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Research Article

The Relationship Between the Time Spent on Facebook and GPA Scores of Post-Graduates

Mohammad Naim Rahim

Department of English Language and Literature, Kunduz University, Kunduz 3501, Afghanistan

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*Corresponding author:

E-mail:

mnaim.rahim@gmail.com

ABSTRACT

The article is aimed to study the correlation between the time spent on Facebook and GPA scores of post-graduate students of Afghanistan. Facebook, WhatsApp, Telegram, and many other social networks are used broadly by scholars inside and outside the campuses. However, these social platforms are a mean for communication and have paved the way for interactive educational practices, but still there are concerns on the relationships of these social applications on students' educational developments. Reviewing the literature, the study identified that there are few articles on the impact of social media on teaching and learning in Afghanistan which are conducted in different context as well as applied different methods and observations. Therefore, this article intended to use a quantitative approach and descriptive survey to evaluate the GPA scores of the students and the time spent on Facebook in order to evaluate their relationships. The data is analysed performing Repeated Measure ANOVA and Pearson Correlation. The results show that there is no significant difference in the mean score of GPAs between three semester of post-graduates. It also highlights that there is no correlation between the time spent on Facebook and the GPA scores of students. To conclude, the study contributes to enrich the ongoing e-learning strategies of the higher education by underlining the potentials and restrictions of the use of social medias on students' educational developments.

Keywords: Post-Graduates, Facebook, GPA Scores, Statistical Analysis, Correlation

Introduction

The section discusses basis of the problem and the needs for conducting this research. It also determines the scope of the study by showing the gaps in the previous studies and how it is intended to be addressed within this particular study. The objectives based on which

the study is answering the research questions and testing the stated hypothesis are also stated. Finally, the section indicates the significance of the study and its contributions to the community.

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Problem Background

Electronic devices have an active and undeniable presence in all aspects of humans' life. This presence, however, through the industrial revolution and the advancement of technology had many assistances in humans' life too. Perhaps no one can deny the technological conveniences in their daily activities by 2021. These facilities have not only appeared in personal life, but also have changed nations professional and educational settings. In Afghanistan, however, after 2000 and the new republic government, technology entered the country with democracy and a series of other modern concepts. The significant use of technology and social media has undoubtedly been/are effective, but in some cases they have created limitations. These limitations can be the lack of awareness of people about the optimal use of these technologies.

When we are talking about the limitations and relationship between the use of technology in professional and educational environments, undoubtedly, this relationship requires scientific research, even in a country like Afghanistan, where research is a new phenomenon. The studies have also shown that these technologies promoted educational schemas especially in the age of Covid-19 pandemic. Of course every technology comes with some obstacles and opportunities. According to Tezer et al. (2017), the attitudes of the educators to the use of social platforms have impacted on their professional practices. This indication highlights that there is an influence of the social medias on educational performance.

In addition, it is not only about the use of technology and its challenge but of course it offers skills and potentials to the educators and institutions. Ali (2016) stated that there are certain skills such as creativity, complex problem solving, innovation, collaboration and competitive which are highly crucial for global marketplaces of 21st century. But Afghanistan institutions are far away from these innovations due to multiple reasons. Whereas, evaluating the research background, many gaps in this regard are revealed. Therefore, the current study aims to address these challenges by answering

the research questions on the main variables of the study.

Problem Statement

The use of social networks has now become a dominant discourse in Afghanistan. This includes personal life, at universities and of course in the political arena. Social applications such as Facebook, WhatsApp, Telegram, Twitter and YouTube has now become very famous platforms among people in Afghanistan. Consequently, there are concerns that learners spend a huge partial of their daily life on social media rather than concentrating on their educational activities. Investigating this issue needs valid and reliable research outcomes. However, there are very few research on the obstacles and opportunities of using social media in higher education of Afghanistan. Hence, this requires researchers to extend the body of literature and evaluate the correlation between the use of these technologies and students' educational development in Afghanistan.

On the other hand, much research has been done on the integrations, opportunities and limitations that technology offered to the educational settings globally. Since the initiation of the internet during 1990s, there have been a paradigm-shift in communities. The inclusive ability of the information communication technology enforces new ideas and intensive social communications which enlarges worldwide economy and broader exchange of cultures and educations. Therefore, the study attempts to evaluate the use of these innovative technologies and their relationship with the academic practices of post-graduates in the context of Afghanistan using statistical analysis of Repeated Measures ANPVA and Pearson Correlation.

Purpose of The Study

The study is aimed to evaluates the relationship between the time spent on Facebook and GPA scores of post-graduates. For the purpose of this, the GPA scores and time spent on Facebook of (99) male and female Master and PhD students at UTM (University Technology Malaysia) during 2017 to 2020 are studied. The sampling method is random where every participant has the equal chance of selection. The method for data collection is survey. Statistical

analysis of Pearson Correlation and Repeated Measure ANOVA is performed. To show the relationship between the time spent of Facebook and GPA scores of the post-graduates, the study tested the stated research hypothesis at alpha 0.005 level of significance. The evaluations is aimed to establish an in-depth understanding of the issue for scholars, educators, post-graduates and the higher education of Afghanistan.

Research Questions

RQ1: Is there any difference between three semester GPA scores of post-graduates?

RQ2: Is there a correlation between the time spent on Facebook and the GPA scores of post-graduates?

Research Hypothesis

H0a: There is no significant difference in the mean scores of GPA between three semesters of post-graduates.

H1a: At least, the mean scores of GPA of one semester is significantly different among three semesters GPA scores of post-graduates.

H0b: There is no correlation between the time spent on Facebook and the GPA scores of post-graduates.

H1b: There is a correlation between the time spent on Facebook and the GPA scores of post-graduates.

Significance of the Study

The study extends the body of the literature in the fields of educational development and integrations of technology in higher education. Educators and learners ultimately use social medias as a mean for communications since long time ago. However, there is a surface understanding of the issue due to certain reasons, for instance, these innovative technologies are a new phenomenon in Afghanistan most particularly in the sector of higher education. The Covid-19 pandemic pushed the institutions in Afghanistan to conduct their classes through e-learning and online classrooms. Without knowing its potentials and restrictions, it is not an easy deal for both educators and learners.

Conducting this research, provides a deep understanding of the use of social media and academic performance among post-graduates,

educational institutions, researchers, educators and the ministry of higher education of Afghanistan. In addition, it fulfils the research gaps in terms of context, content and methodology. Based on the studies, there are limited studies in the context of Afghanistan on the relationship between the use of social media and educational developments of the students. Therefore, the current study focuses to apply a quantitative approach with statistical analysis to evaluate the relationship between the time spent on Facebook and GPA scores of post-graduates.

Literature Review

In this section, the study discusses related literature to the variable of the study and indicates the similarities and gaps. It also investigates the social media and educational practices, social media as barriers to educational practices, social media used the most by scholars, and relationship between the use of Facebook and GPA scores of students.

Social Media and Educational Practices

It is obvious that learners use the social applications anyways. Even if filtering, there are hundreds of free applications to remove it. But the question is how the social media lead the students' educational practices. Mingle (2016), recommended educational institutions to enforce restricted policies against the use of social media by students. According to a study by Al-Menayes (2014), as long as students are exposed to social media, the worst would be their college examination results. The study also showed that a positive relation between the time spent on social media and the lower GPA scores of the learners.

If this is the case and the heavy use of social networks affect the GPA scores of the students, then how Afghanistan post-graduates are coping with the studies. It really motivates this study to evaluate. Similar to the context of Afghanistan, a study on university students in Kuwait highlighted that there is a strong linear relationship with time spent on social applications and the lower grades of the learners (Al-Menayes, 2014). Hence, the current study attempts to test the correlations between the use

of technological tools and educational practices of the students in the context of Afghanistan.

Based on the majority of the studies, there is a relationship between the use of technology and educational practices. A study by Jocabson and Forste (2011), on the freshmen university students in the United States of America showed a negative correlation between the students intend to use social media and their GPA scores. Similarly, Habes et al. (2018) stated that there is a negative effect of using Facebook by university students. In addition, in terms of how much time students spent on the use of technological tools, a research perceives time management skills of the student s crucial skill for better academic performance (Alsalem et al., 2017).

Social Media as Barrier to Educational Practices

Many institutions around the world have banned the use of social media on the campuses or administrative departments. Recently, the use YouTube was banned in Kunduz University for the staffs, academic members and the students on campus. This restriction comes from the view that the use of social networks is destructive and time consuming. It is considered as a barrier for educational and organizational practices. Despite this, a study by Rahim (2020) stated that majority of the university students use e-learning platforms, cell-phones, and mobile applications during classrooms, study hours, at home, and even while doing assignments.

Regardless the barriers, the students also stated that they benefit the potentials of these technologies. However, studies show that the intend to the use of social network is one of the strangest predictors of these technologies fatigue. Malik et al. (2020) stated that self-disclosure and online social comparison are the significant factor of the social media fatigue. The study also recommends decreasing the use of social media to contribute better academic performance.

Social Media Used the Most by Scholars

The studies show that there are different types of social media that the learners use. According to Al-Menayes (2014), 99.7% of the

participants in his study stated that they use social medias. In terms of what types of social medias, the study highlighted (49.7%) WhatsApp users, (27%) Instagram users, (14%) Twitter users and (6%) Blackberry Messenger users among Kuwait university students. However, in the context of Afghanistan, Facebook is a common social network which is used the most among university students (Rahim, 2020).

Eventually, a broad study by Brubaker (2013), showed there is a strong correlation between the daily time spent on Facebook in average, the demographic information, educational activity, and GPA scores of the learners. The result, however, indicated that there is no significant influence of time spending on Facebook and students' GPA scores. This indication is also confirmed through a study by Gupta (2013) in a different context. The findings evaluated the use of Facebook and academic performance independent to one another.

Relationship Between the Use of Facebook and GPA Scores of Students

Based on the studies, the most common social platform among students is Facebook. Thus, it is evaluated through different context to show its influence on GPA scores of the students. According to Toker and Baturary (2019), using Facebook as a personal learning platform and GPA scores of the students are highlighted factors in their study. They also listed psychological needs of the students as less influential factor. Similarly, addiction to the use of Facebook is evaluated as an influential factor on GPA scores of the learners. According to Azizi, Soroush and Khatony (2019), the mean for Facebook addiction is higher in male students (52.65 ± 11.50) than in female students (49.35 ± 13.96). based on the findings of this study, the difference is statistically significant ($P < 0.01$). it is stated that there is a negative and significant relationship between students' addiction to Facebook and their GPA ($r = -0.210$, $p < 0.01$). therefore, it is recommended that institutions should take steps towards the new policies to help students who are dependent to these social networks to perform well in their educational developments.

Research Methodology

In this section, the study illustrates the research approach, participants of the study, sampling method, data collection, procedures of data analysis, instruments, and the data management in SPSS IBM.

Design

Since this is a small scale study, ex-post-facto research design is applied. This research design is used as the independent variables in the study cannot be manipulated. The variable is not ethical to manipulate as it is the time spent on Facebook and GPA scores of the students, therefore, ex-post-facto research design is suitable. This research design is also used to evaluate the analysis of correlation between independent and dependent variables of the study.

Population

All of the full-time Master and PhD post-graduates of Afghanistan during 2017 to 2020 is the population of the current study.

Sampling

Applying a random sampling method, (103) male and female post-graduates are selected from the total population of all full-time Master and PhD post-graduates of Afghanistan during 2017 to 2020. This method of sampling is suitable for this study since every individual from the population of the study has an equal chance of selection.

Data Collection

The method for data collection is survey. The survey form that includes items such as time spent on Facebook and GPA scores of (103) male and female Master and PhD respondents within three different semesters to evaluate the correlation between the time spent on Facebook and GPA scores. From the total (103) respondents, (3) survey form were missing while (1) were wrongly filled leaving. Thus, the study evaluated (99) valid responses.

Two statistical analysis is performed using SPSS. Repeated Measure ANOVA is used to show the difference between three semester GPA scores of post-graduates and Pearson Correlation is used to show the correlation between the time spent on Facebook and the GPA scores of post-graduates.

Data Analysis

The method for data analysis is statistical analysis of Repeated Measures ANOVA and Pearson Correlation using SPSS. Performing the Repeated Measures ANOVA, they study evaluated if there is any difference between three semester GPA scores of post-graduates. The Pearson Correlation is also performed to show if there is a correlation between the time spent on Facebook and the GPA scores of post-graduates.

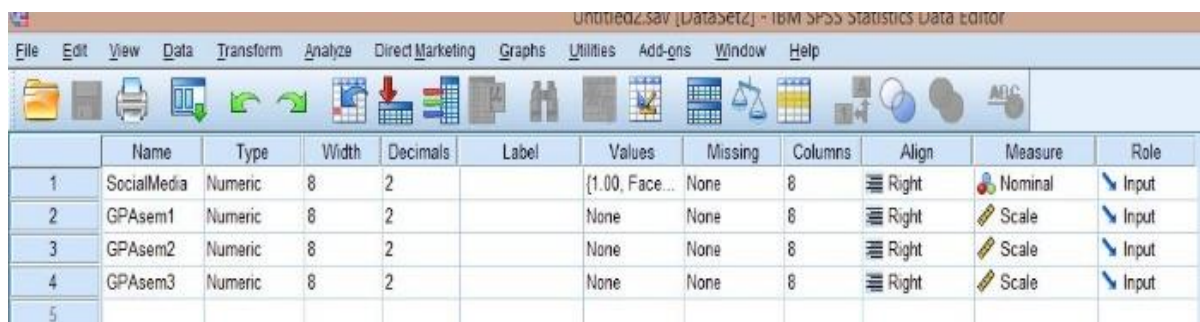
The research uses separate group GPA scores of respondents for each treatment condition, and the decision is taken according to mean difference between the GPA scores within the three different semesters. In addition, responses from the survey is analysed using descriptive statistics of Pearson Correlation to test the stated hypotheses at alpha level of 0.005 significance.

Instrument

The study adopted a survey form entitled "Social Media and Educational Development of Students" by Peter (2015). It is consisting of two sections (A and B). Section A is for collecting the demographic data and the time spent on Facebook while Section B is to determine the GPA scores of the respondents within three semesters.

Data Management in SPSS

The data comes from 99 Master and PhD post-graduates of Afghanistan. The variables include the time spent on Facebook and GPA scores of the respondents within three different semesters. Therefore, each of the variables are separately entered in the columns below.



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	SocialMedia	Numeric	8	2		{1.00, Face...	None	8	Right	Nominal	Input
2	GPAsem1	Numeric	8	2		None	None	8	Right	Scale	Input
3	GPAsem2	Numeric	8	2		None	None	8	Right	Scale	Input
4	GPAsem3	Numeric	8	2		None	None	8	Right	Scale	Input
5											

Figure 1. The Variable in SPSS

The figure above shows the data order and their contents. First, social media which consists time spent on Facebook. Second, the GPA scores of first semester. Third, the GPA scores of second semester. And in the fourth column, the GPA scores of third semester of the respondents during 2017 to 2020.

Findings and Discussions

Based on the objectives of the study, this section presents and discusses the findings which includes the results for statistical analysis of Repeated Measures ANOVA to evaluate if there is any difference between three semester GPA scores of post-graduates and Pearson Correlation to show if there is a correlation between the time spent on Facebook and the GPA scores of post-graduates.

Repeated Measures ANOVA

One of the assumptions to run Repeated Measures ANOVA is that the data should be distributed normally. According to Gravetter and Wallnau (2013), when the sample size is larger than 30, the data is assumed to be normally distributed. However, in this particular study, the sample size is 99 which are divided into three groups of 33, but the study must run the test of normality to show the distribution.

Test of Normality

In the following table of Shapiro-Wilk test of normality result which is highlighted in red, it is shown that all three groups are normally distributed.

Table 1. Test of Normality

SocialMedia		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
GPAsem1	Facebook	.105	33	.200*	.956	33	.204
GPAsem2	Facebook	.072	33	.200*	.983	33	.859
GPAsem3	Facebook	.095	33	.200*	.948	33	.117

*. This is a lower bound of the true significance

a. Lilliefors Significance Correction

Since the normality result in the above table show that it is above the alpha level 0.005, the study fulfils the data normality assumption and performs the Repeated Measures ANOVA.

In the following table, the tests of Within-Subjects Effects present if there is any difference between three semester GPA scores of post-graduates.

Table 2. Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
factor1	Sphericity Assumed	.012	2	.006	.463	.631
	Greenhouse-Geisser	.012	1.571	.007	.463	.585
	Huynh-Feldt	.012	1.637	.007	.463	.593
	Lower-bound	.012	1.000	.012	.463	.501
Error(factor1)	Sphericity Assumed	.803	64	.013		
	Greenhouse-Geisser	.803	50.257	.016		
	Huynh-Feldt	.803	52.399	.015		
	Lower-bound	.803	32.000	.025		

The result of Repeated Measures ANOVA in the above table shows that the F value ($F = 0.463$) for the GPA scores factor associated with significance level ($\text{Sig.} = 0.631$) which is above the alpha level $P = 0.005$. So it is reported that using Repeated Measure ANOVA, there is no significant difference in the mean score of GPAs between three semesters of post-graduates' $f = 0.463$, $p = 0.631$, therefore, the study fails to reject the null hypothesis.

Despite of the findings of the study, Skiera et al. (2015), stated a significance difference in the mean scores of the students who are using social media during class. This study also highlighted that students with less expose to the social media perform better academic developments. Studies also shown the influential potentials of technology on students interactive learning and highlighted social networks as

communicative learning platforms (Rahim and Sandaran, 2020).

Analysis of Pearson Correlation

In order to show the relationship between the time spent on Facebook and GPA scores of the students, the study performed Pearson Correlation.

Table in below presents the time spent on Facebook and GPA scores as the variable names in two rows. It includes the variable names (time spent on Facebook) and (GPA scores) in the columns on the right. There are two columns on the left which is highlighted in red. These are the two columns that show the result of the Pearson Correlation test. The columns consist of a value for Pearson's r , a Sig. (2-tailed) value and a number (N) value.

Table 3. Test of Pearson correlation

		timeusedsocialmedia	GPA scores
timeusedsocialmedia	Pearson Correlation	1	-.016
	Sig. (2-tailed)		.931
	N	33	33
GPA scores	Pearson Correlation	-.016	1
	Sig. (2-tailed)	.931	
	N	33	33

Based on the Pearson Correlation, if the Pearson's r is close to 0, shows a weak relationship between two variables. In the other words, the change in one variable is not correlated with the change in the second variable.

The results for Pearson Correlation in the current study shows Pearson's r is -0.016 . The value (-0.016) is very close to 0. In addition, it is also negative (-0.016). As a result, the study

concludes that there is a negative weak correlation between the time spent on Facebook and the GPA scores of post-graduates.

However, if the Significance level (2-Tailed) value is greater than the alpha 0.005 level of significance, the study concludes that there is no statistically significant correlation between two variables. In the other words, increases or decreases in one variable do not significantly relate to increases or decreases in the second variable.

In this particular study, the Significance level (2-Tailed) value is 0.931. The value (0.931) is greater than the alpha 0.005 level of significance. Therefore, the study fails to reject the null hypotheses and concludes that There is no correlation between the time spent on Facebook and the GPA scores of post-graduates.

In the previous studies, there have been different results. Some of the research stated that the use technology has weak correlation with the academic achievements of the learners. Whereas, some of them shown negative and positive correlation. According to Boahene, Fang and Sampong (2019), a positive correlation exists between the use of social networks and student's educational practices. The study by Islam and Kumar (2019), however, shown negative correlations between the students one semester grades and the use of technological tools.

Conclusion

To conclude, the study includes (99) male and female Master and PhD post-graduate students. The time spent on Facebook and the GPA scores of three semesters during 2017 to 2020 is evaluated. Repeated Measures ANOVA and Pearson Correlation using SPSS is performed to analyse the data. The results show that there is no significant difference in the mean score of GPAs between three semester of post-graduates. It also highlights that there is a correlation between the time spent on Facebook and the GPA scores of post-graduates. The study contributes to the body of existing literature and enhance the policies on the use of technology by students, educators, scholars and higher education specially during Covid-19 pandemic which pushed the intuitions towards the widely use of social platforms.

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