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The Perceived Effects of Android-Based Assisted Learning to the Academic Performance of Students

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Abstract: ***This descriptive study aimed to determine the perceived effects of the use of Google Classroom to the academic performance of the ITE students of the University of Antique, Tario-Lim Memorial Campus, Tibiao, Antique. The subjects of the study were the 574 Information Technology Education (ITE) students, Academic Year 2021-2022. Data needed for this study were gathered using survey questionnaire. The statistical instrument used was frequency, percentage, and mean. The findings of the study showed that a great majority (1, 180) used android phones in learning. It further revealed that students perceived that using Android Phones in learning has very positive effects to their academic performance. Thus, it is recommended that students should have cellphones to aid their academic learning in this time of global health crisis.***

Keywords: Perceived Effects, Android Phones, Assisted Learning, Academic Performance

1. Introduction

During the global health crisis, the teaching and learning process is carried out by implementing e-learning or online learning. One of the most common applications that is used in the delivery of instruction is Google Meet.

Android-based learning is a method commonly used by educators especially in higher education institutions and in learning activities to build student knowledge and learning outcomes. Learning activities require direct communication between educators and students so that the transfer of knowledge in building knowledge and learning outcomes can be well-formed so that the character of students can be directed through the guidance of educators. It is expected then that educators should have the knowledge in adopting to new technology. Components that cannot be separated between schools as learning spaces, educators as educators and students as students in building knowledge and learning outcomes (Barreyro, Injoque-Ricle, Formoso & Burin, 2019). The lecture method through the use of Google Meet offers advantages through educator control in learning and shortcomings in the form of passive students and educators as dominant speakers (Paris, 2014). The lecture method provides an advantage for educators in managing classes with many students in one study (Stearns, 2017). The lecture method is more dominant in teaching the delivery of learning material, question and answer between educators and students as part of the process of building knowledge and learning outcomes (Van der Steen dan Van Frissen, 2017).

2. Objectives of the Study

The purpose of the study was to find out the perceived effects of the use of Android Phone-Assisted Learning to the academic performance of the ITE students of the College of Computer Studies of the University of Antique, Tario-Lim Memorial Campus, Tibiao, Antique.

Specifically, this attempted to answer the following questions:

1) What percentages of ITE students use Android Phones in learning?
2) What are the common uses of Android Phones engaged in by the students?
3) What is the extent of the use of Android Phones among the ITE students?
4) How does the student perceive the effect of the use of Android Phones to their academic performance?

3. Theoretical and Conceptual Framework of the Study

Android is a mobile operating modification that is similar to the Linux operating system. The history of Android explained that Android was released since October 2003 by four IT (Information Technology) experts namely Andi Rubin, Rich Minner, Nick Sears, and Chris White. IT experts founded a company called Android, Inc in California, US. But in August 2005, Google bought it from Android, Inc. Linux based mobile device operating systems such as Android has several components namely the operating system, software and middleware. A developer can create applications by utilizing an open platform provided by android. Android is a Linux-based operating system for cellular phones such as smartphones and tablet computers that are open source. This operating system was acquired by Google from the Android Inc. company and continued development until now. From the opinion of some experts, it can be understood that Android is a Linux-based cellular operating system that includes an operating system, middleware, and applications for mobile phones such as smartphones and tablet computers that are open source.

Mobile learning (ICComset, 2019) is a technology that is reinforced by flexibility in use to be one of the answers in the modern times. Many things nowadays are very easy to reach via smartphones. For example, shopping, discussion, transactions, learning resources or other things have been done online and reached with smartphones in the palm of your hand. which can be supported by smartphone technology or other devices that are not limited by time and space. The use of such technology in learning is often referred to as mobile learning. Therefore, students can use

their cell phone or PDA (Personal Digital Assistant) to access the information they need. The emergence of mobile learning is motivated by several things including: (1) The penetration of mobile devices is very fast. (2) More than a PC. (3) Easier to operate than a PC. (4) Mobile devices can be used as learning media.

4. Methodology

Research Design
This study employed the descriptive method of research. According to Good (1983), descriptive research includes present facts or current events or condition, analysis, classification, enumeration or measurement.

In the same manner, this study aimed to gather accurate information, analyze, and classify the data on the perceived effects of android-based learning to the academic performance of the Information Technology (ITE) Education Students of the University of Antique, Tario-Lim Memorial College, Tibiao, Antique

The Study Population and Sampling Procedures
The study population will be the students of the College of Computer Students taking BSCS, BSIT, and BSIS.

The sample size will be taken as subjects by using the formula of David (2005) citing Parel (1985).

$$n = \frac{NZ^2 (p (1-p))}{Nd^2+Z^2 (p (1-p))}$$

Where:
N = population
n = the desired sample size
Z = the standard normal deviation, set at 1.96, corresponding to 95% level of confidence
P = the proportion in the target population estimated to have particular characteristics, 50% (0.50)
d = degree of accuracy desired at 0.05

The computed sample size as shown in Table 1.

Distribution of sample size of the ITE students

Program	N	n
BS Computer Science	255	154
BS Information Technology	534	224
BS Information System	398	196

The data in Table 1 show that there are 255 students in the Bachelor of Science in Computer Science Students while 534 students in the BS Information Technology program. On the other hand, the revived program of the College of Computer Studies, Bachelor of Science in Information System has 398 students, for the 2nd semester of A. Y.2021-2022.

Sampling Technique
The respondents of the study will be identified using the simple random method using draw lots. To give equal chance to all respondents, the lottery method will be used. This will be done by getting a list of students in every year level, then writing their number in pieces of papers which will be rolled, placed in a box, shaken then, randomly picked. The name corresponding to the number picked will be chosen as one of the respondents. The number of rolled papers to be selected per year level would depend on the corresponding sample reflected in Table1.

Research Instrument
The research instrument used in this study was the questionnaire-checklist constructed by the researcher.

Content Validity of the Questionnaire
Fraenkel and Wallen (2010) consider validity as the most important aspect to consider when preparing or selecting an instrument to use. This is so because researches want the information obtained the use of an instrument to serve their purposes.

The questionnaire used in the study underwent content validation which is the degree to which the items in the questionnaire represent the essence, the topics and the areas that the test is designed to measure. Content validity of the questionnaire will be initially done by the adviser and by a panel of 5 jurors. The process will be as follows:

After preparing the draft of the questionnaire, it will be submitted to the adviser for corrections and suggestions. After the corrections and suggestions will be taken cared of, the draft of the revised questionnaire was given to the jurors for content and face validation. The jurors were chosen based on their expertise. The jurors' suggestions and recommendations to further improve the questionnaire were strictly followed and integrated in the final draft of the instrument which is now ready for reliability testing.

Reliability of the Questionnaire
After the questionnaire was found valid, it will be pretested for reliability. Reliability refers to the consistency of the scores obtained, that is, the consistency of the scores given by each student to whom the questionnaire will be administered to 30 randomly chosen students of any year level who are not included in the final sample. The consistency of scores given to the items in the questionnaire is determined based on the responses of these 30 respondents to the various items in the questionnaire.

The Cronbach alpha or alpha coefficient will be used to determine the reliability coefficient of the instrument. Each item in the instrument should have an alpha coefficient of at least.70 to be considered reliable.

Ethical Consideration
For ethical considerations, the researcher will send request letters to the School Administrator to allow the group to field the questionnaires to gather the necessary data from the student-respondents. The main objectives of the study are clearly stated in the request letter informing the students the reason behind gathering data. Moreover, separate letters will be attached to the questionnaires distributed to the respondents stating the objectives of the study and giving assurance that all data gathered will be treated with confidentiality.

Data Collection
After the validity and reliability of the research instrument are ascertained, the questionnaire will be reproduced for the desired number of sample respondents. Approval to administer the questionnaire will be secured from school, administration. A communication will be prepared for this purpose signed by the researchers and noted by the research adviser.

The researchers will personally administer the questionnaire among the respondents and accordingly retrieved the document after it will be duly accomplished. Moreover, the researchers considered the 5% substitution when the student will refuse to be part of the sample.

Data Processing and Analysis
Upon retrieval of the questionnaire, the data will be tallied and electronically processed with the aid of Statistical Package for Social Sciences (SPSS) program.

This study made use of the descriptive and relational analysis of data. Descriptive analysis will be used to describe the characteristics of the respondents. It will be used to describe the characteristics of a variable and variance within the data. Inferential analysis will be used to test the hypothesis. It will be used also to determine the significance of observed differences between and among variables. Data were analyzed one at a time.

Statistical Data Analysis
The data gathered were treated through the us of the following statistical tools to answer the specific questions formulated.

To find out the percentage of the ITE students of the College of Computer Students who are using Android Phones, the frequency and percentage were used.

To determine the extent of use of Android Phones of the ITE Students, the mean was used. In interpreting the mean, the following interpretation scale was used:

Interpretative Scale Description
4.21 – 5.00 Very Positive
3.41 – 4.20 Positive
2.61 – 3.40 Ambivalent
1.81 – 2.61 Negative
1.00 – 1.80 Very Negative

5. Results and Discussion

Percentage of ITE Students who are Android Phone Users

Program	No. of Students	No. of Students with Android Phone	%99.61
BS Computer Science	255	254	99.61
BS Information Technology	534	530	99.25
BS Information Students	398	396	99.50
Total	1, 187	1, 180	

Table 2 shows that out of 255 BS Computer Science students, 254 have Android Phones and 530 out 534 students have Android Phones in the BS Information Technology Program. Moreover, there are 396 out of 398 BS Information System students have Android Phones.

Common Use of Android Phones Engaged in by ITE Students as a whole

Category	F	%
Online Learning	1, 185	99.83
Phone Calling	1, 187	100
Games (e. g. ML)	800	67.40
Computation	1, 100	92.67
Selfie	1, 187	100
E-Mail	469	39.51
Texting	1, 187	100
Others	980	82.56

Table 3 shows the common Use of Android Phones Engaged in by ITE Students as a whole where the categories of Phone Calling, Selfie, and Texting ranked first. On the other hand, the category of E-Mail ranked last maybe because find it hard to send letters and documents through email.

Extent of Use of Android Phones among ITE Students of the College of Computer Studies

Table 4: Extent of Usage of Android Phones among ITE Students

	Always	Seldom
BS Computer Science	254	1
BS Information Technology	532	2
BS Information System	397	1

Table 4 presents that 254students or 99.61% of the BS Computer Science students, 532 students or 99.63% in the BSIT program and 397 or 99.75% of the BS Information system students always use their android phones, respectively. A barely small percentage of students use their Android phones for specified purposes.

Perceived Effects of Android Phones in Learning to the Academic Performance of the ITE students

Table 5: Perceived Effects of Android Phones in Learning to the Academic Performance of the ITE students

Category	Mean	Interpretation
As a Whole	4.45	Very Positive

The table above shows that ITE students perceived that using Android Phones in learning has very positive effects to their academic performance with a mean of (X = 4.45).

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