

# Effects of Cell phone Use on Study Habits and Academic Performance of Learners

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## Abstract-

The main purpose of this study was to determine the effect of cell phone use on the study habits and academic performance of the Grade 6 and 8 learners. This study utilized a descriptive comparative design of research that examined the extent of cell phone use, study habits and academic performance among the three groups of learners. The following major findings of the study were revealed: All groups got “satisfactory” study habits. Their academic performance, on the other hand, was interpreted as “proficient” with a general weighted average of 85.37.; There is no significant difference between the three groups in terms of their study habits.; However, there exist significant differences between the academic performance of the three groups. With a p-value of 0.013, it was found out that significant differences lie between infrequent users and moderate users as well as infrequent users and frequent users. Based from the conclusions, the following recommendations are hereby formulated: There is a vital need to sensitize learners and educators about the potential academic risks associated with high cell phone use. It is also recommended for teachers to apply a detailed guidance and explanation on how to use cell phones appropriately in classroom settings. Moreover, the school management must be more alive to their responsibilities by ensuring conformity to the school laid down rules and regulations on student’s use of mobile phone device during class session.

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*Keywords: academic performance; cell phone use; study habits*

## 1.0 Rationale

The 21<sup>st</sup> century is an era of science and modern technology. Nations which are doing well in the fields of computers, information technology, electronics, biotechnology and telecommunications are normally regarded as most modern and scientifically advanced nation. In the field of telecommunication, cell phones are wonderful invention of science. Cell phones are used for communication, entertainment, preserving memories etc. It offers a number of functions as making or receiving calls, Short Message Service (SMS), Multi Media Service (MMS), Bluetooth, infrared, recording audios and videos which attracts users. The Philippines appears to be in the fore front of the developing market for cell phone service to young people. It is one of the fastest growing mobile subscribed base in the world. Surveys and studies from a number of countries indicate that the use of cell phones in young people is increasing rapidly and starting at a younger age. Almost half of the mobile internet users are between 18 and 26 years. Studies show varying prevalence of use at different ages in different countries. According to the Wireless World Forum, a research consultancy, the number of young people using mobile voice and data services in the Asia Pacific Region will continue to increase (Sundari,2015).

Cell phone is the only item which qualifies to become the first personal protected and private item of possession. It gives a high regard to anyone who own such personal and private item. Ease in early adoption is another significant merit of cell phone. Its affordability and coverage of services and its increasing importance as a means of two-communication are responsible for the rapid expansion of cell phones all over the world.

Cell phones are good for education for many reasons. First you can use cell phones for research purposes. Although most schools have at least 1 computer in the classroom and a computer lab, sometimes this still isn't enough. It can also be expensive to provide a computer to each student at school, so a good option is to use cell phones for research instead. Second, some people think that some apps like Facebook, Instagram, twitter, messenger, etc. are bad and kids will get attracted and use them in class. On the contrary, cell phones have many educational apps as well, which are fun and exciting for a student. There are some good features of a cell phone that are beneficial to school:

*Calculator.* It doesn't matter if the cell phone is expensive or not, almost every single cell phone has a calculator. Lots of students are required to have a calculator as one of their school supplies, but if they have one on their phone, then they don't have to get one.

*Stopwatch.* Lots of phones have a stopwatch, which can be used in science class especially when doing experiments.

*Dictionary.* Cell phones can be used as a dictionary, which can be very useful in a classroom setting. One can always search on the internet for the definition.

*Cell phones* are perceived as a useful and important for conversation, entertainment and preserving memories. It helps students to achieve many educational tasks and makes easy for them to keep in touch with relatives. But at the same time, it affects inversely their studies by means of the following: Cell phones disturb and distracts the concentration of the students in class; Excessive use of cell phones keeps students busy and they find less time for studies; It promotes pop culture; makes limited the students' contacts; Affects the students health by increasing level of depression, stress and loss of appetite; it damages the areas of the brain associated with learning, memory and movement; use of cell phones in classes, libraries and public places violates social norms, the appropriate and acceptable behavior associated with certain situations is not regulated.

In modern classrooms, teachers face many challenges as they compete for students' attention among the variety of communication stimuli. One of these is the use of cell phones by the students even during class hours just to text their friends, play games, check their Facebook, Tweet, and the like. Lenhart, Ling, Campbell and Purcell (2010) cited that 64% of students who own cell phones have texted during class, even in schools where cell phones are technically banned. Those texts potentially come at the expense of learning, as texting during class reduces students' ability to self-regulate and give sustained attention to classroom task (Wei, Wang, & Klasuner, 2012). Similarly, Salter (2010) observed that students have consistently displayed higher level of attachment to their mobile phones which could serve as distractions to them because of the time channeled to the phones.

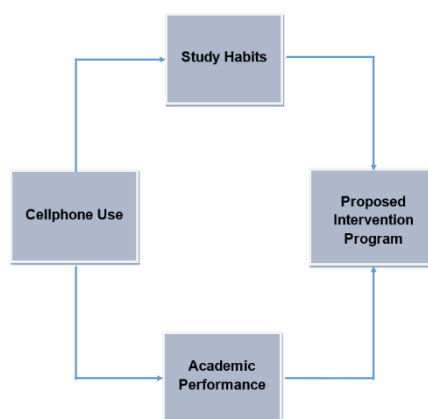


Figure 1. Schematic Diagram of the Conceptual Framework

Texting, the ability to send short messages to another person, is perhaps one of the more popular features of modern cell phones. Roughly 94% of 18-34 year-olds report that they send or receive text messages using their phones, and 63% if this age group access the Internet using their phone (Zickhur, 2011).

Campbell (2006) reported that young people ages 18 to 23 are more tolerant of mobile phones in the classroom when compared to older age brackets. Essentially, "Young people tend to have very positive perceptions of mobile phones and regard the technology as an important tool for social connection".

Results of interviews with teachers have proven that rampant use of social networking, texting and chatting on cell phones results in lower grades and poor academic performance of students. While people of various ages find cell phones convenient and useful, younger generations tend to appreciate them more and be more dependent from them. From own experience and observation, some students have the habit of keeping their cell phones on during classes and studies, even in the library, thereby distracting others. In this context, there is a need for a study. The main purpose of this study was to determine the effect of cell phone use on the study habits and academic performance of the Grade 6 and 8 learners of Anahawan Elementary School and of Anahawan National High School, Anahawan, Bato, Leyte.

## **2.0 Theoretical / Conceptual Framework**

This study is anchored on the Psychosocial Development Theory by Erikson (McLeod, updated 2018) who maintained that personality develops in a predetermined order through eight stages of psychosocial development, from infancy to adulthood. During each stage, the person experiences a psychosocial crisis which could have a positive and negative outcome for personality development. These crises are of a psychosocial nature because they involve psychological needs of the individual conflicting with the needs of society. Successful completion of each stage results in a healthy personality and the acquisition of basic virtues. Basic virtues are characteristic strengths which the ego can use to resolve subsequent crises.

The fifth stage in Erickson's theory is identity versus role confusion and it occurs during adolescence, from about 12-18 years of age. During this stage, adolescents search for a sense of self and personal identity through an intense exploration of personal values, beliefs and goals. This is a major stage of development where the child becomes more independent and wants to belong to a society and fit in. It is during this stage that he will re-examine his identity and try to find out exactly who he is or she is.

In response to role confusion and identity crisis. Elkind (Sundari, 2015) in his theory of adolescent egocentrism, pointed out heightened self-consciousness during adolescence. Young adults pay significant attention to what peers think of them.

Both Erikson and Elkind highlighted increased peer influence on youth. This is also confirmed by Ling (2001) that youth are particularly susceptible to trends, fashions and styles, which make them more willing to adapt new technological devices and certain behavioral characteristics. Both theoretical perspectives and previous empirical studies suggest that the recent rapid increase in cell phones has influenced multiple aspects of our daily lives, particularly those young adults. The aim of the current study, therefore, is to examine how important it is for Grade 6 and high school students to use and their usage pattern of cell phone in class rooms, the impact of mobile phone on the study habits and the effects of mobile phone on the academic performance. As shown in Figure 1 in the next page, the independent variable which is the extent of cell phone use by the learners of Anahawan Central School and Anahawan National High School (ANHS) will be determined, and how these would affect their study habits and academic performance, the dependent variables.

The schematic diagram shows that cell phones affect the students' study habits. With the increasing attraction of mobile phones, learners are more engage in some of these features like chatting which results to less time in studying. In addition, cell phones can also affect students' academic performance, because of its multiple functions. Based on the findings of the study, an intervention program was proposed.

## **3.0 Methodology**

This study utilized a descriptive comparative design of research. Specifically, it made use of a descriptive method in order to describe the cellphone use of the learners, their study habits and academic performance in school. This utilized a survey through a questionnaire to see the general picture of the problem under investigation. Furthermore, it is comparative in the sense that this study also examined the extent of cell phone use, study habits and performance among the 3 groups of learners. The study was conducted in the 2 schools of Anahawan, Bato, Leyte. The first is Anahawan Central School, located at the heart of Barangay Anahawan, the largest barangay in the municipality of Bato, Leyte. It has 17 regular teachers headed by a full-fledged principal. It offers a complete elementary grade level and a kindergarten. It has a population of 400 pupils. The school is accessible by land transportation and well supported by the Parents-Teachers Association. The second school is Anahawan National High School. It attained its status as a National High School by virtue of the Executive Order 189 placing all municipal and barangay high schools under the national government.

Respondents for this study were two different groups of learners from two schools in Anahawan, Bato, Leyte. All grade 6 pupils of Anahawan Central School composed of 54 pupils comprised the first group. The second group were the one hundred sixty-one (161) Grade 8 students coming from the five sections of Anahawan National High School. These are: Section Artemis-33, Aphrodite-34, Athena-31, Apollo-31, Ares-32. Of this number, 78 were males and 83 were females. A stratified random sampling was employed to get the number of respondents representing this group. Ages of respondents ranged from 13 to 16 years and own a cell phone or use a cellphone regularly. The study utilized two sets of questionnaires: one for the learners to elicit information about their profile regarding cell phone usage. This is a 20-item questionnaire to determine the profile of the students in terms of cell phone use.

The other set sought information about their study habits. The study habits questionnaire is adopted from the University of Central Florida Students Academic Resource Center. This instrument consists of 30 items soliciting information on what behaviors are exhibited by the students when 1) studying, 2) managing their time, 3) taking notes, 4) reading textbooks, 5) memorizing, and 6) preparing for tests. Each topic consists of 5 items each. It uses a three-point rating scale which are coded as follows: 1-rarely, 2-sometimes, and 3-often. Since the respondents are students, the researcher asked permission from the school’s district supervisor and principals of the two schools to allow him to conduct the present study to the Grade 6 pupils of Anahawan Central School and Grade 8 students in Anahawan NHS under Bato District. Once approved, the researcher personally met the teachers-in-charge of the two grade levels and the Grade 8 students to explain to them the objectives of the study and arranged the schedule of instrument administration. The respondents were required to answer the survey questionnaires by giving the most appropriate response to each item and were required to return back the questionnaires to the researcher. Actual observation, personal interviews of selected learners, and documentary analysis was done right after the retrieval of the questionnaires. Simultaneously, data gathering of the pupils’ academic performance was also done.

All gathered data were subjected to appropriate statistical treatment for the purpose of interpretation and analysis. The frequency, percentage, and means were used to determine the profile of the cell phone use of the learners. The learners were then grouped according to the following ranges:

<i>Range</i>	<i>Description</i>
3.67 – 5.00	Frequent Users
2.34 – 3.66	Moderate Users
1.00 – 2.33	Infrequent Users

As to study habits and academic performance, means and standard deviation were used. Analysis of Variance (ANOVA) was used to determine the significant difference of the variables of the study. As a result of the study, an intervention program was proposed.

#### 4.0 Result and Discussion

This chapter presents the analysis and interpretation of data gathered during the investigation. Moreover, all necessary data are in tabular form and are further supported by the appropriate statistical interpretations in order to determine the level of language comprehension of the pupils in Mother Tongue and English in their Mathematics subject, their mean percentage score and the relationship between these variables.

##### *Level of Language Comprehension of the Pupils*

Table 1 presents the language comprehension of the pupils in their Mathematics subject in terms of using Mother Tongue and English languages.

Table 1. : Level of Language Comprehension of the Pupils

Language	Mean Score	Standard Deviation	Percentage (%)
Mother Tongue	15.26	4.03	76.32%
English	13.46	4.67	67.29%

Out the twenty items in the language comprehension test for grade 3, the pupils got a mean score of 15.26 in Mother Tongue while they got only a mean score of 13.46 in the English language. This implies that the pupils

got a higher score in their language comprehension test in mathematics using the mother tongue with 76.32% out of the 20 items and only 67.29% using the English language. Scores in both language comprehension test got approximately equal standard deviations of 4.03 and 4.67 in Mother Tongue and English, respectively. This means that the scores in both languages deviate more or less the same around their respective means. These results further imply that the pupils did better in their math comprehension using the Mother Tongues language.

Studies have found evidence to suggest that mother-tongue education leads to **better academic performance**. In their paper “Estimating the impact of language of instruction in South African primary schools: A fixed effects approach”, Taylor and Coetzee (2013) find that “among children in schools of a similar quality and coming from similar home backgrounds, those who were taught in their home language during the first three years of primary school performed better in the English test in grades four, five and six than children who were exposed to English as the language of instruction in grades one, two and three (Marnewick, 2015). The study by Pelesco & Borong (2021) also found that speaking in one's native tongue helped pupils improve their performance, particularly their expression. This finding seems to be in line with the results of this study which promoted the advantage of mother-tongue instruction in the early stages of children’s education.

**Mathematics Performance of the Pupils**

The mathematics performance of the pupils is shown in Table 2. This was interpreted using the percentage equivalent in Grade 3 adopted on their Report Card in which 74% and below had the qualitative description of Beginning (B). 75%-79% had the qualitative description of Developing (D), 79%-84% had the qualitative description of Approaching Proficiency (AP), 85%-89% had the qualitative description of Proficient (P), and 90% and above had the qualitative description of Advanced (A).

Table 2. : Mathematics Performance of the Learners

Pupils	GWA	Interpretation
<i>Overall GWA of Grade 3 Pupils</i>	<i>87.34</i>	<i>Proficient</i>

The general weighted average of all Grade 3 pupils is 87.34 interpreted as “proficient”. This means that the Grade 3 pupil-respondents are already “proficient” in terms of their mathematics performance. Considering that Mathematics is commonly the dreaded subject by the pupils, it is good to note that these group of pupils are already proficient in this subject. However, there is still a chance to improve and hopefully be able to increase their performance up to the “advanced” level.

The result of this study is similar to that of Estonato, et.al. (2017) entitled “Effectiveness of Mathematics Proficiency Sessions (MPS) for Primary Pupils”. wherein the overall mathematics proficiency level of their Grades 1, 2 and 3 pupil-respondents is in the proficiency level with a proficiency score of 85.20%. Thus, it can be deduced that there is a substantial evidence of improvement both in the performance and proficiency level of pupils since from beginning level during the pretest, the performance of the pupils was raised to proficiency category.

**Significant Relationship between Mathematics Performance and Language Comprehension**

The research question that this study primarily wanted to investigate is whether there is a significant relationship between mathematics performance and each of the language comprehension in Mother Tongue and English. These data are found in Table 3.

Based on the table, the computed correlation coefficient when mathematics performance is correlated with language comprehension in Mother Tongue is 0.792 with *p*-value of .000.

Table 3. : Relationship between Mathematics Performance and Language Comprehension

<i>Variables</i>	<b>Mathematics Performance</b>	
	<b>Pearson <i>r</i></b>	<b>Degree of correlation</b>

<b>Mother Tongue Language Comprehension</b>	.792** .000	<b>High positive correlation</b>
<b>English Language Comprehension</b>	.608** .000	<b>Moderate positive correlation</b>

\*\*Significant at 0.01 level

Since the value is significant even at 0.01 level, there is sufficient evidence to reject the first null hypothesis. In other words, the pupils' mathematics performance is highly significantly correlated to their language comprehension in Mother Tongue. The same result was achieved when mathematics performance is correlated with language comprehension in English. With a Pearson  $r$  value of .608 ( $p$ -value=.000), this reject the second null hypothesis. This implies that there is a significant relationship between mathematics performance and language comprehension in English. The difference lies in the degree of correlation. The Mother Tongue language has a high positive correlation with mathematics performance while the English language has only moderate positive correlation.

In 2009, the Department of Education (DepEd) recognized the benefits of teaching children using their mother tongue or first language. Local and international research has found that children learn to speak, read, and write more quickly in their first language, and can pick up a second and third language more easily if taught in their first language. In the same way, they acquire other academic competencies more quickly, particularly in science and math (Llaneta, 2018).

These results also coincide with that of Aguja, et. al. (2018) in their study "Improving Pupils' Mathematics Achievement Through Mother Tongue Based-Multilingual Education". Results revealed that the mathematics pupils when exposed to either English or Filipino language exhibited "good" performance on items in the remembering and understanding levels while "fair" performance was noted in items where applying skills were required. Whereas, pupils tend to perform better in Mathematics when Filipino is the medium of teaching and learning. Results provided evidence that the pupils' first language positively affect their Mathematics achievement.

### 5.0 Conclusion and Recommendation

Based on the aforementioned research problems and corresponding findings the researcher concluded that it can be conclusively stated that the pupils performed better in their language comprehension test using their Mother Tongue compared to using English as language. And all respondents got a proficient mathematics performance. Though this can be improved to achieve the "advanced" level in their report card. From the findings the researcher suggest that appropriate attention must be given to the development of language comprehension both in Mother Tongue and English. Teachers must plan intervention programs to improve and develop the pupils' comprehension in Mathematics. Pupils must be encouraged to develop their mathematics skills to better improve their Mathematics performance. And the school must provide adequate materials for the pupils to enhance their comprehension in math.

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