

Research Paper

Students Experiences in Edutainment Apps for Learning Vocational and Technical Education Contents

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Abstract— Edutainment is a mobile app that can run on android devices consists of knowledge and entertainment to support learning; it plays a vital role at supporting learning and community development. The students of technical colleges often spend considerable amount of their time on the use of android phones to play games, watch videos, chat with friends and family. Therefore this study aimed at accessing how often students of national technical certificate (NTC 1 to 3) use edutainment to improve their academic achievement. The research embraced descriptive poll design. The study was directed by three study questions with corresponding hypotheses. The 3220 students of technical colleges in Bauchi state comprises the population of this research work, while 780 students of national technical certificate (NTC 1 to 3) were randomly selected from three sampled technical colleges. Structured questionnaire was utilized to collect data while the data analysis was done using descriptive statistics and hypothesis was test using inferential statistics. The result of this study exposed that, students of national technical certificate are yet to embrace edutainment that runs on android phones in learning. The study recommends that more edutainment apps should be developed to facilitate learning of vocational and technical education.

Keywords—Edutainment Apps, Students' Experience, Vocational and Technical Education

1. Introduction

Students of vocational education spends their considerable amount of their leisure time online charting on Facebook, WhatsApp, twitter, tiktok etc; play games and watch videos using android phones. These developments in technology have inevitably led to a new era of technology; the students of this generation are regarded as technology natives because they were born in technology [1]. Lackadaisical attitude demonstrated by students toward the use of android technologies in learning specifically students of technical and vocational education is worry some [2]. Students of vocational and technical education often play games, watch videos, chat with friends and family on mobile devices, including; tablets or smartphones [3]. It is obvious that students of technical and vocational education had experiences on how to use android phones, iPad to play various games, snap pictures, watch videos, chat with friends and family and so on [4]. This study aimed at accessing students of technical and vocational education on use of learning applications that can run on androids and tablets such as edutainment instructional packages. Edutainment is designed for learning to allow students learn with entertainment using android phones and tablets [2]. Edutainment is the process of learning with fun that makes students interested in learning. Basically, edutainment

optimizes students' potential and supports them to succeed in learning various courses [5]. The use of edutainment in learning by students of technical and vocational education uphold learning by integration of learning contents and entertainment activities to double students achievement [6]. Edutainment is seen as including entertainment with media-based tools to enhance education process. Many edutainment were developed and validated in various areas in education and was found to be effective. For instance, [6] carried out a research on the influence of using edutainment. The performance of students is better using edutainment than those taught with conventional method as exposed by this study. Researches were carried out to investigate the use of edutainment in various areas of specializations, for example, [8] investigated learning with edutainment (games and animation films) in English vocabulary education for some intermediate students. The results exposed the effectiveness of edutainment as mobile application on students' achievement. The growth of every nation pivots on the societal and economic contributions of her individuals. Vocational and technical learning supports community and nation-wide progress [9]. Vocational educations enable the attainment of functional skills and elementary technical knowledge at ease [10]. It is a programme designed with learning experiences that initiate with the assessment of career option and life skills, it also enables the attainment of

high academic values, groundwork for industry training and self-reliance [7]. Technical Colleges are schools that get students ready for the world of work through the learning of theoretical and practical skills [14]. The achievement of students in the skills acquisition and knowledge gaining is an instructional state that depends on the appropriateness of the instructional tools and decent choice of existing forms of technology used in learning such as edutainments, instructional videos and flipped class room [11]. Despite the impact of technical and vocational training in Nigeria, students' achievement at national technical certificate (NTC) level has been poor [12]. Therefore, the study sought to:

- Find out the extent to which students of technical colleges at national technical certificate (NTC 1 to 3) level use android phones.
- Access the awareness of students of technical colleges at national technical certificate (NTC 1 to 3) level on edutainment apps.
- Find out the extent to which students of technical colleges at national technical certificate (NTC 1 to 3) level use edutainments on android phones.

2. Related Work

2.1 Meaning of Edutainment

Edutainment is the method of transferring information or learning activities into motivating, interactive and active way. In this way students are entertain while learning is taking place [13]. Edutainment is the process of learning with fun that makes students interested in learning. Edutainment is seen as integration of entertainment with media-based tools to enhance learning process. Edutainment is designed for learning to allow students learn with entertainment using android phones and tablets [2].

2.2 Importance and Impact of Edutainment in Vocational and Technical Education

The utilization of edutainment in learning by students of technical and vocational education uphold learning by integration of learning contents and entertainment activities to double students achievement [6]. Basically, edutainment optimizes students' potential and supports them to succeed in learning various vocational and technical courses [5]. Researches were carried out to investigate the use of edutainment in various areas of specializations, for example, [8] conducted a study to examine the usage games and animation films in vocabulary learning for some middle students. The results of the study expose the effectiveness of edutainment as mobile application on students' achievement. The growth of every nation pivots on the societal and financial contributions of her people [3].

Many edutainment were developed and validated in various areas in education and was found to be effective. For instance, [6] carried out a study on the impact of utilizing of edutainment to Smooth learning of Mathematics. It was established that students achieved better in learning with edutainment than those taught with conventional teaching method.

2.4 Learning of Vocational and Technical Education

Vocational and technical learning supports community and nation-wide progress [9]. Technical and vocational educations enable the attainment of functional skills and elementary technical knowledge at ease [10]. It is a programme planned with learning experiences that initiate with the assessment of career option and life skills, it also enables the attainment of high academic values, groundwork for industry training and self-reliance [7]. Technical Colleges are schools that get students ready for the world of work through the learning of theoretical and practical skills [14]. The achievement of students in the skills acquisition and knowledge gaining is an instructional state that depends on the appropriateness of the instructional tools and decent choice of existing forms of technology used in learning such as edutainments, instructional videos and flipped class room [11]. Despite the impact of technical and vocational training in Nigeria, students' achievement at national technical certificate (NTC) level has been poor [12].

3. Design

This research embraced descriptive survey design. The study targeted 3220 students studying in all government technical colleges in Bauchi state, Nigeria (Fig. 1). Simple random sampling technique was chosen to select three government technical colleges out of total number of eight government technical colleges in Bauchi state, Nigeria (table 1). The selected schools includes: Government technical college Bauchi, Government technical college Kafin Madaki and Government technical college Gamawa. The total population of 840 students of national technical certificate (NTC 1 to 3) 2023 academic session was utilized from three sampled government technical colleges in Bauchi (table 1). The totals of 840 questionnaires were administered but only 780 questionnaires were returned. The research instrument was a structured questionnaire consisting three parts. The first part consists of 10 questions on the extent which students of technical colleges at national technical certificate (NTC 1 to 3) level use android phones for accessing the extent to which national technical certificate students use android phones. The second part consists of 8 questions on the awareness of students of technical colleges at national technical certificate (NTC 1 to 3) level on edutainment apps. The third part consists of 9 questions on the extent to which students of technical colleges at national technical certificate (NTC 1 to 3) level use edutainment on android phones. Data collected was analysed with mean and standard deviation. Because, mean, is the simplest and, has greater reliability than any other method of data analysis. T-test was utilised to test hypotheses. IBM SPSS version 23 was used to compute data.



Figure 1: The map of Bauchi state

Table 1: Population distribution

S/N	Government Technical Colleges in Bauchi State, Nigeria	Population
1	Government Day Technical College Bauchi LGA	840
2	Government Technical College Gumau, Toro LGA	380
3	Government Day Technical College Gar, Alkaleri LGA and	320
4	Government Day Technical College Tafawa Balewa LGA.	300
5	Government Technical College Gamawa LGA	370
6	Government Day Technical College Azare, Katagum LGA	360
7	Government Day Technical College Kafin Madaki, Ganjuwa LGA	350
8	Government Day Technical College Jama'are LGA	300
TOTAL		3220

4. Result and Discussion

Research Question One: What is the extent to which students of technical colleges at national technical certificate (NTC 1 to 3) level use android phones?

The responses of students on the items in the questionnaire were analyzed by the researcher. The result was shown in table 2 below.

Table 2: The extent which students of technical colleges at national technical certificate (NTC 1 to 3) level use android phones

S/N	Items	X	SD
1	Majority of students in this school possess android phones and those that do not have it have access to their friends' android phones.	4.33	0.88
2	Students spent considerable amount of their time to chat on facebook using android phones.	4.35	0.76
3	Students spent considerable amount of their time to chat on whatsapp using android phones.	4.3	0.78
4	Students spent considerable amount of their time to chat on twitter using android phones.	4.23	0.79
5	Students spent considerable amount of their time to play games on android phones.	4.15	0.73
6	Students spent considerable amount of their time to watch movies using android phones.	4.38	0.76
7	The time spent by students on android phones is far better than the time they spent on their studies.	4.63	0.66
8	Android phones improved social interaction among students	4.45	0.74
9	The use of android phones for educational purposes by students is discouraging.	4.23	0.72
10	Android phones distracted students from concentrating on their studies.	4.23	0.72

According to table 2 items 1 to 10 had mean scores ranging from 4.15 to 4.63 with a standard deviation from 0.66 to 0.88. This indicated that the means scores of all the items 1 to 10 were above the cutoff point of 3.00. It indicates that the respondents have agreed that the students of technical colleges at national technical certificate (NTC 1 to 3) level use android phones for social media purposes, playing games and watching videos. The survey indicates that the majority of students in the school possess Android phones, and those who do not have access to their friends' Android phones. The students spend a considerable amount of their time chatting on Facebook, WhatsApp, and Twitter using their Android phones. They also spend a considerable amount of time playing games and watching movies on their Android phones. The survey also indicates that the time spent by students on their Android phones is far better than the time they spent on their studies. However, the use of Android phones for educational purposes by students is discouraging, and Android phones distract students from concentrating on their studies. The result also advocate that the use of Android phones among students in government technical schools is widespread, and it has both positive and negative effects on their academic performance. While the use of Android phones has improved social interaction among students, it has also distracted them from concentrating on their studies. This is in agreement with a research conducted by Poláková (2022) and Hwang et al. (2021).

Research Question Two: What is the awareness of students of technical colleges at national technical certificate (NTC 1 to 3) level on edutainment apps?

The responses of students on the items in the questionnaire were analyzed by the researcher. The result was shown in table 3 below.

Table 3: The awareness of students of technical colleges at national technical certificate (NTC 1 to 3) level on edutainment apps

S/N	Items	\bar{X}	SD
1	I am aware that android phones can be used to learn and improve academic achievement.	4.28	0.81
2	I am aware that edutainment apps exist and can be used to improve academic achievement.	4.3	0.68
3	I am aware that some edutainment apps are available for free download.	4.3	0.81
4	Edutainment apps were designed for learners to learn with fun on android phones	4.48	0.59
5	Edutainment apps can be used to facilitate skills acquisition in technical colleges.	4.28	0.74
6	Edutainment apps designed for the use of students of technical colleges are not common for free download online.	4.35	0.69
7	Some students of technical colleges lack awareness on the use of edutainment apps.	4.6	0.7
8	The use of edutainment apps can reduce the time for chatting, playing games and watching videos by students of technical colleges.	4.2	0.95

The table 3 shows the results of a survey on the use of Android phones and edutainment apps by students. The result indicates that the majority of students are aware that Android phones can be used to learn and improve academic achievement, and that edutainment apps exist and can be used to improve academic achievement. because items 1 to 8 had their mean scores from 4.20 to 4.60 and standard deviation from 0.59 to 0.95. This indicated that the means scores of all the items 1 to 8 were above the cutoff point of 3.00. It indicates that the respondents have agreed that the students of technical colleges at national technical certificate (NTC 1 to 3) level are aware of the existence of edutainment apps as well as it importance to the promoting academic achievement. This is in agreement with a study conducted by Pasawano (2015). The survey also indicates that some edutainment apps are available for free download, and that edutainment apps were designed for learners to learn with fun on Android phones. Additionally, edutainment apps can be used to facilitate skills acquisition in technical colleges, but edutainment apps designed for the use of students of technical colleges are not common for free download online. Some students of technical colleges lack awareness of the use of edutainment apps, and the use of edutainment apps can reduce the time for chatting, playing games, and watching videos by students of technical colleges.

Research Question Three: What is the extent to which students of technical colleges at national technical certificate (NTC 1 to 3) level use edutainments on android phones?

The responses of students on the items in the questionnaire were analyzed by the researcher. The result was shown in table 4 below.

Table 4: The extent to which students of technical colleges at national technical certificate (NTC 1 to 3) level use edutainment on android phones

S/N	Items	\bar{X}	SD
1	I have no single edutainment apps on my android phone	4.33	0.81
2	I prefer chatting, playing games and watching videos on my android phone because they are available while edutainment apps are difficult to access.	4.38	0.68
3	Many students installed edutainment apps but do not use them because they are trial version.	4.38	0.81
4	Most of the available edutainment apps are not suitable for skill acquisition training	4.30	0.59
5	More edutainment should be developed to suit learning in technical colleges	4.68	0.74
6	Many students of technical colleges failed to install simple English dictionary on their android phones, despite its availability on the internet for free download	4.48	0.69
7	I use edutainment only for assignment purposes.	4.63	0.7
8	I want to use edutainment apps but I do not know where to download them	4.38	0.95
9	Few edutainment apps that can be downloaded from apps store were not suitable for students of technical colleges.	4.23	

The search results in table 4 provide additional information on the use of Android phones and edutainment apps for learning. The results suggest that Android phones can be used to enhance learning and improve academic achievement, and edutainment apps can improve students' success and motivation in learning. However, students may face challenges when using edutainment apps, such as difficulty accessing them, limited availability of suitable apps, and trial versions that do not provide full functionality. Therefore, educators should find ways to leverage the use of Android phones and edutainment apps to enhance learning and minimize their negative effects on students' academic performance. Because items 1 to 9 in table 4 had their mean scores from 4.30 to 4.68 with standard deviation from 0.66 to 0.95. This indicated that the means scores of all the items 1 to 9 were above the cutoff point of 3.00. It advocates that the respondents have agreed that the students of technical colleges at national technical certificate (NTC 1 to 3) level do not use edutainment apps. This is in agreement with a study conducted by Şule Korkmaz (2013). In conclusion, the use of edutainment apps on Android phones by NTC students is still limited, and there are several challenges that need to be addressed. More edutainment apps should be developed to suit learning in technical colleges, and students should be

made aware of the availability and benefits of edutainment apps. Additionally, educators should find ways to make edutainment apps more accessible and user-friendly to enhance learning and improve academic achievement.

5. Conclusion and Future Scope

Lackadaisical attitude demonstrated by students toward the usage of mobile technologies such as edutainment apps in learning specifically students of technical and vocational education is worry some. Students of vocational and technical education often play games, watch videos, chat with friends and family on mobile devices, including; tablets or smartphones. It is obvious that students of technical and vocational education had experiences on how to use android phones, iPad to play various games, snap pictures, watch videos, chat with friends and family and so on. Students of technical and vocational education had experience on the use of android mobile phones and they are aware that edutainment apps exist but they do not use them because they are not much available for free download. So, they are not easily accessible. Those edutainment apps that are available are not appropriate for learning technical and vocational education. Therefore, the study recommended that more edutainment apps should be developed and made available and accessible to students of vocational and technical education to facilitate learning of vocational and technical education in Bauchi state, Nigeria.

Data Availability

The data supporting the conclusion of this study can be access on request through the authors email address. The data were not available because of its bulkiness and some part the data required permission from the data source before making it available.

Conflict of Interest

The conflict of interest is absent.

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Authors' Contributions

The corresponding author produces the first draft of this manuscript, the second author include his inputs by analyzing data and editing the first draft of this manuscript. The third author made the final editing and come up with camera ready copy of the manuscript.

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