

IMPACT OF SMART PHONE USAGE ON ACADEMIC PERFORMANCE OF THE STUDENTS OF MAWLANA BHASHANI SCIENCE AND TECHNOLOGY UNIVERISTY

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Abstract

Smart phone is a device that is based on (IOS, windows, android) operating system that uses smart intelligent to make users life smarter and easier. In the digital society students spend most of their time on smart phone by using face book, what's app, viber, imo, skype etc. It has not only positive effect but also has a negative effect on academic performance of students. The main objective of this research is to find out the impact of smart phone usage on academic performance of students. For the research a survey over 278 student of MBSTU were taken from 1st July 2016 to 25th October 2016. Cross tabulation and Chi square test have been applied to investigate the relationship between smart phone usage and academic performance of students. From the result it has found that there is no significant (0.954) relationship between CGPA and usage of smart phone. So recommendation was given to control the over usage of smart phone. If students can control over usage of smart phone during the time of study and use it for study purpose then it will make a good result.

Keywords: Smart phone, Academic performance, CGPA, Mobile phone.

Introduction

A smart phone is a phone that is based on operating system that is enable to operate advanced applications and accessing internet. For continuous uses the users are addicting to smart phone. For this reason they are on psychological influences. So this influence is similar to drug addiction for a period of time. Sundari, (2015) stated that mobile phones have become the most popular way to communicate with other individuals. While cell phones have become less of a status symbol and more of a fashion statement, they have created an unspoken social dependency. Adolescents and young adults are more likely to engage in SMS messaging, making phone calls, accessing the internet from their phone or playing a mobile driven game. Smartphones have become necessities in peoples' lives. Along with its obvious benefits, however, the smartphone has other effects that are not all that glorious. Lee, *et. al.* (2014) found use of 'smart phones' has exploded, and this have become an essential part of life. There has been controversy about the health hazards related

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to cell phone use. The side-effects of using cell phone reported were: long-term memory impairment (45.8%), prolonged sleep (31.7%), insomnia (30%), chronic headache (22.5%) and concentration problems (22.5%). Jamal *et. al.* (2012), Kahari, (2013) found that cell phone use has negative and positive effects on the study habits of university students depending on usage patterns. The study concluded that despite the challenges faced by students, cell phones unlike other educational innovations are firmly rooted in the society in which education and institutions are part of and ignoring the use or applications of this technology would be ill-advised. Rabiou *et. al.* (2016) recommended that, school psychologists, teachers, school administrators, parents and students should be sensitized on the influence of mobile phone usage on academic performance among secondary school students irrespective of gender and age differences. The advancement of technology has also been a dominant force in effecting students' academic life (Roberts, & Pirog, 2013). Aljomaa *et. al.* (2016), significant gender differences were found in the degree of addiction on the whole questionnaire and all of its dimensions with the exception of the technological dimension in favor of males. Significant differences by social status were found in favor of the unmarried. Bachelor degree students were found to have the highest degree of addiction. Significant differences by hours of daily use were also detected in favor of participants using the smartphone for more than 4 hours in a day. As to the monthly income dimension, significant differences were found on the health dimension in favor of participants with lower monthly income. Tindell and Bohlander (2012) reported that the majority of university students use the smartphone in classrooms. In this respect, some studies revealed a negative relationship between smartphone use and university students' achievement (Lepp *et. al.*, 2015). Studies also revealed that university students view the smart phone as entertainment and with time use becomes habitual. Statistics indicates that the smart phone world is expanding at a rapid pace. There are already more than 1.08 billion smart-phone users in the world, out of which, 91.4 million are from the United States. It is noted that university students are among the highest contributors to the increasing number of smart phone sales. (www.go-gulf.com) Junco (2013) found that most of the male students are using smart phone for the purpose of internet browsing and entertainment but most of the female students are using smart phone for the purpose of communicating and studying and getting relationship with others. Tuckman (1975) said that the knowledge, skills and the expression of a person mainly indicate the performance of any person. And the students' performance is measured by his or her academic results. Students use smart phone for both entertainment and academic purposes. Salehan (2013) found that, now-a-days the use of smart phone in society is increasing and the large numbers of smart phone users are young people like varsity students. This is because only for the fast advancement of technology like social network. Over use of technology may become an addiction to the users. The research found that various smart phone applications are the main reason of smart phone addiction. Salehan also found that smart phone applications may be affected for the social networking intensity by the people. Addiction is not only drug addiction but also it may be

a serious trend on something like internet. As the use of smart phone among young students increasing day by day it has become an addiction to them. So the definition of addiction may vary with the circumstances.

The main objective of the research is to find out the impact of smart phone on the academic performance of the students of the Mawlana Bhashani Science and Technology University. For achieving the main objectives the researcher find out the relationship between CGPA and smart phone usage.

Methodology

To run the research and to get informative results, both primary and secondary data were used. Chi square test, crosstabs and frequency distribution were used for analyzing the result. The participants were enrolled by stratified random sample selection in July through October 2016 at the Mawlana Bhashani Science and Technology University. A self-administered questionnaire was completed by 278 students of MBSTU. For measuring academic performance only CGPA is taken as an indicator. Various articles, magazine and newspaper information were also used as secondary sources of information. The whole analysis performed by using IBM statistical Packages for Social Science (SPSS version 20).

Results and Discussion

Table 1. Age distribution of respondents of smart phone users

| Ages (years) | Frequency | Percent |
|--------------|-----------|---------|
| <20 | 2 | .7 |
| 20-25 | 273 | 98.2 |
| 26-30 | 3 | 1.1 |
| Total | 278 | 100.0 |

We found out of 278 respondents less than 20 years is only 0.7% and 20-25 years is 98.2%, most of respondents fall within this range of age. The respondents aged from 26-30 is only 1.1% (Table1).

Table 2. Gender distribution of respondents of smart phone users

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Male | 150 | 54.0 |
| Female | 128 | 46.0 |
| Total | 278 | 100.0 |

It has found that among 278 respondents of smart phone users, male respondents are 54% and female 46% are respondents. It means male users are more than that of female users, contradicts with the results of Kibona and Mgya (2015), they found among the smart phone addicted group, female are more addicted than male because 57% of the respondents were

female and among those female most of them 75% are below 25 years old of the age which indicates that teenagers are more addicted to smart phone usage (Table 2).

Table 3. Religion distributions of respondents of smart phone user.

| Religion | Frequency | |
|----------|-----------|-------|
| Islam | 250 | 89.9 |
| Sonaton | 25 | 9.0 |
| Buddhism | 2 | .7 |
| Others | 1 | .4 |
| Total | 278 | 100.0 |

The number of Muslim smart phone users 89.9% and Sonaton smart phone users 9.0% and Buddhism 0.7% and the number of others users are only 0.4% out of 278 students (Table 3).

Table 4. Cross tabulation of average CGPA and gender of respondents

| Average CGPA of respondents (2.5-5.00) | Title | Respondents' gender | | Total |
|--|--------------------------------------|---------------------|--------|--------|
| | | Male | Female | |
| 2.5-3.00 | Count | 25 | 17 | 42 |
| | Expected Count | 22.7 | 19.3 | 42.0 |
| | % within Average CGPA of respondents | 59.5% | 40.5% | 100.0% |
| | % within Respondents gender | 16.7% | 13.3% | 15.1% |
| | % of Total | 9.0% | 6.1% | 15.1% |
| 3.00-3.50 | Count | 61 | 62 | 123 |
| | Expected Count | 66.4 | 56.6 | 123.0 |
| | % within Average CGPA of respondents | 49.6% | 50.4% | 100.0% |
| | % within Respondents gender | 40.7% | 48.4% | 44.2% |
| | % of Total | 21.9% | 22.3% | 44.2% |
| 3.50-3.75 | Count | 36 | 38 | 74 |
| | Expected Count | 39.9 | 34.1 | 74.0 |
| | % within Average CGPA of respondents | 48.6% | 51.4% | 100.0% |
| | % within Respondents gender | 24.0% | 29.7% | 26.6% |
| | % of Total | 12.9% | 13.7% | 26.6% |
| 3.75-4.00 | Count | 28 | 11 | 39 |
| | Expected Count | 21.0 | 18.0 | 39.0 |
| | % within Average CGPA of respondents | 71.8% | 28.2% | 100.0% |
| | % within Respondents gender | 18.7% | 8.6% | 14.0% |
| | % of Total | 10.1% | 4.0% | 14.0% |
| Total | Count | 150 | 128 | 278 |
| | Expected Count | 150.0 | 128.0 | 278.0 |
| | % within Average CGPA of respondents | 54.0% | 46.0% | 100.0% |
| | % within Respondents gender | 100.0% | 100.0% | 100.0% |
| | % of Total | 54.0% | 46.0% | 100.0% |

We found that the average CGPA ranges from 2.5-3.00 obtained by male users 59.5% and female users 40.5% and from CGPA 3.00-3.50 obtained by male 49.6% and female 50.4% and CGPA from 3.50-3.75 obtained by male 48.6% and female 51.4% and CGPA from 3.75-4.00 obtained by more male users 71.8% and female 28.2%. 16.7% male students get CGPA ranges from 2.50-3.00 out of total male (151) students. 13.3% female students get CGPA ranges from 2.50-3.00 out of total female (128) students. 9% male students and 6.1% female students get CGPA ranges from 2.50-3.00 out of 278 students. 40.7% male students get CGPA ranges from 3.00-3.50 of total male (151) students. 48.4% female students get CGPA from the range of 3.00-3.50 out of total female (128) students. Female respondents (50.4%, 51.4%) secured more percentages than the male respondents (49.6%, 48.6%) whenever CGPA ranges from 3.00-3.50 and 3.50-3.75 respectively. But when CGPA ranges from 2.50-3.00 and 3.75-4.00 then male respondents (59.5%, 71.8%) have more percentages than female respondents (40.5%, 28.2%) respectively (Table 4)

Table 5. Cross tabulation of average CGPA and usage of smart phone by respondents

| Average CGPA of respondents | Time spent by using smart phone | | | | | Total |
|--------------------------------------|---------------------------------|-----------|-----------|-----------|---------------|--------|
| | 1-2 hours | 2-3 hours | 3-4 hours | 4-5 hours | above-5 hours | |
| Count | 6 | 11 | 9 | 8 | 8 | 42 |
| Expected Count | 6.6 | 12.1 | 10.6 | 5.9 | 6.8 | 42.0 |
| % within Average CGPA of respondents | 14.3% | 26.2% | 21.4% | 19.0% | 19.0% | 100.0% |
| % within Spend for using smart phone | 13.6% | 13.8% | 12.9% | 20.5% | 17.8% | 15.1% |
| % of Total | 2.2% | 4.0% | 3.2% | 2.9% | 2.9% | 15.1% |
| Count | 19 | 39 | 32 | 15 | 18 | 123 |
| Expected Count | 19.5 | 35.4 | 31.0 | 17.3 | 19.9 | 123.0 |
| % within Average CGPA of respondents | 15.4% | 31.7% | 26.0% | 12.2% | 14.6% | 100.0% |
| % within Spend for using smart phone | 43.2% | 48.8% | 45.7% | 38.5% | 40.0% | 44.2% |
| % of Total | 6.8% | 14.0% | 11.5% | 5.4% | 6.5% | 44.2% |
| Count | 13 | 19 | 21 | 8 | 13 | 74 |
| Expected Count | 11.7 | 21.3 | 18.6 | 10.4 | 12.0 | 74.0 |
| % within Average CGPA of respondents | 17.6% | 25.7% | 28.4% | 10.8% | 17.6% | 100.0% |
| % within Spend for using smart phone | 29.5% | 23.8% | 30.0% | 20.5% | 28.9% | 26.6% |
| % of Total | 4.7% | 6.8% | 7.6% | 2.9% | 4.7% | 26.6% |
| Count | 6 | 11 | 8 | 8 | 6 | 39 |
| Expected Count | 6.2 | 11.2 | 9.8 | 5.5 | 6.3 | 39.0 |
| % within Average CGPA of respondents | 15.4% | 28.2% | 20.5% | 20.5% | 15.4% | 100.0% |
| % within Spend for using smart phone | 13.6% | 13.8% | 11.4% | 20.5% | 13.3% | 14.0% |
| % of Total | 2.2% | 4.0% | 2.9% | 2.9% | 2.2% | 14.0% |
| Count | 44 | 80 | 70 | 39 | 45 | 278 |
| Expected Count | 44.0 | 80.0 | 70.0 | 39.0 | 45.0 | 278.0 |

| | | | | | | | |
|-------|--------------------------------------|--------|--------|--------|--------|--------|--------|
| Total | % within Average CGPA of respondents | 15.8% | 28.8% | 25.2% | 14.0% | 16.2% | 100.0% |
| | % within Spend for using smart phone | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | % of Total | 15.8% | 28.8% | 25.2% | 14.0% | 16.2% | 100.0% |

Chi-Square Tests

| | Value | Df | Asymp. Sig. (2-sided) |
|------------------------------|--------------------|----|-----------------------|
| Pearson Chi-Square | 5.106 ^a | 12 | .954 |
| Likelihood Ratio | 4.957 | 12 | .959 |
| Linear-by-Linear Association | .017 | 1 | .896 |
| N of Valid Cases | 278 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.47.

Let, null hypothesis (H_0) - there is no relationship between CGPA and using smart phone. An alternative hypothesis (H_1) - there is a relationship CGPA and using smart phone. After calculating chi-square P- value is 0.954 that is less than the 5% level of significance which is not significant. So we accept the null hypothesis. Therefore there is no relation between usage of smart phone and CGPA of respondents. From the table we found that the number of students who got CGPA from 2.50-3.00 spends time by using smart phone from 1-2 hours 14.3%, 2-3 hours 26.2%, 3-4 hours 21.4%, 4-5 hours 19.0% and above 5 hours 19.0%. Similarly the number of students who got CGPA from 3.00-3.50 spends time for using smart phone from 1-2 hours 15.4%, 2-3 hours 31.7%, 3-4 hours 26.0%, 4-5 hours 12.2% and above 5 hours 14.6%. Similarly the number of students who got CGPA from 3.50-3.75 spends time for using smart phone from 1-2 hours 17.6%, 2-3 hours 25.7%, 3-4 hours 28.4%, 4-5 hours 10.8% and above 5 hours 17.6%. Similarly the number of students who got CGPA from 3.75-4.00 spends time for using smart phone from 1-2 hours 15.4%, 2-3 hours 28.2%, 3-4 hours 20.5%, 4-5 hours 20.5% and above 5 hours 15.4% out of 278 students. By analyzing the result through Cross-tabulation and Chi-square we found that there is no relationship between smart phone usage and CGPA of the students. So we can say that there is no impact of smart phone usage on academic performance of students.

Table 6. Distribution of respondents opinion towards the statement, “Smartphone disturbs to pay attention into the class”

| Likert scale | Frequency | Percent |
|----------------------------|-----------|---------|
| Strongly agree | 41 | 14.7 |
| Agree | 67 | |
| Neither agree nor disagree | 58 | 20.9 |
| Disagree | 80 | 28.8 |
| Strongly disagree | 32 | 11.5 |
| Total | 278 | 100.0 |

Out of 278 respondents, 14.7% strongly agreed and 24.1% agreed that smart phone disturbs to pay attention into the class. Neither agree nor disagree 20.9%, disagree 28.8% and strongly disagree 11.5%. So it is clear that most of the respondents are disagree with the statement “Smart phone disturbs to pay attention into the class” (Table 6).

Table 7. Percentage distribution of class performance of respondents of smart phone user

| Categories | Frequency | Percent |
|----------------------|-----------|---------|
| I am doing very well | 31 | 11.2 |
| I am doing well | 108 | 38.8 |
| not sure | 99 | 35.6 |
| I am doing bad | 29 | 10.4 |
| I am doing very bad | 11 | 4.0 |
| Total | 278 | 100.0 |

We found most of the respondents are doing very well into the class despite of using smart phone. Out of 278 respondents 11.2% respondents are doing very well, 38.8% are doing well, 35.6% are not sure, 10.4% are doing bad and 4.0 % are doing very bad into the class due to smart phone usage (Table 7).

Table 8. Frequency distribution of respondents' opinion

| Smart phone interrupts during the time of study | | |
|---|-----------|---------|
| Likert Scale | Frequency | Percent |
| Strongly agree | 66 | 23.7 |
| Agree | 110 | 39.6 |
| Neither agree nor disagree | 51 | 18.3 |
| Disagree | 42 | 15.1 |
| Strongly disagree | 9 | 3.2 |
| Total | 278 | 100.0 |

From this research we revealed that 23.7% respondents are strongly agree, 39.6% agree, 18.3% neither agree nor disagree, 15.1% disagree and 3.2% strongly disagree with the statement "Smart phone interrupts during the time of study". Most of the respondents opined smart phone interrupts them during the time of the study that is conforming the findings of Sundari (2015), majority (42.1%) of respondents revealed that the frequent use of mobile phone sometimes interferes their learning whereas 36.4% are of the agreement that it also assists them in learning sometimes (Table 8).

Table 9. Frequency distribution of the respondents' opinion

| Smart phone helps students during the time of the study | | |
|---|-----------|---------|
| Scale | Frequency | Percent |
| Strongly agree | 95 | 34.2 |
| Agree | 118 | 42.4 |
| Neither agree nor disagree | 36 | 12.9 |
| Disagree | 20 | 7.2 |
| Strongly disagree | 9 | 3.2 |
| Total | 278 | 100.0 |

From the table it has found that majority respondents' are agree with the statement "Smart phone helps your study" where strongly agree 34.2%, agree 42.4%, neither agree nor disagree 12.9%, disagree 7.2% and strongly disagree 3.2 % (Table 9).

Conclusion

Smart phone become a very necessary instrument in human life at present time. But few people become addicted to it which actually hampers the quality of life. This research was done to find out the impact of smart phone usage on academic performance of students. And found there is no significant relationship between CGPA and smart phone usage of the students. This research also revealed that majority number of students think they can pay attention into the class by using smart phone, and it helps them during the time of study. Students also think despite of using smart phone they are doing well into the class. At the same time we found students feel that smart phone interrupts their concentration during the time of the study. Students should switch off their smart phone during the time of class and study. After 12 am students should not use their smart phone. Every student should know how to use smart phone and when to use smart phone. At the time of examination students should off or moderately use various social apps like Facebook, Viber, skype, Instagram, Google+ etc. This is first research attempt in Bangladesh to examine the impact of smart phone usage on academic performance of the students of Mawlana Bhashani Science and Technology University. This research is very important because it provides a better understanding of the context for smart phone use among MBSTU students in Bangladesh.

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