Relationship Between Smart Devices and University Study Efficiency: a Case Study of Rangsit University

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Abstract

Mobile phone as a teaching tool is becoming a more and more important role of the education experience in the classroom. According the Pew Research Center data, they found out the percentage of American teachers own smart phones are higher than the national average for adults. Because those teachers plan to use technology into their lesson and guide students to bring smart devices to come to study, especially iPads. By the way, beginning in 2013, American schools had policies that support student to use smart devices and it's the reason it has risen in the past two years. Do smart devices really help students to study more efficiency or not? Does the high tech trend just grab the attention of students? And is the new technology useful in classroom instruction, or is it a bad way to support students to use smart devices by playing video game in the classroom? That is the purpose of this research paper (Matthew Lynch, 2015).

Keyword: *smart devices, education, teaching plan, classroom, technology, attention, policy*

1. Introduction

The smart devices is a kind of electronic device, generally it is connected to other devices such as: laptop, tablet, PC or networks via a different way, such as: WIFI, 4G network, NFC, Bluetooth, etc, and a person could operate it to connect interactively and smart devices autonomously.

Currently, in the marketing, the notable types of smart devices are smart phones, tablets, smart watches and smart bands. In this paper, the devices could be computing or artificial intelligence.

Smart devices can be designed to support a variety of form factors, it can be many roles of life, not only a machine, sometimes smart devices could be a partner and helping make life easier and more efficient. (Boase, & Ling, 2013)

Currently, the person begins to use smart devices to study as well. And some smart device companies initiate student to use smart devices to study.

Today is 21 century, we try to be more efficient in ways of studying and working. Not can pencils and papers be used to study. And even we don't need a book to study. There are many ways to study. iPad and E-learning systems are used by students. They may think the new technology could help them to study easier. By the way smart device companies pay attention to customer groups (student) as well. They are developing more powerful functions for studying.

Currently, there are more people who have a smart devices, such as smart phones, iPads or electronic reading devices. Certainly, everyone must have one kind of smart device. Smart devices could help us to do many things in life, also they could help us to do many things easily. According to a study (Lynch, 2015), smart devices could help people to study more efficiently.

Most smart devices have to connect with the Internet and show the information on the screen. Smart devices could help people communicate with the world and understand more news. Also, some applications could help us to calculate, remember the words, even use them to watch to study videos anywhere. By the way, sometimes student use smart devices to discuss group assignments with friend anywhere (Bakhurst, 2009).

In recent years, smart device have become more important, which come to be used to play the video games even in the classroom. Some study to bring smart devices and teachers suggest students to use smart devices in the classroom to see the PPT or search information from the lesson. But how about the real situation? Can smart devices help students to study or is it a disturbance? The survey shows:

Around 70% of the teachers using smart devices in their classrooms, either use it to for their own instruction or guiding students to use it to finish homework and group assignments (Lynch, 2015).

Depending on the other organization data: English teachers are more likely to use mobile technology in the classroom than math teachers (Best and Kahn, 1998).

Also, more than 50% of teachers agreed that students need a smart device to study, as it could be successful to retrieve knowledge (Lynch, 2015).

In 2010, depending on the reports, smart devices are not only bringing the attention from the children, to the children as young as preschool, while they play the vocabulary games against kids of all ages on a mobile app then their vocabulary will improve up to 31%. On the other hand, another American university collected data of accounting students who used a tablet PC app and saw improvement in their final exam. Those students also thought it was easier and motivated them to finish homework on the smart devices more than through traditional way (Başoğlu & Akdemir, 2010).

Currently, a few research papers followed fifth and sixth graders who use smart devices for studying in the class and at home reduced the time to finish the homework. More than half of the student said that they were more interested in the classroom while the teacher let them use smart devices or use smart devices to finish the classroom assignment. And the students received more knowledge than teachers' academic expectations. There are more than 50% students say that they like to use smart devices to study and 60% of the students say they hope their teacher used more educational games in smart devices to teach them (Becker, 1991).

Modern smart devices enable users to operate different kinds of electronic media at almost any time and any place. Most popular activities such as playing games and watching movies are easily to operate in most smart devices. Research papers should link with each activity, depending on the situation. If students heavily play vide games, this may affect their GPA (Jackson, von Eye, Witt, Zhao, & Fitzgerald, 2011). On the other hand, low levels of internet use have shown with improved academic performance (Chen & Peng, 2008). Few studies present: using different kind of methods, identifying the negative relationship between multitasking and academic performance. At first, consider the influence of multitasking with those electronic media on students' ability. Studies showing those using MSN messaging and texting was associated with lower scores on follow up tests who did not use much more social media. Those negative results have been found of across the world, including North American, Asia and Europe

Those are some information about smart devices in the classroom. Some teachers think smart devices could improve the study efficiency but some students like to use smart devices to play video games and watch movies and not use it to study.

On the other hand, the smart device really could help students to study.

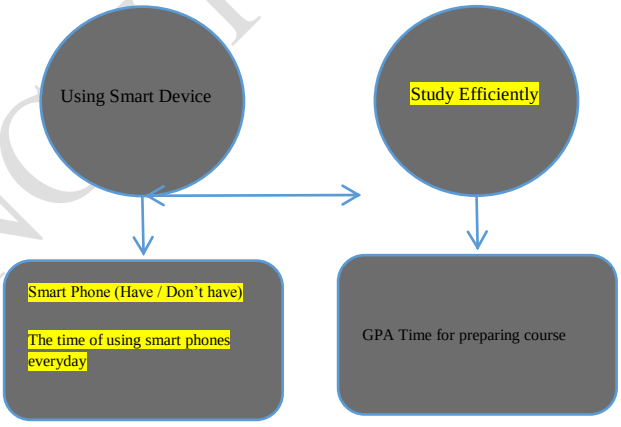

Figure 1 Explanation of smart device and study efficiency

2. Objectives

1. To investigating the relationship between smart device and study efficiency. Collect the data and analysis about: does a smart device really help student to study efficiently or not.

2. To understand how to use smart devices to improve study efficiency, and which function and what kind of way can share to other students

3. Materials and Methods

Data sources and research strategy Journal articles published during the period 2007-2016 were searched regarding smart devices and about the study efficiency via reference-list checking to retrieve the relevant literature.

Research strategy: prepare questionnaire and do interviews using the questionnaire to collect information from participants. Also, upload the questionnaire to the Internet, and rewarding the participants that were involved in the interview with a gift.

Use questionnaire to collect the data. The questionnaire subjects were 142 students who study at Rangsit University from different majors or colleges.

4. Results and Discussion

4.1 The smart device function

From question 'Most of time, you use your smart device for?'. Most of the answer was to study and watch a movie, as there were more than 61% student who choose those two options. It means smart devices that can be used to study and relax as well. This situation shows: students could use smart devices to study in the classroom, by the way they could use it to do the other things. It means smart devices could be good for studying and bad to study as well. By the way, at the end of this research paper, the question 'How many applications are your smart device not for studying?' There are 30% of the people who chose answer '4' and 45% of the people who chose answer '5'. According to it, the student may not easily control themselves, they may download and use the application while in the classroom. Then the smart device won't help students to study efficiently and easily. Depending on this situation, to analyze it, the big percentage of population in the questionnaire may not be hard to study. Those people who possess a lower GPA and might not pay attention while study. In the research paper, the researchers have few people who chose they don't have applications for studying, even 'Youtube', they use it to watch studying videos and teaching videos. Those people really use smart devices to study and use smart devices efficiently to study.

Table 1 Most of time, you use your smart device for?

Study	Watch movie	Play the video game	Other
30%	31%	11%	28%

Table 2 How many applications in your smart device not for studying

3	4	5	More than 5
16%	30%	45%	9%

4.2 The habit of study

From the question 'How many hours that you use to prepare for your class?' There are only 20% of the people who chose '1 hour' but more than 56% chose '0 hours', 10% chose '2 hours'. According to it, the data showing: quite a lot of student who don't have the behavior to prepare for a lesson. Studying how a student uses smart devices to study efficiently or not, mostly depends on how students use smart devices to prepare for a lesson. If the student doesn't have the habit of preparing for a class, analyzing other behavior or factors is useless.

On the other hand, from the question 'How many hours that you use to finish your homework per day after you have a smart device?' and 'How many hours that you use to finish your homework per day?' The results depend on the fact that lots of student shorten to finish the homework while they using smart

devices. That is a direct way to show the student could use smart devices to study more efficiently. Most of the students choose while they don't have a smart device could spend on average 3 hours to finish homework per day. Then after they have a smart device, more than 74% of student choose on average 2 hours to finish homework per day.

Table 3 How many hours do you use to prepare for your class?

0 hour	1 hour	2 hours	Other
56%	20%	10%	14%

5. Conclusion

This study has investigated the factors that would affect the relationship between smart devices and study efficiency. According to the analysis of the data from the questionnaire, the result shows there are smart device that could help students to study efficiently. But depending on the students who have good study habit or not. If the student is lazy or isn't interested in studying, smart devices could divert student's attention. Smart devices could be used to play games or watch movies. Totally to say, in the classroom, teachers should lead students to use smart devices for studying and use smart devices to support their studies. And while students go back home, they could reasonable allocate time to studying. It means student should control themselves to use their smart devices to study, as well.

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7. References

Bakhurst, (2009). *Reflections on activity theory*, A comparison of undergraduate students' English vocabulary learning: using mobile phones and flash cards (pp. 197-210), Critical Perspectives on Activity Theory

Becker. (1991). How computers are used in United States schools: basic data from the 1989 I.E.A. Computers in Education survey. *Journal of Educational Computing Research*, 7.

Becker. (2001). *How are teachers using computers in instruction?* (pp.21) 2001 Annual Meeting of American Educational Research Association, Seattle

Best and Kahn. (1998). *Research in education* (8th ed.), Allyn and Bacon, Boston, MA

Boase, J. A., & Ling, R. (2013). Measuring mobile phone use: Self-report versus log data, *Journal of Computer Mediated Communication*, *18*, 508-519.

Jackson, L. A., von Eye, A., Fitzgerald, H. E., Witt, E. A., & Zhao, Y. (2011). Internet use, videogame playing and cell phone use as predictors of children's body mass index, body weight, academic performance, and social and overall self-esteem. *Computers in Human Behavior*, *27*, 599-604.

Lynch, M. (2015). *Do mobile devices in the classroom really improve learning outcomes*. 21-22. Retrieved March 31,2015, from https://theconversation.com/do-mobile-devices-in-the-classroom-really-improve-learning-outcomes-38740