The effect of smartphone usage on student discipline, motivation and learning achievement

S Irna*
Departemen Pendidikan Matematika, Universitas Pendidikan Indonesia, Jl. Dr. Setiabudi No.229, Bandung 40154, Indonesia

*Corresponding author’s e-mail: irnasuryani@upi.edu

Abstract. This study aims to explain the effect of smartphone use on student mathematics learning achievements. The method used in this study is the collection of correlation data using questionnaires and interviews. The subjects of the study were 158 students at the Al Azhar 7 Islamic Middle School in Sukabumi. This research is based on the use of smartphones among students, whose intensity is increasingly increasing, has even become a trend. Uncontrolled use of smartphones results in discipline, motivation and learning achievement being interrupted. The first process is to look for the influence of intensity of smartphone usage on students’ learning discipline, on motivation and on student achievement. The research instrument consisted of 12 items of student learning activities and 14 items of smartphone use, 14 items of learning motivation. The data analysis method used is the Validity Test and Reliability Test techniques. Based on the data analysis (assumptions) that have been done, the results of the research from Pearson Corelation show that r = 0.321 with P = 0.000 (P <0.05). This means there is a relationship (-) between the intensity of smartphone use with discipline, motivation and learning achievement of students. This means that the higher the intensity of smartphone use, the lower the discipline, motivation and learning achievement of students, and vice versa. The intensity of smartphone use gives a large percentage of students’ discipline, motivation and learning achievement, while the rest is determined by other variables not examined. The results of this study's data analysis that the relationship between the intensity of smartphone use and discipline, motivation and learning achievement of students is inversely or inversely. So that the conclusions in this study can be said that smartphone use in class VII has a negative relationship between the intensity of smartphone usage with acceptable student learning discipline, but smartphone use in class VIII is inversely proportional, because although the intensity of smartphone use in class VIII is high but achievement they are still good, their tap can divide the time between smartphone use and learning.

1. Introduction
Today, almost everyone cannot separate himself from a smartphone. Not even a few who think it's better to leave the wallet at home, compared to a smartphone when traveling. The use of smartphones also extends to enter the habits of users with their smartphones. In Indonesia, social media and chat are expressed very popular, even in the top of the world.

Young users are said to be more likely to like to play mobile games, listen to music and watch videos. Whereas, at an older age just like activities in taking photos or checking incoming e-mail on their smart phones.

Addiction in using a smartphone makes smartphone users withdraw from their world, this kind of thing is called the term nomophobia, which is a kind of disturbance that occurs when the user is worried when he is not holding his smartphone.
Figure 1. show that Smartphone Activities of Users in Indonesia by Age [1]

Now more and more people are spending their time alone with gadgets, internet and e-mail making people absorbed in their own lives [2]. Communication between humans face to face is increasingly rare because they prefer to communicate via a smartphone. People so rarely observe the surrounding environment, because it is more drowned with the smartphone. As a result, the sense of caring around was reduced, even more concerned about social issues from his smartphone.

This condition greatly affects the character and development of our teenagers, especially in the learning process at school. Therefore SMPI Al Azhar 7 Sukabumi issued a rule to students that during the PBM process and being in the school environment all students were prohibited from carrying or using a smartphone at school, except for certain PBM and the permission of the teacher concerned. But even so many reports from parents of students that the use of smartphones of their children cannot be regulated / conditioned and knows no time, especially during school holidays. Seeing this phenomenon and condition, I am as a teacher at SMPI Al Azhar 7 Sukabumi wanted to convince and know the relationship between smartphone usage, discipline, motivation and student achievement.

2. Reserach Method

2.1. Research Design
This type of research is ex post facto research. Ex-post facto research is a study that deals with variables that have occurred and do not need to treat the variables studied [3].

2.2. Time and Place of Research
This study was conducted at SMPI Al Azhar 7 Sukabumi. Jl. KH. Ahmad Sanusi no. 195 B

2.3. Research Variables
The independent variables in this study are discipline, motivation, and student achievement of smartphone use and variables depend on student discipline.

2.4. Population and Samples
The population in this study were students of class VII and VIII, amounting to 88 students divided into 2 classes.
2.5. Data Collection Method
The method used to collect data in this study is the questionnaire method using a Likert scale. There are 3 parts of the questionnaire for data collection, namely the scale of student learning activities, smartphone use and learning motivation.

2.6. Research Instrument
The instrument used was a smartphone usage questionnaire, discipline, motivation and learning achievement.

3. Result and Discussion

3.1. Discipline Description Using Smartphone
Discipline is essentially the ability to control oneself in the form of not doing something ‘actions that are not appropriate and contrary to something that has been determined and prioritize something that has been determined [4].

There are three types of student discipline in learning, namely: First, learning discipline is built on authoritarian concepts [5]. This concept states that students in schools are said to have high discipline when students want to sit quietly and pay attention to the teacher's wishes and should not argue so students are afraid and forced to follow what the teacher wants. Second, learning discipline is built on permissive concepts. Students must be given the widest possible freedom in class and school. Third, learning discipline is built on the concept of controlled freedom or responsible freedom. The point is discipline that gives the widest freedom to students to do anything, but the consequences of the action are the responsibility of students.

There are several indicators of learning discipline that are used as indicators in research instruments. 1) Carry out the order well, both for teachers, and students, because the prevailing order is a rule that must be obeyed by anyone in the smooth process of education. 2) Comply with the policies and policies that apply. 3) Self-mastery and self-reflection [6].

Changes in student learning activities are a change in behavior where students find a good mood that makes his heart happy or sad. Factors that affect student learning activities are external and internal factors. There are 3 internal factors, namely physical factors, psychological factors and fatigue factors. There are also 3 external factors, namely family factors, school factors and community environmental factors.

Learning tools are one of the external factors in the current era, where students use smartphones as learning media to obtain information on their learning resources. But in reality the majority of students use smartphones in things that are not useful, such as playing games, social media, browsing and so on. This causes less time for students to learn because most students use their time to play smartphones. The results showed that almost all students of SMPI Al Azhar 7 Sukabumi rarely deactivated their smartphones and on average their smartphones were always active 24 hours, and not infrequently children still played smartphones above 21.00. At the time of learning students still often open Facebook/Instagram/WhatsApp etc. As a result of playing smartphone students are lazy to learn, even forget to do school assignments, which eventually students are not disciplined between playing smartphone time and study time.

The existence of smartphones raises concerns among parents who use their smartphones too much, and students admit that if their parents always advise them not to use their smartphones excessively, because parents feel worried about the excessive use of smartphones, they forget their obligation to learn. Every parent always reminds his son to be able to share time between using a smartphone with learning.

3.2. An Overview of Student Learning Motivation in Smartphone Use

3.2.1. Use of a Smartphone
The intensity of smartphone use is a quantitative measure of a sensing to measure the frequency and duration of accessing a smartphone [7]. In this study there are two basic things that must be observed to determine the intensity of smartphone use. a) The frequency of using a smartphone how often the time used to access a smartphone is how many hours a day, how many minutes a day using a smartphone. b) Duration, namely the amount of time and time to access a smartphone, how many days a week, how many weeks a month. Because the results of the study mostly students use smartphones more than 6
hours a day for fun or entertainment compared to using a smartphone to study. From this excessive use of smartphones, there are so many students who forget to carry out prayer services.

3.2.2. Learning Motivation
In the Indonesian language dictionary motivation is an impulse that arises in a person consciously or unconsciously to do an action with a specific purpose or effort that can cause a person or group of people to be moved to do something because they want to achieve their desired goal or get satisfaction by themselves. Motivation can be divide into two, there are:

3.2.2.1. Intrinsic motivation, is the motivation of things or circumstances that come from within the students themselves who encourage them to learn

3.2.2.2. Extrinsic motivation, is things and circumstances that come from outside the individual students who also encourage them to carry out learning activities.

3.2.3. Student learning achievement
In the Indonesian language dictionary, achievement is the result that has been achieved (from what has been done, done, etc.). Learning is the mastery of knowledge or skills developed through subjects, usually indicated by the value of the test or the number of values given by the teacher. So if combined the meaning of achievement and learning is mastery of knowledge or skills developed by subjects that are usually measured in the value of the test.

There are two factors that influence learning achievement:

3.2.3.1. Internal factors; (a) Intelligence factor, Has a big role in determining one's learning success; (b) Interest factor, Interest is a feeling of interest in something without anyone telling; (c) Talent factor, Talent is one of the human abilities to carry out an activity and has existed since humans existed; (d) Motivation factor, Psychological conditions that encourage someone to do something

3.2.3.2. External factors; (a) Factor family environment, The family environment is one of the factors that greatly influences student learning achievement, because most of the learning time is done at home; (b) Factors of other sources, One of the factors that support the success of learning is an adequate learning resource. Learning resources can be in the form of media or learning aids that can be used by students to learn.

In my study consisting of class VII and class VIII. Class VIII with a total of 56 students, on average they activate a 24-hour smartphone and they often activate smartphones above 21.00. They use smartphones more than 6 hours a day for fun or entertainment. However, they rarely use smartphones more than 6 hours a day to support learning activities. For children smartphones are the most important thing compared to money and food, but they can divide the time between using a smartphone and learning.

The validity of smartphone use in class VIII is calculated to be sufficient and high reliability. For class VII with a total of 32 students, the average smartphone usage is 24 hours but they rarely activate smartphones above 21.00, but as a result of this smartphone many feel disturbed so that they are lazy in learning and sometimes forget to do homework. And on average they rarely use smartphones more than 6 hours a day for fun or entertainment and they also rarely use smartphones more than 6 hours a day, but their learning motivation is low. The validity of smartphone usage in class VII is calculated to be low and reliability is very high.

3.3. An Overview of Student Learning Achievements in Smartphone Use
The use of smartphones is a person who uses a smartphone that maximizes the function of a smartphone for everyday life. Due to the ability of smartphones that are like mini-computers, smartphone usage is currently not only used for public needs but telephones, sending short messages, and playing games are available, but current usage has become more diverse since technological developments, especially browsers and applications.

With the occurrence of smartphone use for students of Sukabumi Al Azhar 7 Islamic Middle School it turns out that students' achievement in class VII is low because they cannot divide their time between playing smartphones and learning, but for class VIII their learning achievement is high even though the
intensity of use of smartphones is high, but they can divide the time between the use of smartphones and learning so that their learning achievements remain good.

4. Conclusion
Based on the results of the research and discussion that has been described, then conclusions can be stated as follows:
1) Students of Al Azhar 7 Islamic Middle School in Sukabumi rarely turn off their smartphones, even their smartphones are active 24 hours on average, and there are still many students who still use smartphones above 21.00. So that sometimes they forget about homework or study, even though their parents always remind them not to overuse smartphones.
2) The use of smartphones for students of Al Azhar 7 Islamic Middle School in Sukabumi uses an average of more than 6 hours of smartphone only for fun or entertainment, but they rarely use smartphones more than 6 hours to study. So that they cannot divide their time between smartphone use and their obligation to learn, until they forget, even those who forget to worship. For them smartphones are the most important thing compared to money and food. But they believe that although they often use smartphones, they will not disturb the concentration of their learning.
3) As a result of excessive use of smartphones for students and class VII students influence the achievement of students enough but for class VIII children are not too disturbing to students' learning achievement, perhaps because class VIII children can divide the time between smartphone use and learning.

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