Instabright
International Journal of Multidisciplinary Research
RESEARCH ARTICLE

Enhancing Academic Performance in English of Bilaran National High School through a Self-Developed Mobile Quiz Game Application

Alvin B. Punongbayan
Bilaran National High School, Nasugbu, Batangas, Philippines.

**Corresponding Author Email: punongbayanalvin18@gmail.com*

OPEN ACCESS

ARTICLE INFO

Received:
July 13, 2019
Revised:
October 01, 2019
Published Online
November 24, 2019

KEYWORDS

Self-Developed
Mobile Quiz
Game Application
English performance

ABSTRACT

This study entitled "Enhancing Academic Performance in English of Bilaran National High School through a Self-Developed Mobile Quiz Game Application" aimed to improve the academic performance in English of Bilaran National High School students through a Self-Developed Mobile Quiz Game Application. Currently, it is a problem of Bilaran National High School, especially in English, that students have problems academically such as in retention. The experimental type of research was utilized by the researcher in order to evaluate the effectiveness of the aforementioned mobile quiz game app. After the experiment, the computed t-value of 9.72 which is higher than the critical value of 1.99 set at 0.05 level of significance revealed that there was a significant difference between the post-test results of the control and experimental groups. Thus, it is found out that the Self-Developed Mobile Quiz Game Application is effective in teaching English, both grammar and literary terms. This research may serve as reference to teacher in providing innovations and reinforcement activities that would enhance the learners' knowledge.

INTRODUCTION

Academic performance of students is merely affected by various factors in today's generation. Steinmayr stressed that academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university.

Technological inventions are one of the factors that greatly contributes to the learning of students. They give both positive and negative results to their learning. Nowadays, learners are fun of playing mobile games which become a part of their lifestyles or habits.

Professor Andrew Martin Maps said in his article on Psychelopaedia that the rapid expansion of technology in children's lives has enabled many opportunities for their educational development. However, if not used effectively or appropriately, technology can also be a headwind for children's academic wellbeing. When reviewing evidence and practice in this area, the question is not whether children should use technology for their learning. Rather, the important questions about technology revolve around what, where, when, and how they use it.

This indicates that technology helps a lot in facilitating the learning process, but it still depends on the proper use of technology.

In this generation, students are fun of using smartphones. Most of them have different mobile applications used for messaging, gaming and others. Mobile games, especially the educational ones are helpful in many ways.

According to Good Work Labs, mobiles and smartphones provide a better and more engaging way of imparting education. Newer avenues of teaching and learning are opening up through mobile apps, which in turn is tremendously enhancing education like never before. Countries like US are already leveraging the power of the mobile app, be it changing the traditional way of 'going to school' or doing away with 'bringing books' (thanks to iPad). Technology the world over has become a significant disruptive force for the education segment. The impact of mobile apps on education industry has been deep. We are seeing live examples in today's world of how education industry is being revolutionized by some fabulous innovations in mobile apps catering specifically this industry.

This study focuses on the improvement of the Bilaran National High School students' academic performance in English through a self-developed mobile quiz game app.

REVIEW OF RELATED LITERATURE AND STUDIES

Literature

According to Edsys "Educational apps are making things easier for children to understand. Books are often found to be tiring and boring for children while replacing them with colourful pages and moving animations can make learning fun to the core."

iNurture Education Solutions published that learning with mobile apps has made this generation more interactive and spontaneous. To solve any doubts or queries, these devices have been tremendously helpful to one and all. These apps are meant to guide the youth through the process of asking queries and learning in much the same mode as a tutor would. It serves as the capacity to allow the user to analyze and have a thorough knowledge of a specific topic. This matter and video learning have engaged the younger generations in enhancing communication, critical thinking, problem solving, technological and literary skills. This form of learning has produced excitement for learning with an increased sense of self-confidence, pride in their abilities and hope for a spectacular future. Thus, this brings in a creative sureness in the youth. Harmonizing with all the facts, it must be remembered that it is very essential to optimize the student's time with mobile devices and other activities must not be ignored for as these are a mere auxiliary tool.

New Gen Apps specified that toddlers today are more comfortable with tablets and smartphones than they are with books, college students are ditching physical campuses to learn from the mobile apps related to their subjects, and elderly professionals are hoping to learn new skills through mobile apps in their spare time, all thanks to the new technology that is booming today. The ubiquity of handheld devices and their persistent lowering costs has facilitated the idea of "education in your hands". They are regarded as more engaging and better ways of imparting education.

Studies

Chang, et.a. explored on their study entitled "Mobile App Design for Teaching and Learning: Educators' Experiences in an Online Graduate Course" how educators with limited programming experiences learned to design mobile apps through peer support and instructor guidance. Educators were positive about the sense of community in this online course. They also considered App Inventor a great web-based visual programming tool for developing useful and fully functioning mobile apps. They had great sense of empowerment through developing unique apps by using App Inventor.

This study helped reveal the educational value of mobile app design activities and the web-based visual programming tool, and the possibility of teaching/learning mobile app design online. The findings can also encourage educators to explore and experiment on the potential of incorporating these design learning activities in their respective settings, and to develop mobile apps for their diverse needs in teaching and learning.

Basal, et.al conducted a Four- week study aimed to investigate the effectiveness of a mobile application on teaching 40 figurative idioms from the Michigan Corpus of Academic Spoken English (MICASE) corpus compared to traditional activities. Quasi-experimental research design with pretest and posttest was employed to determine the differences between the scores of the control (n=25) and the experimental group (n=25) formed with convenience sampling. Results indicate that participants in the experimental group performed significantly better in the posttest, demonstrating the effectiveness of the mobile application used in this study on learning idioms. The study also provides recommendations towards the use of mobile applications in teaching vocabulary.

Vyas and Nirban studied the Students' Perception on the Effectiveness of Mobile Learning in an Institutional Context. This paper reports on the results of a survey of one hundred students from first degree and higher degree programme at an academic institution, about their attitude and perception regarding the use of mobile technology in education. An analysis of the quantitative survey findings is presented focusing on the prospects for mobile-learning (m-learning) practices in university

learning and teaching environments. The paper also highlights the crux of research studies undertaken in the area of m-Learning across domains. It finally presents a perspective to use mobile technologies optimally to improve the educational practices in Indian context.

Synthesis

The studies of Chang,et.al, Basal,et.al, and Vyas and Nirban showed similarities in the sense that they resulted to the acceptance of Mobile Applications in improving the educational practices. Their aim to investigate the effectiveness of mobile applications in teaching is similar to the present study. Howeverr, they differ in terms of the scope and subjects of the study.

RESEARCH QUESTIONS

This study aims to evaluate the effectiveness of a self-developed mobile quiz game app in teaching English.
Specifically, it sought answer to the following:

1. What is the pre-test results of the control and experimental group?
2. What is the post-test results of the control and experimental group?
3. How significant is the difference between the post-test results of the control and experimental group?
4. What action plan on the use of Self-Developed Mobile Quiz Game Application may be proposed to improve the students' performance in English?

SCOPE AND LIMITATION

This study focuses on the evaluation of a self-developed mobile quiz game application to improve of students' academic performance in English. The respondents of the study were the two sections of Grade 9 of Bilaran National High School of school year 2018-2019. Grade 9 Aristotle was the experimental group and Grade 9 Shakespeare was the control group. The quiz game covers topic on English 9. Students of other grade levels, non-teaching staff, teachers, heads, and principal were excluded.

RESEARCH DESIGN AND METHODOLOGY

Methods of Research

The researcher used the experimental method of research to determine the effectiveness of a self-developed mobile quiz game application to improve of students' academic performance in English. According to Singh (2006), experimental method is a scientific method. It is oriented to the future in the sense that the researcher is seeking to evaluate something new. It is a process of contribution to the already acquired fund of knowledge. Thus, the experimenter operates under the basic assumption that the research situation he wishes to evaluate has never existed and does not now exist. Situation here means in the sense of a programme, curriculum or method for organizing class, as well as a 'situation' created to test.

Respondents of the Study

The respondents were determined through probability sampling method. The researcher choose the Grade level he is teaching which is Grade 9. All sections of Grade 9 have the chance to be the respondents; a lottery was used to determine only two sections to be chosen as the respondents of the study, the control and the experimental group respectively. Grade 9 Aristole, the experimental group is composed of fifty (50) students and Grade 9 Shakespeare, the control group is composed of 50 students. There was a total of 100 respondents for this study.

Research Instrument

A test composed of 20 items was utilized by the researcher to gather data needed for the study. It was validated by an expert person on instrumental validity. It was pre-tested to a section who was not a part of the study to test the reliability. The researcher used the Cronbach Alpha to test the reliability.

Data Gathering Procedure

The researcher asked permission from his principal to conduct a study to determine the effectiveness of a self-developed mobile quiz game application in improving students' academic performance in English. Upon validation of the questionnaire, the researcher conducted a Pre-Test both to the control and experimental group. Three weeks were spent in the experiment; the experimental group used the self-developed mobile quiz game application, while the control group did not. After three weeks, Post-Test was given to both groups also. The researcher ensured that all test questionnaires were retrieved. The data were then analyzed and interpreted.

Statistical Treatment of Data

The researcher used the following statistical tool to analyze the data collected.

1. **Mean and Rank**. These were used to determine the level of performance of the students in Pre-Test and Post-Test.
2. **T-test**. This was used to determine whether two variables are statistically different from each other.

RESULTS AND DISCUSSION

Table 1. Pre-Test Results of the Control and Experimental Group.

GROUPS	MEAN	RANK
Control Group	4.58	1
Experimental Group	4.30	2

Table 1 displays the Pre-Test Results of the Control and Experimental Groups. It can be gleaned that the control group recorded 4.58 mean value while the experimental group with 4.30. This shows that the two groups have almost the same performance level in the pre-test.

Table 2. Post-Test Results of the Control and Experimental Group.

GROUPS	MEAN	RANK
Control Group	10.56	2
Experimental Group	15.86	1

Table 2 shows the Post-Test Results of the Control and Experimental Group. It is revealed that the control group recorded 10.56 mean score and the experimental group with 15.86. It can be gleaned that experimental group has higher performance than the control group in the post-test.

Table 3. Significant Difference between the Post Test Results of the Control and Experimental Group.

GROUPS	MEAN	t-value	t-tabular	LEVEL OF SIGNIFICANCE	INTERPRETATION
CONTROL	10.56	9.72	1.99	0.05	Significant
EXPERIMENTAL	15.86				

Table 3 exhibits the Significant Difference between the Post Test Results of the Control and Experimental Group. Based from the computed t-value of 9.72 which is higher than the critical value of 1.99 set at 0.05 level of significance, it is therefore revealed that there is a **significant** difference between the post-test results of the control and experimental groups. Thus, it proves the effectiveness of Self-Developed Mobile Quiz Game Application in teaching English.

CONCLUSIONS

Based from the findings of this study, the researcher concludes that:

1. The control and experimental groups showed low performance in the pre-test given to them.
2. The experimental group showed higher performance in the post-test after using the mobile app than the control group.
3. There is a significant difference between the post-test results of the control and experimental groups.
4. The proposed action shall focus on the use of Self-Developed Mobile Quiz Game Application in enhancing the academic performance of students in English.

RECOMMENDATIONS

Based from the conclusions, the researcher hereby recommends:

1. Diagnose and assess students' knowledge in English upon the opening of school year.
2. Use Self-Developed Mobile Quiz Game Application in teaching English especially grammar terms or even literary terms.
3. Make use of variety of innovations in teaching to help learners enhance their academic performance.
4. The proposed action play may be reviewed by the concerned personnel for implementation.

Table 4. Proposed Action Plan on the use of Self-Developed Mobile Quiz Game Application to Improve the Students' Performance in English.

PROGRAM / PROJECT	OBJECTIVES	STRATEGIES / ACTIVITIES	DATE	FUNDS / RESOURCES NEEDED	KEY PERSONS	SUCCESS INDICATOR
I. Information Dissemination to English teachers and students.	Inform teachers and students about the use and effectiveness of using Self-Developed Mobile Quiz Game Application in teaching English.	Orientation about Self-Developed Mobile Quiz Game Application	First Week of the First Quarter	Powerpoint / DLP	Principal, Researcher, Teachers, and Students	Teachers and students will be informed about the use and effectivess of Self-Developed Mobile Quiz Game Application
II. Adoption of the Strategies	1. Create / Update Self-Developed Mobile Quiz Game Application fro use of students. 2. Play and learn English using Self-Developed Mobile Quiz Game Application	Teachers will make or update a Self-Developed Mobile Quiz Game Application	Every First Week of the Quarter	Smartphone, laptop, Wi-Fi, English module, books or references	Researcher, Teacher and Students	1. Finished Self-Developed Mobile Quiz Game Application could be launched. 2. Students' enhanced academic performance in English.
III. Evaluation of Students Learning	Evaluate students learning.	Aministration of test such as Periodic Test.	Every end of the Quarter	Photocopies of the testpaper	Principal, Researcher, Teachers, and Students	High performance of students in the test.
IV. Culminating Activity	Show learnings using the Contest on playing the Self-Developed Mobile Quiz Game Application.	Contest on playing the Self-Developed Mobile Quiz Game Application.	Third Week of March	Prizes, Certificates, Contest Venue	Principal, Researcher, Teachers, and Students	Students will show outstanding perfroamce in the contest.

REFERENCES

Anonymous. 2018. Role of Mobile Apps in Education. iNurture Education Solutions, Niton Compound, Vasanthnagar, Bangalore – 560052, India. http://www.inurture.co.in/role-of-mobile-apps-in-education/

Anonymous. 2018. Mobility in Education. GoodWorkLabs Inc. 7100, Stevenson Blvd. Fremont, CA 94538, USA.

Anurag. 2017. Make Learning FUN: 5 Impacts of Mobile Apps on Education. Newgenapps, The Summit, Vibhuti Khand, Gomtinagar, Lucknow, India https://www.newgenapps.com/blog/mobile-applications-are-revolutionizing-the-education-landscape

Basal, A., Yilmaz, S., Tanriverdi, A., & Sari, L. 2016. Effectiveness of mobile applications in vocabulary teaching. Contemporary educational technology, 7(1), 47-59. https://www.cedtech.net/article/effectiveness-of-mobile-applications-in-vocabulary-teaching-6162

EDSYS. 2017. Benefits of Using Apps in Education. Edsys Tower, Kamaleswaram, Trivandrum-695009, India. https://www.edsys.in/12-benefits-of-using-apps-in-education/

Hsu, Y. C., & Ching, Y. H. 2013. Mobile app design for teaching and learning: Educators' experiences in an online graduate course. International Review of Research in Open and Distributed Learning, 14(4), 117-139. https://www.erudit.org/en/journals/irrodl/1900-v1-n1-irrodl05094/1066903ar/abstract/

Neerja, V. Y. A. S., & Nirban, V. 2014. Students' perception on the effectiveness of mobile learning in an institutional context. ELT Research Journal, 3(1), 26-36.

Ricarda, S. 2017. Academic Achievement. Oxford Bibliographies, Oxford University Press, 198 Madison Avenue, New York, NY 10016, USA.