

# The Effect in Cognitive, Affective, and Behavior of Using Electronic Gadget among University Students

F. Mariam<sup>1</sup>, M.Y. Kamal<sup>2</sup>, Z.M. Lukman<sup>3</sup>, C.Azlini<sup>4</sup>, R. Normala<sup>5</sup>

<sup>1,2,3,4,5</sup> Faculty of Applied Social Sciences, Universiti Sultan Zainal Abidin, Kuala Nerus, Terengganu, Malaysia

**Abstract**— The problem of using electronic gadgets is increasing as a result of rising modern development and the widespread sophistication of the internet. This main purpose of this study is to identify the effect in cognitive, affective and behavior of electronic gadget among university students. The data was collected through questionnaire and analyzed using descriptive statistics. The descriptive statistic is reported by frequency and percentage to show the effect in cognitive, affective and behavior of electronic gadgets. A total of 352 respondents had completely answered the questionnaire. The result shows behavior effect greatly affects the use of the electronic gadget.

**Keywords**— Electronic gadget, Cognitive, Affective, Behavior

## I. INTRODUCTION

There are billions of people using electronic gadgets around the world [7]. By 2018, it has been estimated that there are over seven billion electronic gadgets used by accessing the internet continuously [9]. Accessing the internet is an important feature of today's electronic gadgets [14]. Smartphones are no longer just phones but mobile multimedia devices are the same as tablets and laptops [21]. Social media, internet services, multimedia applications, and others are the cause of persistent demand by consumers, which has led to the rapid increase in the use of electronic gadgets today [20]. For example, in 2013 the average download rate was almost 1.4 Megabit per second, which nearly tripled the average speed from 2012 which is only 520 Kilobits per second [12].

The rapid increase in computing power, memory capacity, screen size and resolution also enhance the potential of electronic gadgets [3]. Mobile application developers may be able to take advantage of this upgrade when creating new mobile applications, which enable more useful applications to be used by electronic gadget users in their personal and working lives [2].

Today, there is a potential in the use of electronic gadgets especially for teaching and learning, because electronic gadgets are very popular among the younger generation and students [10]. There is a research stating that more students have electronic gadgets [2]. Electronic gadgets can be used for many things, including instant messaging, social media, playing online games, sending an email and general communications [17]. Therefore, they can now be considered important for personal and working life [6].

## II. LITERATURE REVIEW

Electronic gadgets are modern technology tools that have always been a value to modern life. In 2011, more than 80% of adults in America own a mobile phone, and 73% of them use their phones to send and receive essay texts [19]. A year later, the numbers increase to 85% with mobile phones and 80% of messages sent or received text [4].

Modern generation electronic gadgets now have various features that which differ from last year. The mobile phone is not only for voice communication anymore [8]. Students can access the internet, send or receive texts of essays, check emails and also chat through videos with others literally from the palm of their hand [13]. Not only that, students can access various social networking sites from their mobile phones [15].

Social networking sites is an online service that allows people to create profiles, create lists of other users who share a connection with users, and see a list of extension created by others in the system [5].

## III. EFFECT OF THE USAGE ELECTRONIC GADGETS

The cognitive effect is the consequence of an informative self-proclaimed self. In this cognitive impression will be discussed how the mass media can help the public in learning useful information and developing cognitive skills [22]. People tend to obtain and evaluate information based solely on what the mass media reports have been, even though it has never been seen directly [18]. Similarly, information received using mobile phones and other similar gadget functions with them.

Affective effects tend to have higher values than cognitive effects [22]. The purpose of mass communication is not just to inform the public, but to be impressed with the information. In the meantime, effective is also an emotional psychology that strikes the individual when it is impressed with the stimuli given to each cognitive.

The effects of conduct are the consequences that arise in the form of acts or activities. However, not all information from the various media has the same effect on individuals. It is also influenced by many factors such as the educational background, family and society that form the individual.

#### IV. THE POSITIVE AND NEGATIVE SIDES OF THE USAGE OF THE ELECTRONIC GADGETS

The rapid growth of gadget electronics such as mobile phones, tablets and laptop and also the rapid development in wireless technology, is like giving other members of the human body to make daily necessities more effective and practical. Stated that services provided extending the ability of gadget electronics beyond non-verbal communication, to achieve different tasks [8]. The popularity of gadget electronics and this social networking site is unlikely to decline, although many studies have taken the initiative to study the effects of the use of this gadget electronic.

According to the predictions of some members, digital technology will disturb the traditional models created by previous researchers [1]. And the education system is the worst receiving impact by electronic gadgets especially mobile phones. Almost every student who uses a cell phone does not have anything to do with the activities in the classroom [16]. Hence, attention and concentration in the classroom have become less of a problem. Some recent studies have claimed that not only did they use mobile phones in the classroom, but these negative behaviors impacted the lessons in various ways[11].

#### V. METHODOLOGY

The researcher uses quantitative research in descriptive form to explain how the research is done. In this study, researchers used student respondents from Universiti Sultan Zainal Abidin (UniSZA) as the target group in this study. The purpose of the study was to identify the impact of the use of electronic gadgets among university students. In addition, this study was conducted over a period of one month. Data collection is based on a recent study on the impact of mobile devices on first-year university students. In the research, researchers used tools such as a questionnaire in obtaining research information. The questions in this study are based on the experience of Universiti Sultan Zainal Abidin (UniSZA) students on the use of electronic gadgets in their lives. The researchers were able to identify the effects of using electronic gadgets in the respondents' lives, whether positive or negative in the study. Researchers have obtained 352 respondents in this study.

#### VI. DATA

##### *i. The result of the Cognitive effect of Electronic Gadget Utilization*

This study contains several questions to evaluate the cognitive effects of electronic gadget use to students of Universiti Sultan Zainal Abidin (UniSZA). Table 1 shows the frequency and percentages of electronic gadgets owned by respondents at the Universiti Sultan Zainal Abidin (UniSZA). The highest percentage is that the smartphone is 99.2% equivalent to 349 people from the total number of 352 respondents, which means 3 respondents who do not have smartphones with a percentage

of 0.9%. Next, the second highest is the laptop type electronic gadget with a total frequency of 348 respondents with a percentage of 98.9% and a total of 4 respondents who did not have a laptop in this study with a percentage of 1.1%. The number of respondents with tablets was at least 37 people with a percentage of 10.5% and 348 respondents who did not have tablets with a percentage of 98.9%.

Table 1: The frequency and percentages of electronic gadgets owned by respondents at the Universiti Sultan Zainal Abidin (UniSZA).

Electronic Gadget	f	%
Smart Phone	349	99.2
Tablet	37	10.5
Laptop	348	98.9

Table 2 shows the frequency and percentage of respondents' aim using the electronic gadget. The highest percentage was sending a message and finding information for the assignment, of which 351 respondents used electronic gadgets to send messages and the percentage was 99.7% meaning one respondent or 0.3% who answered not for the purpose of sending messages using electronic gadgets. In addition, the number of respondents using the electronic gadgets to find information for the assignment was 351 people with a total of 99.7% and one respondent who answered not for this purpose with a percentage of 0.3%. The second highest percentage, learning a new skill is one of the purposes of using electronic gadgets and a total of 350 respondents or 99.4% who answered yes to this question while 2 respondents or 0.6% answered no. The third highest percentage, however, was 349 people with a percentage of 99.2% respondents using electronic gadgets for the purpose of finding materials for scientific training while those who did not use electronic gadgets for the purpose of looking for materials for scientific training were 3 persons with a 0.9% percentage.

The lowest percentage was the online gameplay, 280 respondents responded with 79.6% while 72 respondents responded not with a 20.5% percentage for the purpose of using electronic gadgets to play online games. In addition, the second lowest was to find new acquaintances of 306 respondents with a percentage of 86.9% using electronic gadgets for this purpose while 46 respondents or 13.1% did not use electronic gadgets for this purpose. The third lowest percentage is learning business knowledge, for this purpose 312 people or 88.6% use electronic gadgets for this purpose while 40 respondents or 11.4% who do not use electronic gadgets for the purpose of learning business knowledge.

Table 2: The frequency and percentage of respondents' aim using electronic gadgets.

The Purpose of Using Electronic Gadgets	f	%
Send a message	351	99.7
Play online games	280	79.6
Listening to music	341	96.9

Watch video/movie	343	97.4
Read news / current info	345	98.0
Find information for assignments	351	99.7
Make/read lecture notes	346	98.3
Looking for materials for thesis	349	99.2
Looking for new contacts	306	86.9
Chat in social media	337	95.7
Learn something new skills	350	99.4
Learn business knowledge	312	88.6

The table 3 shows which electronic gadgets are frequently used by respondents for learning or academic purposes. A total of 339 respondents used a smartphone with a percentage of 96.3% and a total of 13 people who did not use smartphones for learning or academic purposes with a 3.7% percentage. Serials are tablets, of which 24 respondents use tablets for academic or academic purposes with 6.8 percent while respondents who do not use tablets for academic or academic purposes are 328 people, 93.2 percent. In addition, 347 respondents used laptops for academic or academic purposes of 98.6% and 5 respondents who did not use laptops for learning or academic purposes with a 1.4% percentage.

Table 3: Shows which electronic gadgets are frequently used by respondents for learning or academic purposes

Electronic Gadget	f	%
Smart Phone	339	96.3
Tablet	24	6.8
Laptop	347	98.6

Table 4 shows which electronic gadgets are frequently used by respondents for entertainment, social media, or play online games. A total of 345 respondents used smartphones for entertainment, social media, or playing online games with a percentage of 98.0% while a total of 7 respondents or 2.0% did not use smartphones for entertainment, social media, or playing online games. In addition, respondents who use tablets for entertainment, social media, or play online games are 44 people with a 12.5% percentage while those who do not use tablets for entertainment, social media, or play online games are 308 respondents or 87.5%. Next, a total of 280 respondents used the laptop for entertainment, social media, or playing online games with a percentage of 79.6% while those who did not use laptops for entertainment, social media, or playing online games were 72 respondents with a percentage 20.5%.

Table 4: Shows which electronic gadgets are frequently used by respondents for entertainment, social media, or play online games.

Electronic Gadget	f	%
Smart Phone	345	98.0
Tablet	44	12.5
Laptop	280	79.6

## ii. The result of the Affective effect of Electronic Gadget Utilization

This study contains several questions to evaluate the effective effect of electronic gadget on students of Universiti Sultan Zainal Abidin (UniSZA). Table 5 shows the questions in the online survey questionnaire asked by respondents. Referring to table 5 below, the highest percentage is the question of 'i like lecturers using electronic gadget facilities to find additional information' which is 330 respondents agreed with this question with a percentage of 93.7% while 22 respondents disagree with the question with a percentage of 6.2%. The second highest number is the 'I like to find additional information during lecture learning', which is about 311 respondents agreeing with a percentage of 89% while 41 respondents or 12% disagree with the following questions. The lowest number of respondents agreed that a total of 60 respondents or 17% of respondents agreed with the question 'I have no problem with the sound of electronic gadgets while studying' while the disagreed is 292 respondents or 82.9% of the respondents.

Table 5: The effective effect of electronic gadget on students of Sultan Zainal Abidin University (UniSZA).

No.	Content	Agree	
		f	%
1.	I should not be away with electronic gadgets.	295	83.8
2.	I'm very excited to receive a notification.	290	82.4
3.	I am very comfortable with playing electronic gadgets.	271	77.0
4.	I don't have a problem with the electronic gadgets ringing during the study.	60	17.0
5.	I always check the electronic gadgets to find out the latest developments although during the study.	98	27.9
6.	I like to learn to use electronic gadget and listen to lectures simultaneously.	65	18.5
7.	I love electronic gadgets to use the lecturer to find additional information.	330	93.7
8.	I like to find additional information during the course of the classroom.	311	89.0
9.	I'm easy to lose focus on learning when using electronic gadgets.	304	86.4
10.	I used the electronic gadget in the classroom when I was bored.	115	32.7
11.	I think using electronic gadgets while learning is a difficult thing.	266	75.6

## iii. Behavior of Using Electronic Gadgets

The table 6 below shows the effects of behavior the use of electronic gadgets. Among the questions raised by the respondents were the 'I like to spend on buying electronic gadgets that fit my taste' as 69% of respondents agreed with the question with 243 respondents, while 109 respondents disagreed with the question with percentage as much as 31%. A total of 86 respondents agreed on the question 'I opened social networking sites such as Facebook, Twitter and so on during lectures' with a percentage of 24.5%, while 266 respondents disagreed with 75.6%. The next question is 'I do

not mind when lecturers look at me using electronic gadgets while studying' where this question is not agreed by 321 respondents with a percentage of 91.2% while a total of 31 people agree with this question percentage of 8.8%.

Table 6: The effects of behavior the use of electronic gadgets on students of Sultan Zainal Abidin University (UniSZA).

No.	Content	Agree	
		f	%
1.	I like to buy for electronic gadgets that fit my taste.	243	69.0
2.	I love to make calls, send SMS, surf online games while studying in the classroom.	60	17.0
3.	I opened social networking sites like Facebook, Twitter and so on while in the lecture room.	86	24.5
4.	I read the online newspaper on electronic gadgets during my classroom lectures.	56	15.9
5.	I do not mind when lecturer look at me while I'm using electronic gadgets in the classroom.	31	8.8
6.	I was able to focus on learning when using electronic gadgets during the study in the classroom.	50	14.2
7.	I was able to write a note in the classroom when using electronic gadgets during college-based learning.	70	19.9
8.	I was able to divide myself into the interaction between the use of electronic gadgets and the interaction with the lecturers during the course of study.	79	22.4

## VII. CONCLUSION

With the advancement of the world today, all ages regardless of age or youth using electronic gadgets. The use of these electronic gadgets affects cognitive, affective and behavioral to all groups and the impact is difficult to taint because technology today requires electronic gadgets to know current issues. Therefore, each individual must play a role so that they are not impressed by the use of this electronic gadgets.

## REFERENCES

- [1]. Anderson, J., & Rainie, L. (2014). Digital life in 2025: Expert predict the Internet will become 'like electricity' -less visible, yet more deeply embedded in people's lives for good and ill.
- [2]. Brown, D. & Ferguson, F. & Grant, M. & Jones, L. & Sweeney, J. & Tamim, S. 2015. Teaching and Learning with Mobile Computing Devices: Case Study in K-12 Classrooms USA. TechTrends vol.54 [Accessed 15 October 2017]
- [3]. Chang, C. & Lee, Y. & Lin, Y. & Cheng, Z. 2013 The dark side of smartphone usage: Psychological traits, compulsive, and technostress. Computers in Human Behavior vol.31
- [4]. Duggan, M., & Rainie, L. (2012). Cell phone activities 2012.
- [5]. Fang, B. (2009). From distraction to engagement: Wireless devices in the classroom, *Educause Quarterly*, 32(4),1-10

- [6]. Gaskin, J. & Wang, H. & Wang, J. & Wang, L. 2015 The role of stress and motivation in problematic smartphone use among college students. *Computers in Human Behavior* vol.53
- [7]. Hamdan, A., Din, R. & Abdul Manaf, S. Z. (2012). Penerimaan M- Pembelajaran Dalam Sistem Pendidikan di Malaysia. The Unified Theory of Acceptance and Use of Technology (UTAUT): Satu Analisis Literatur. UKM, Malaysia 1 st International Conference on Mobil Learning, Applications, and services (mobilcase2012).
- [8]. Ishii, K. (2006). The implication of mobility: The uses of personal communication media in everyday life. *Journal of Communication*, 56, 346-356.
- [9]. Kelly, M (2009). Mobile Phone; pros and cons.
- [10]. Ker, G. & Lim, S. & Low, C. & Patanmacia, T. & Ting, D. 2011. Dependency on a smartphone and the impact on purchase behavior.
- [11]. Kraushaar, J. M., & Novak, D. C (2010). Examining the effect of student multitasking with laptops during the lecture. *Journal of Information Systems Education*, 21, 241-251
- [12]. Krawczyk, H. & Nykiel, M. 2017. Mobile devices and computing cloud resources allocation for interactive applications. *Archives of Control Sciences* vol.27
- [13]. Lenhart, A., Ling, R., Campbell, S., & Purcell, K., (2010, April 20). Teens and mobile phones.
- [14]. Love, S., & Kewley, J. (2003). Does personality affect peoples' attitude towards mobile phone use in public places? Paper presented at the Front Stage: Mobile Communication and the Renegotiation of the Social Sphere Conference, Grimstad. Malaysia 'Gila' TelefonPintar. (2013, September 21).
- [15]. Marez, L. & Montrieux, H. & Schellens, T. & Vanderlinde, R. 2015. Teaching and learning with Mobile Technology: A Qualitative Explorative Study about the Introduction of Tablet Devices in Secondary Education.
- [16]. McCoy, B. R. (2013). Digital distraction in the classroom: Student classroom use of digital devices for-class related purpose. *Journal of Media Education*, 4, 5-14.
- [17]. Mills, H. 2015. Use of mobile devices for e-learning in geomatics. The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences [Accessed 15 October 2017]
- [18]. Ophir, E., & Nass, C., & Wagner, Anthony D., & Posner, Michael I. (2009). Cognitive Control in Media Multitaskers. *Proceedings of the National Academy of Sciences of the United States of America*, 106 (37) 15583-15587.
- [19]. Smith, A. (2011). America and text messaging: 31% of text message users prefer texting to voice calls, and young adults stand out in their use of text messaging
- [20]. Wei, R., & Leung, L. (1999). Blurring public and private behaviors in public space: Policies Challenges in the use and improper use of the cell phone. *Telematics and Informatics*, 16, 11-26.
- [21]. Wood, E., Zivckova, L., Gentile, P., Archer, K., De Pasquale, D., & Nosko, A. (2012). Examining the impact of off-task multitasking with technology on real-time classroom learning. *Computers & Education*, 58, 365-374
- [22]. W. M. Y. Bukhari, "International Journal of Asian Social Science Keyword s," vol. 7, no. 12, pp. 963-970, 2017.
- [23]. S. Nurfarahin, W. M. Y. Bukhari, C. Azlini, M. Y. Kamal, R. Normala, and Z. M. Lukman, "The Relationship between Management Practices and Volunteer 's Retaining," vol. II, no. Xii, pp. 33-38, 2018.