TECHNICAL COLLEGE STUDENTS' ATTITUDE TOWARDS THE USE OF MOBILE APPS FOR LEARNING IN LAGOS STATE

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Abstract
Mobile apps are software applications designed to run on a mobile device such as a phone to enhance teaching-learning. However, technical college students' performance over the years has consistently been below average. Hence, this study examined the technical college students' attitude towards using mobile apps for learning in Lagos State. This study (i) ascertained the attitude of learners in the use of mobile apps for learning; and (ii) examined the effect of gender on attitude of technical college learners in the use of mobile apps for learning. The research was a descriptive research design of the survey type. The study sample was randomly drawn from six technical colleges in Lagos State. The respondents were 351 students, (166 were males and 178 were females). Mean score was used to answer research questions and independent sample t-test was used to the test hypothesis. The findings of the study were that: learners' attitude when using the Mobile Apps for learning was positive. There was no significant difference in technical college learners' attitude in using mobile apps for learning based on gender. It therefore means that when teachers are motivated to adopt mobile apps in instructional delivery process, teaching-learning process would be enhanced and made pleasurable for learners to learn. Consequently, it was recommended among others that the National Business and Technical Examination Board should encourage the use of mobile apps for teaching-learning process at technical college level.

Keywords: Attitude, Mobile Apps, Technical College Students

Introduction

In education, information and communication technology (ICT) is the adoption of computer-based tools to daily classroom activities, which enable learners to be prepared for the present digital age. Shuja (2019) defined ICT as a way of using the internet to communicate information using technology to effect smooth transmission of idea. The adoption of ICT in teaching-learning environment has changed the mode of instructional delivery and learning process, whereby the method of instruction has changed from teacher centered to learners centered. Wen, Gwendoline, and Lau, (2021) suggest that the application of ICT in classrooms necessitated the adoption of online applications that can efficiently arose learners' interest in learning and enhance their academic achievement, as learning is giving rise to the use of technology in classrooms by incorporating ICT devices that use of mobile application in teaching-learning process.

According to Hamidi (2018), mobile learning refers to the utilization of mobile devices for educational purposes, which installed on a mobile device (smart phone or tablet) that are used in the education process in schools. Mobile learning acknowledges that mobile phones and other digital technologies, such as tablets, and mobile applications hold great potential as tools for learning inside and outside school. Neufeld (2018) reported that educators are trying to adopt mobile technology into the classrooms. Mobile devices such as laptops, personal digital assistants, and mobile phones have become a learning tool with great potential in both classrooms and outdoor

learning. However, Mobile Applications, also known as Mobile Apps, is incorporated in order to assist in the process of knowledge transfer via mobile devices. Mobile Apps have been gaining space in the academic context due to the increase in m-learning. Mobile Apps provide the assistance and additional support provided to both teachers and students, particularly in technical colleges, are crucial for effective learning. This is especially true when computers are utilized to enhance educational experience

Technical Colleges have increasingly adopted Mobile Apps as tools for teaching, curriculum implementation, and learning. The integration of ICT into the classrooms is determined by factors, such as the contexts in which teachers interact, belief, and attitude towards teaching and learning. Students want to have more options to use Mobile Apps to study when and where students want. In other word, the use of personal devices afford students' ownership in learning and have great influence on students' academic performance. Mobile Apps opens the path for m-learning, which provides the learner with resources to be used anytime, influencing students to develop self-learning, because Mobile Apps make it possible to explore and train students' cognition, concretize learning and, improve students' academic performance in the sense that Mobile Apps provide access to information in different situations, places and help students improve and efficiently acquire knowledge. Among the factors that determine learners' responses towards the use of Mobile Apps for learning is gender. Gender issues have been linked with performance of students in academic tasks in several studies but without any definite conclusion. Davies et al. (2017) reviewed and suggested that current gender imbalance in technology and the role that technology will play in the future should be a concern for men and women, practitioners, policy makers and parents. However, Mobile Apps functionalities outside the academic environment are even more interesting, particularly due to the unlimited access to exercises, with the curriculum discussed during classes enabling the student to research the most varied subjects.

Statement of the Problem

National Business and Technical Examination Board (NABTEB) reports have been consistently recording poor academic performance of students that passed at credit level which had consistently been less than 50%. This problem of poor performance has major implications on a year advanced craft level and tertiary admission for instance; schools no longer produce adequate number of qualified candidates in science–based courses for tertiary admission. More so, the causes of student's poor performance were attributed to lack of high-quality instruction, poor teaching methods, unavailability of computer resources, lack of power supply, lack of qualified teachers, ill-equipped laboratories and libraries, inadequate learning resources, students' negative attitude towards learning due to the fact that only the theory aspect is being taught without the practical aspect resorts to students be apathetic and averse to learning (Garba & Onyebuchi 2015).

To address these challenges, technical colleges should adopt mobile apps to enhance teaching and learning. While numerous studies have explored students' attitudes toward mobile app use in tertiary institutions, there is limited research on this topic in the context of technical college students. This study aims to fill that gap by examining the attitudes of technical college students in Lagos State towards using mobile apps for learning.

Research Questions

1. How do technical college students in Lagos State perceive the use of mobile apps for learning?
2. Does gender affect the attitudes of technical college students in Lagos State towards using mobile apps for learning?

Research Hypothesis

The hypothesis was tested at the 0.05 significance level:

H_0: There is no significant difference in the attitudes of technical college students in Lagos State toward using mobile apps for learning based on gender.

Literature Review

Globally, learners utilize mobile apps for learning outside the classroom at basic, secondary school like technical colleges and Tertiary. Lund (2022) reported that mobile applications are being used as an additional tool for learning to improve the academic skills of students and to learn better or solve problems correctly when students collaborate with others, especially when the task given to students is conceptual or complex. Collaboration among students also seems to have beneficial effects such as improving social relationships and increasing motivation. Mobile Apps offer certain benefits to students, assist in enhancing learning while outside the classroom and possibly influence academic performance. African students have adopted the use of Mobile Apps for learning outside the classroom (Rawat Kumar, R., H. Leary, & R. E. West 2019). Students view using Mobile Apps outside the classroom compatible to using textbook. Compatibility does not mean Mobile Apps replace textbooks, rather impact to life-long learning. In terms of communication, apart from being taught in class, students receive academic information from peers. Students communicate to peers outside the class on what was taught in class and share each other's understanding. Students observe and learn from peers, share struggles with, and impact one another in learning. While Mobile Apps are widely used for learning among technical college students, most research on this topic in Africa tends to focus on specific courses or projects (Rimale, 2016). According to Jones (2020), students in technical colleges in Tanzania generally utilize Mobile Apps as part of their learning process and believe this can provide a relative advantage over peers. Students understand concepts and retain better using audio, visual and graphical data than text on a ratio of 3:1. Studies done in Africa depict student's use of audio, visual and graphical applications.

These tools, provide a good area for students to learn by trial while using the internet rather than allowing circumstances to control students, the student centered learning approach allows students to acquire knowledge before class, and discuss during class times. In African context, the approach allows students to switch roles with teachers (Jones, 2020). Using Mobile Apps, complex issues like lack of teaching aids, and shortage of reading material can be overcome as students use Mobile Apps outside the classroom to learn. In developed nations, it is common for students to use mobile apps for learning outside the classroom, with teachers supporting this practice. In contrast, in Tanzania, students' use of mobile apps for learning is often viewed negatively, leading to uncertain outcomes. These outcomes, influenced by societal perceptions, have resulted in a lack of empirical data on the impact of mobile apps on students' learning in Tanzania.

Mobile Technologies are portable and handheld devices that are used in everyday life. These technologies are used by many people in the different fields of life and for different purposes; however, mobile technologies have been integrated in educational contexts. Accordingly, mobile

technology is considered as teaching-learning material both within and beyond the classroom. According to Szymkowiak, Melović, Dabić, Jeganathan, and Kundi (2021), Mobile Apps is a kind of learning tool allowing learners to obtain and acquire knowledge, skill and learning materials, anywhere, anytime and this is by the utilization of mobile technologies and the internet, particularly the features offered by Information and Communication Technologies (ICTs) have increased and developed through time and in accordance with the needs of the learners and the utility of these devices and their implementation in learning process. Besides, these technologies are given the popularity, affordability, portability and flexibility of such devices. Thus, it is not surprising that educators have considered these devices beyond the classroom for educational purposes.

Students also are more prone to generate questions as being interact more independently during class time while using Mobile Apps (Jones, 2020). Student produced questions are another indication that learning is occurring and/or an indication of knowledge being retained. According to (Jones, 2020) online publication of the Journal of Research and Science Teaching, educational reformers have noted that classroom observations revealed that students' learning is in part due to feedback through asking questions and being asked questions. Also indicates, that students respond to academics progressively by providing answers to the teachers as well as the teacher providing answers to students directly or indirectly whether they are engaged with computer usage or not. Although, there have been noticeable gaps between what is learned and what is taught, it is evident that technology aids in students retaining information with the thoughtful and purposeful use of Mobile Apps can have a great impact on student achievement (Albayrak, 2015).

Students with specific learning disabilities can also benefit from the use of mobile apps in the context of Special Needs and Technology. It is important to note that there isn't a single criterion or characteristic that can be used to categorize students diagnosed with specific learning disabilities. In 1997, the U.S. Congress reauthorized the Individuals with Disabilities in Education Act (IDEA). The IDEA (2014) mandates that all students with disabilities must be considered for assistive technology. This initiative was aimed at making technology accessible to all students with disabilities, including those in special education, to enhance educational opportunities across the board. According to the U.S. Department of Education, IDEA indicates that an assistive technology device is any item, piece of equipment, or product system, whether acquired commercially, off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities Albayrak (2015).

Methodology

This study adopted a descriptive research design of the survey type, with the primary aim of investigating the attitudes of technical college students towards the usage of mobile applications for learning. Participants were randomly selected from six government-owned technical colleges in Lagos State, comprising a sample of three hundred and fifty-one (351) respondents. The data collection instrument was a carefully structured questionnaire, which was validated by three subject matter experts to ensure content validity. Following validation, the instrument underwent a reliability test using the Cronbach alpha method, resulting in a reliability coefficient of 0.78, indicating a satisfactory level of internal consistency.

The data gathered were analyzed using both descriptive and inferential statistical methods. Frequency and percentage distributions were utilized to address the research questions, providing a clear overview of the students' attitudes towards mobile learning apps. Additionally, t-test statistics were employed to test the hypotheses at a 0.05 level of significance, ensuring rigorous and meaningful analysis of the data. This methodological approach allowed for a comprehensive understanding of the factors influencing students' attitudes towards mobile app usage, ultimately contributing to the broader field of educational technology research. The results of this study are expected to inform educational practitioners, policymakers, and app developers aiming to enhance mobile learning experiences for technical college students.

Table 1: Type of School Ownership

Ownership	Frequency	Percentage (%)
Lagos East SD	65	18.5
Lagos West SD	286	81.5
Total	351	100.0

Table 1 showed the total number of Lagos East Senatorial District respondents were 65 (18.5%) while the Lagos West Senatorial District respondents were 286 (81.5%). This shows that Lagos West Senatorial District respondents formed the highest number of the respondents.

Result

Research Question 1: How do technical college students in Lagos State perceive the use of mobile apps for learning?

Table 2: Technical college students' attitude towards the usage of Mobile Apps for learning

S/N	Items	Mean
1	I feel comfortable having lesson on Mobile Apps	2.90
2	I study on Mobile Apps at my own pace	3.40
3	Lesson on Mobile Apps is interactive	1.76
4	I feel less anxious when using Mobile Apps to learn	3.23
5	Attending class on Mobile Apps is less stressful than traditional class delivery	1.86
6	I feel excited when using Mobile Apps to learn	3.47
7	I interact with other students using Mobile Apps	3.33
8	Using Mobile Apps has been a pleasant experience	3.16
9	I collaborate more with my teacher on Mobile Apps than traditional class	1.31
10	I feel free to express my opinion on Mobile Apps	3.32
	Grand-mean	2.77

Table 2 revealed technical college students' attitudes toward using mobile apps for learning. The findings revealed that students generally have a positive attitude toward utilizing mobile apps in their learning process based on the mean scores of all the items tested in table 2 above except for the following items; Lesson on Mobile Apps is interactive, Attending class on Mobile Apps is less

stressful than traditional class delivery and I collaborate more with my teacher on Mobile Apps than traditional class with mean scores 1.7, 1.8 and 1.3respectively. The grand mean score 2.77 greater than the benchmark 2.5 of the four point scale indicates that technical college students have positive attitude regarding the use of mobile apps for learning.

Research Question 2. Does gender affect the attitudes of technical college students in Lagos State towards using

Table 3 Independent sample t-test technical college students' attitudes towards using mobile apps for learning, with a focus on gender differences.

Gender	N	$\overline{X}$	SD	Df	T	Sig.2 (tailed)	Remark
Male	166	24.52	4.77	342	.555	0.57	Not Rejected
Female	178	24.81	4.91				
Total	344						

Table 3 showed that the calculated t-value (.555) on 342 degrees of freedom, P-value (sig.2-tailed) 0.57 was greater than 0.05 significant level. Therefore, the null hypothesis which states that there is no significant difference in the performance of technical college students using mobile apps for learning based on gender was not rejected. This indicates that gender does not significantly affect the performance of technical college students who use mobile apps for learning

Discussion of Findings

The study found that technical college students have a positive attitude towards using mobile apps for learning. This aligns with the findings of Abdullah (2019), who reported that mobile apps enhance students' attention and foster more positive attitudes towards online learning. Abdullah also found that IAFU students hold positive attitudes towards mobile apps. Additionally, the null hypothesis revealed a significant difference in students' attitudes towards using mobile apps for learning computer studies based on gender. These findings are consistent with those of Mahdiuon et al. (2020), who found no significant difference in academic performance based on gender.

Conclusion

This study examined the attitudes of technical college students in Lagos State towards the use of mobile apps for learning. The analysis of the collected data revealed that students generally had a positive attitude towards using mobile apps for learning, with no significant difference in attitudes based on gender.

Recommendations

1. The National Business and Technical Examination Board (NABTEB) should promote the integration of mobile applications into formal learning at the technical college level.
2. Teachers should adopt the use of mobile apps in their instruction to enhance the learning of technological concepts at the technical college level.

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