning interest and academic achievement. *Education Annals, 2(5), 128–137.*

Albert, A. B., & Emery, J. L. (2017). Putting constructivist learning theory into practice: *Using educational technology to engage students and assess their learning*. In Brick & Click Proceedings: An Academic Library Conference, Northwest Missouri State University, November 3 (pp. 78-86).

Anum, O. A., & Patterson, E. N. (2021) Modelling instructional strategy as an effective tool for economics students academic achievement. *African Journal of Innovations and Reforms in Educational Management. 2 (1) 152-160.*

Anum, O. A., Oparaiwu, N. A. & Chris-Obi, H. O. **(2021)** Integration of mobile learning technology into the teaching and learning of economics and accounting for enhanced academic performance of students in Imo State. *Journal of Educational Studies and Research. 8 (1) 310-323*

Bingham, A. J., & Witkowsky, P. (2022). Deductive and inductive approaches to qualitative data analysis. In C. Vanover, P. Mihas, & J. Saldaña (Eds), *Analyzing and interpreting qualitative data: After the interview.* Sage Publications. DOI:10.3102/1682697

Blake, R. (2013). Brave new digital classroom: Technology and foreign language learning. Georgetown University Press. Brave new digital classroom : technology and foreign language learning : Blake, Robert J., 1951- : Free Download, Borrow, and Streaming : Internet Archive

Borup, J., West, R. E., & Graham, C. R. (2020). The role of instructor presence in promoting language learning in virtual classrooms. *Distance Education, 41(4), 563–581. https://doi.org/10.1080/01587919.2020.1821604*

Cohen, L., Manion, L., & Morrison, K. (2018). Research methods in education. (8th ed.). Routledge. Coombs, H. (2022). *Case study research: Single or multiple [White paper*]. Southern Utah University. https://doi.org/10.5281/zenodo.7604301.

Creswell, J. W. (2014) *Research design: Qualitativ, Quantitative, and mixed methods approaches*. Sage publications https://us.sagepub.com/en-us/nam/research-design/book237357

Dedi, D, Rachman, A., Mushthoza, D. A., Prastawa, S, Uktolseja, L. J., Manuhutu, M. A., & Ningsih, D. S. (2026) Digital learning platforms and their impact on English Language proficiency. *Jurnal Edu Research Indonesian Institute for Corporate Learning and Studies 6(4) 2542- 2550* ***DOI:*** *https://doi.org/10.47827/jer.v6i4.1889* DIGITAL LEARNING PLATFORMS AND THEIR IMPACT ON ENGLISH LANGUAGE PROFICIENCY | EDU RESEARCH

Digital Learning Institute (2026). The Importance of Digital Learning Platforms. https://www.digitallearninginstitute.com/blog/the-importance-of-digital-learning-platforms

El Mourabit, I., Andaloussi, S. J., Miyara, M., & Ouchetto, O. (2023). Identi cation of Online Learning Challenges During the COVID-19 Pandemic in developing countries: A case study of a metropolis faculty of sciences. *International Journal of Emerging Technologies in Learning, 18(8), 238-258. https://doi.org/10.3991/ijet.v18i08.36747*

Falco, E., & Kleinhans, R. (2018). Beyond technology: Identifying local government challenges for using digital platforms for citizen engagement. *International Journal of Information Management, 40(1) 17-20*. https://doi.org/10.1016/j.ijinfomgt.2018.01.007

Farrelly, F., Wilson, S., Meehan, K., Hyndman, J., & Cowan, P. (2024). *Constructivism in tertiary education: Student learning to promote engagement, collaboration, and active learning*. ICERI2024 Proceedings, 2653–2661. IATED.

Georgopoulou, M. S., Troussas, C., Krouska, A. & Sgouropoulou, C. (2025) Digital Literacy in Higher Education: Examining University Students' Competence in Online Information Practices. *Computers* 2025, *14*(12), 528; https://doi.org/10.3390/computers14120528

Habib, S. B. (2024). *Exploring the Intersection of E-Learning and Economic Development in Nigeria.*

Hamdan, M., Jaidin, J. H., Fithriyah, M., & Anshari, M. (2020). E-learning in time of COVID-19 pandemic: Challenges & experiences. *In 2020 sixth international conference on e-learning (econf) (pp. 12 16). IEEE.*

Hong, J. C., Hwang, M. Y., Hsu, H. F., Wong, W. T., & Chen, M. Y. (2011). Applying the technology acceptance model in a study of the factors affecting usage of the Taiwan digital archives system. *Computers & Education, 57(3), 2086-2094*.

Iroidoro, C. B., & Jimoh, T. A. (2025). *digital literacy and students' research competence: Empirical evidence from a Nigerian Polytechnic. KWASU International Journal of Education, 8(1).71-81*

Isiozor, G. N. & Anum, O. A (2017) Extent of Utilizing Information and Communication Technology in the Teaching of Economics for a Sustainable National Development. *Journal of Educational Studies and Research*. *7 (1) 327-337*

Jayasinghe, S. (2024). Promoting active learning with ChatGPT: A constructivist approach in Sri Lankan higher education. *Journal of Applied Learning and Teaching*, 7(2), 11-23.

Johnson, N., Druckenmiller, M. L., Danielsen, F., & Pulsifer, P. L. (2021). The use of digital platforms for community-based monitoring. *BioScience,* 71(5), 452-466. https://doi.org/10.1093/biosci/biaa162

Joseph, G. (2024). The need to market library services and itschallenges to academic librarians: the case of Delta State Polytechnic Library, Otefe-Oghara. Ayika–*Journal of Environment and Politics in Africa*, 6(1), 84-101.

Lascsakova, M. (2024). The constructivist approach as a concept of active learning and teaching of optimization processes at technical universities. Acta Logistica (AL), 11(1).

Lin, H., Warschauer, M., & Blake, R. (2019). Language learning through social networks: Perceptions and challenges. *Language Learning & Technology*, 23(2), 101–123.

Luo N., Zhang M., Qi, D. (2018) Effects of interactions on students' sense of community in e-learning environment Computers *Computers & Education 115(1)151-160*

Luo W. & Yang W (2021). Narrowing the digital divide in early childhood: Technological advances and curriculum. *Early Education and Development 33(2) 1-3*

Moca, M., & Badulescu, A. (2024). *An Evaluation of Students' Proficiency in Digital Literacy at Economic Subjects.* Faculty of Economic Sciences, University of Oradea, Romania.

Mohammed, S., & Kınyo, L. (2020). Constructivist theory as a foundation for the utilization of digital technology in the lifelong learning process. *Turkish Online Journal of Distance Education, 21(4), 90-109.*

Nasrat, N., Khamosh, A., & Lavangnananda, K. (2020). Challenges and hurdles to e- learning implementation during COVID-19 outbreak: A case of Shaikh Zayed University. In 2020 *International Conference on Informatics, Multimedia, Cyber and Information System (pp. 242-246). IEEE.*

Odijie, K. & Doris, O. G,. (2025) The impact of digital learning tools on student performance in Delta State polytechnic Otefe-Oghara. *International Journal of Innovative Finance and Economics Research 13(3):17-26,* https://www.seahipublications.org/wp-content/uploads/2025/07/IJIFER-S-2-2025.pdf

Olugbade, D., Olurinola, O., Tolorunleke, E.A. (2025) Promoting SDG 4 in Nigeria: gender-related impacts of UNESCO MGIEP digital teacher training course. *Discov Educ* ***4****,(1) 547-555*. https://doi.org/10.1007/s44217-025-00961-1

Ozokeraha, C., & Omotegbona, P. (2020). The impact of socialization on academic performance in Delta State Polytechnic Otefe, Oghara. *Innovative Journal of Science, 2(2), 211-218.*

Piyali, B. & Priya, M. (2025) Gender perspectives on digital education: A comparative analysis. *The Social Science Review; A Multidisciplinary Journal*. *Vol. 3(2):223-232 DOI:10.70096/tssr.250302031*

Rolland, K.H., Mathiassen, L., & Rai, A. (2018). Managing digital platforms in user organizations: The interactions between digital options and digital debt. *Information systems research, 29(2), 419-443.* https://doi.org/10.1287/isre.2018.0788

Salloum, S. A., Alhamad, A. Q. M., Al-Emran, M., Monem, A. A., & Shaalan, K. (2019). *Exploring students' acceptance of e-learning through the development of a comprehensive technology acceptance model.* IEEE access, 7, 128445-128462.

Serwornoo, M. Y. W., Danso, S., Azanu, B., Semarco, S. K. M. & Aidoo, E. A. K. (2024) Use of Digital Platforms Among University Students: *A Systematic Literature Review 11(2)181-190*

Shah, S. S. (2024) The Economics of Education: Evaluating the Impact of Digital Learning Platforms. *DOI: https://doi.org/10.70389/PJCS.100001*

Silverman, D. (2021). *Doing qualitative research (5th ed).* London: Sage.

Stockwell, G. (2016). Using mobile phones for vocabulary activities: Examining the effect of platform. *Language Learning 11(1)85-94 https://doi.org/10.1016/j.langlearn.2016.06.005*

UNESCO (2024) *Digital learning platform.* https://www.unesco.org/en/query-list/d/digital-learning-platform

Vargas-Hernández, J. G. (2020). *New challenges and opportunities for corporate governance*: *Agency theory, social factors*. https://doi.org/10.1016/j.jbusres.2020.04.00.

Wallen., N. & Fraenkel., J. R. (2013). *Educational research: A guide to the research process*. Laurence Earlbaum Associates. https://doi.org/10.4324/9781410601001