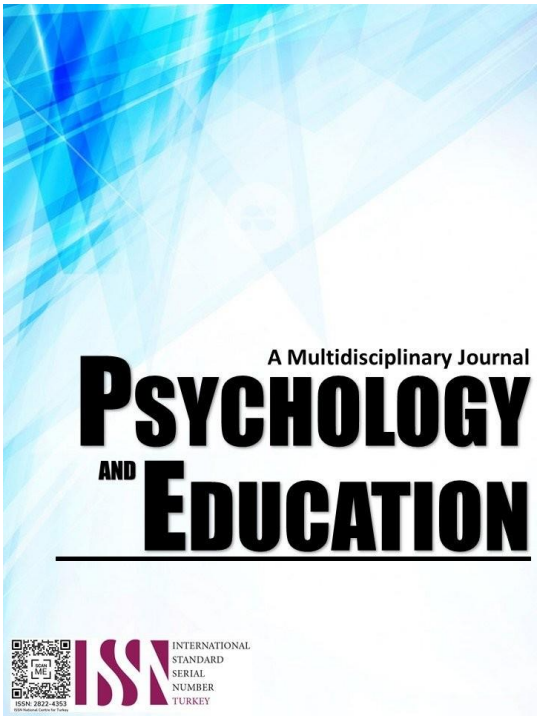
ENGAGEMENT IN MOBILE GAMES, ANSWERING MODULES, TIME MANAGEMENT AND ACADEMIC PERFORMANCE OF JUNIOR AND SENIOR STUDENTS IN A STATE COLLEGE



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Research Article

Engagement in Mobile Games, Answering Modules, Time Management and Academic Performance of Junior and Senior Students in a State College

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Abstract

This descriptive-correlational research was aimed to determine the engagement in mobile Games, answering modules, time management and academic performance of junior and senior college students. This study advanced the hypothesis that the number of hours of playing mobile games and level of time management is not a predictor of academic performance of the junior and senior college students. The respondents of the study were the 30 junior and senior college students of NIPSC-LC selected through random sampling method. An adapted questionnaire on Time Management based on Wayne State University (2007), was used in gathering data on the level of respondents' time management, time spent in playing mobile games, time spent in answering modules, and academic performance. For the descriptive analysis, mean, frequency and standard deviation were used. multiple logistic regression was used for inferential analysis. Results showed that academic performance of junior and senior college students had a mean of 1.6900 which meant "very good", most of the respondents played less than 2 hours with a 60%, most of the respondents answered their modules 5 hours and above with 26.7%, academic performance of respondents when grouped according to number of hours spent in mobile games had a mean of 1.63 in less than 2 hours. When grouped according to time management, their level of time management was "excellent" with a mean of 1.60 of academic performance, level of time management in terms of playing mobile games and answering module where both "fairly well", time management, and number of hours of playing mobile was not a predictor of academic performance of junior and senior college students.

Keywords: *mobile games, modular learning, time management, academic performance, students, logistic regression, flow model theory, pickle jar theory and parkinson's law*

Introduction

Online game is an interactive video game played over the internet. Online gaming is one of the widely used leisure activities by many people. For some people consider playing online games as a stress reliever, challenge and competition, relaxation, enjoyment, social interaction, and even mentally escaping from the real world (Castillo, et al, 2017). Online games require internet to connect and communicate players all around the globe. Because of online gaming become extremely popular to people especially teenager since they can get easily access in the internet and it is free downloaded (Lowa State University, 2011). The influence of online gaming especially to teenagers, youngsters and students is undeniably questionable. This can be their past time or leisure time for having some fun. According to the study of Domrique, D. (2018), some researchers said that this is beneficial as it enables the mind of the players to be more active, especially those puzzle- based games. Furthermore, it helps the player to come up with the decisions in tight situations that keep the players be alert, active and strategic.

Mobile games, specifically Mobile Legends is one of the video and online games played by almost of the youth and even elementary grade level learners were enjoying it. It needs an internet connection and load for you to play and to communicate with other players. It is a kind of adventure game where players need to fight for and destroy opponents' turret to celebrate victory. Mobile Legends is a multiplayer online battle arena for iOS and Android devices developed and published by Shanghai Moonton Technology, a game development company based in Kuala Lumpur, Malaysia. The game was launched in 2016 (Chua, 2019). According to Kishimoto, R. et al (2021), one of the most popular games in the Philippines which Filipinos are drawn to playing mobile game is the Mobile Legends: Bang Bang. This specific mobile game is considered as Esports which is also included in in the SEA Games since 2019 wherein the game is being done with the use of technology particularly in computer and mobile phone. Esports was first included in the SEA Games in 2019 that includes Mobile Legends: Bang-Bang. Mobile esports game of Southeast Asian (SEA) Games this 2025 unveiled Mobile Legends as the headline esports title for an international multi-sport event that will host its 33rd edition in Thailand (Gwynn, 2024).

Inappropriate use of playing online games could result to some problems such as distracted in school. Their social life and health might also be affected. College students spending too much time on online games every week tend to suffer from worsened learning ability, concentration problems, poor academic performance and decreased interaction with other people (Anitha Rajathi & Ravisankar, 2023). While on the study done by Biswas, R, et al (2020), time spent on electric gaming during weekdays had no effect on the academic performance of writing and language but had significant association with reading score. They reported that adolescent who spent 1-2 hours on gaming during weekdays were 13% more likely to get higher reading scores compared to those who did not play at all.

There are many studies regarding the playtime and playing online games but there are few studies that focus on a particular mobile game which is the Mobile Legends. To fill this gap, the researchers focus on a particular game which is the Mobile Legends: Bang Bang.

Time managing is a massive distinction between formal and web-based education academically and administratively. In formal education, teacher is front of students and they can ask anything without delay or any hesitation. But distance learning students have no this kind of academic environment as compare to formal learners. Physical distance exists between student and teacher in online learning. Therefore, it is more difficult to manage time and gain high scores in distance education (Ahmad, S. Batool, A., & Choudhry, A.H., 2019).

Conducting this study benefited the institution, teacher, staff, parents, students and for the future researcher for reference. With this in mind, as of this time of COVID 19 pandemic, where blended modalities of teaching learning were utilized, this study was aimed to find out the number of hours spent in playing mobile Games and time management as the predictors of academic performance for junior and senior college students of Northern Iloilo Polytechnic State College – Lemery Campus, Lemery, Iloilo.

Research Questions

The study aimed to investigate the number of hours spent in playing mobile Games and time management as predictors in academic performance of junior and senior college students of Northern Iloilo Polytechnic State College – Lemery Campus, Lemery, Iloilo, Philippines. Specifically, it sought to find answers to the following questions:

1. What is the academic performance of junior and senior college students of Northern Iloilo Polytechnic State College – Lemery Campus?
2. What is the number of hours playing mobile games of junior and senior college students of NIPSC Lemery Campus?
3. What is the number of hours answering modules of junior and senior college students of NIPSC Lemery Campus?
4. What is the academic performance of junior and senior college students of Northern Iloilo Polytechnic State College – Lemery Campus when grouped according to number of hours spent in playing mobile Games and time management?
5. What is the level of time management of junior and senior college students of Northern Iloilo Polytechnic State College – Lemery Campus in terms of playing mobile games and answering module?
6. Is number of hours of playing mobile games and time management a predictor of academic performance of junior and senior college students of NIPSC Lemery Campus?

Methodology

Research Design

This study utilized the descriptive co-relational research design under quantitative method. Descriptive research involves identification of attributes of a particular phenomenon based on an observational basis, or the exploration of correlation between two or more phenomena while correlational research involves collecting data to determine whether, and to what degree, a relationship exists between two or more quantifiable variables (Gay, et.al., 2012). Thus, Descriptive Correlational studies describe the variables and the relationships that occur naturally between and among them.

Respondents

The respondents of this study were the 30 junior and senior college students from BSIT and BEEd programs of Northern Iloilo Polytechnic State College – Lemery Campus. Respondents were chosen through Facebook messenger poll survey of those who played Mobile Games from the initial list of 70.

After which, the researchers used fish bowl random sampling to select only 30 respondents from the list of 70 students, as the sample size of this study. According to Omniconvert (2021), in determining the sample size, the fundamental principle is that the number of respondents considered acceptable to form a representative essay is dependent on the type of research. Thus, for correlational studies, 30 respondents are sufficient to create a representative sample size. It is accepted that from 30 subjects, the distribution is normal.

Table 1. *Distribution of the Respondents*

Category	*Number of Respondents*	*%*
Junior	14	47%
Senior	16	53%
Total	30	100%

Instrument

The study used adopted questionnaire on time management from Wayne University 2007 combined with the questions on the number of hours spent in playing Mobile Legends, time spent in answering modules, and academic performance. The instruments undergone validation through the panel of experts who are considered for their first- hand knowledge in the field of research, testing and assessment, and grammar to ensure that it fit the respondents.

Procedure

The data were collected only from the junior and senior college students of the Bachelor of Science in Information Technology and the Bachelor in Elementary Education of NIPSC- Lemery Campus.

The researchers also made letters addressing to the college authorities seeking approval to conduct the study. The researchers then gave information to the respondents about the conduct of the study through fb messenger where the researcher explained benefits and constraint as well as the ethical considerations of the study through video call. Upon the approval of college authorities, and as soon as the respondents voluntarily agree in participating to the study, the researchers gave the questionnaire online in Google Form.

Data Analysis

The data were subjected to the following statistical tools: for descriptive statistic Mean and Standard Deviation was used to determine the academic performance and the level of time management and Frequency was used to determine the number of hours spent in playing mobile Games, number of hours spent in answering modules of the respondents.

Furthermore, for inferential statistics - Multiple Logistic Regression was used to see if the number of hours in playing mobile Games and level of time management were predictors of the respondents' academic performance.

Results and Discussion

The first objective of the study determined the academic performance of Junior and Senior College students of Northern Iloilo Polytechnic State College – Lemery Campus. Table 2 showed the result.

Table 2. *Academic Performance of Junior and Senior College Students of NIPSC-LC*

	N	*Mean*	*Std. Deviation*	*Verbal Description*
Academic Performance	30	1.69	.19	Very Good
	30			

Legend: 1.0 – Excellent | 1.1–1.5 – Superior | 1.6–2.0 – Very Good | 2.1–2.5 – Good | 2.6–3.0 – Fair/Passing

The academic performance of Junior and Senior College Students of NIPSC-LC had Mean of (M 1.70, SD .190) which meant "Very Good". This also shows us that it is neither too high no too low.

The second objective of the study investigated the number of hours playing Mobile Games of junior and senior college students of NIPSC Lemery Campus as shown in Table 3

Table 3. *Number of Hours Playing Mobile Games of Junior and Senior College Students of NIPSC Lemery Campus*

	Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
less than 2 hours	18	60.0	60.0	60.0
2 hours but less than 3 hours	6	20.0	20.0	80.0
3 hours but less than 4 hours	2	6.7	6.7	86.7
5 hours and above	4	13.3	13.3	100.0
Total	30	100.0	100.0	

Using the frequency count in determining the number of hours playing mobile Games, 18 or 60% of the respondents played the game in less than 2 hours per day. While 6 or 20% out of 30 respondents played ML more 2 hours but less than 3 hours per day. Furthermore, only 2 or 6.7% out of 30 respondents more than 3 hours but less than 4 hours. And 4 or 13.3% out of 30 respondents indicated that they played the game 5 hours and above.

The third objective of the study ascertained the number of hours in answering modules of junior and senior college students of NIPSC Lemery Campus, as shown in table 4.

Table 4. *Number of Hours Answering Modules of Junior and Senior College Students of NIPSC Lemery Campus*

	Frequency	*%*
less than 2 hours	5	16.7
2 hours but less than 3 hours	5	16.7
3 hours but less than 4 hours	6	20.0
4 hours but less than 5 hours	6	20.0
5 hours and above	8	26.7
Total	30	100

Using the frequency count, 8 or 26.7% out of the 30 respondents answered their modules in 5 hours and above per day. Since they are in their homes so they have ample time to answer their modules. While 12 or 40% of the respondents spent 3 to 4 hours answering their module. Furthermore, 10 or 33.4% said they answered their module 1 to 2 hours a day.

The fourth objective of the study ascertained the academic performance of junior and senior college students of NIPSC-LC when grouped according to number of hours spent in playing Mobile Games as presented in table 5 and level of Time management shown in table 6.

Table 5. *Academic Performance of Junior and Senior College Students of NIPSC-LC When Grouped According To Number of Hours Spent In Playing Mobile Games*

Time Spent in playing Mobile Games	*N*	*Mean*	*Std. Deviation*	*Verbal Description*
less than 2 hours	18	1.63	.16	Very Good
2 hours but less than 3 hours	6	1.78	.21	Very Good
3 hours but less than 4 hours	2	1.90	.28	Very Good
5 hours and above	4	1.73	.13	Very Good
Total	30	1.70	.19	

Legend: 1.0 – Excellent | 1.1–1.5 – Superior | 1.6–2.0 – Very Good | 2.1–2.5 – Good | 2.6–3.0 – Fair/Passing

Table 5 showed the academic performance of the respondents when grouped according to number of hours spent in playing ML, those who played less than 2 hours had a little bit higher mean of 1.63 compared to those who played longer or spent more than 2 hours however they were all "very good". Furthermore, this data implied that the number of hours spent in playing ML did not dictate the respondents' academic performance.

Table 6. *Academic Performance of Junior and Senior College Students Of NIPSC-LC When Grouped According To Time Management*

Time Management	*N*	*Mean*	*Std. Deviation*	*Verbal Description*
Should be Improved	15	1.71	.22	Very Good
Fairly Well	14	1.67	.15	Very Good
Excellent	1	1.60	.	Very Good
Total	30	1.70	.19	

Legend: 1.0 – Excellent | 1.1–1.5 – Superior | 1.6–2.0 – Very Good | 2.1–2.5 – Good | 2.6–3.0 – Fair/Passing

As shown in table 6 the academic performance when grouped according to level of time management with a total mean of 1.70 were all "very good". This tells us that level of time management does necessarily affect or influence academic performance.

The fifth objective of the study determined the level of time management of junior and senior college students of NIPSC-LC in terms of playing Mobile Games and answering modules as presented in table 7 and 8 respectively.

Table 7.1. *Level of Time Management of Junior and Senior College Students of NIPSC-LC in Terms of Playing ML*

Time Spent in playing Mobile Games	*N*	*Mean*	*Std. Deviation*	*Verbal Description*
less than 2 hours	18	32.89	9.36	Fairly Well
2 hours but less than 3 hours	6	30.00	5.87	Should be Improved
3 hours but less than 4 hours	2	33.50	2.12	Fairly Well
5 hours and above	4	32.75	7.68	Fairly Well
Total	30	32.33	8.06	

Legend: 1.0 – Excellent | 1.1–1.5 – Superior | 1.6–2.0 – Very Good | 2.1–2.5 – Good | 2.6–3.0 – Fair/Passing

Table 7.2. *Level of Time Management of Junior and Senior College Students of NIPSC-LC in Terms of Answering Modules*

Time Spent in answering Module	*N*	*Mean*	*Std. Deviation*	*Verbal Description*
less than 2 hours	5	28.40	5.60	Should Be Improved
2 hours but less than 3 hours	5	35.00	5.66	Fairly Well
3 hours but less than 4 hours	6	30.50	6.02	Should Be Improved
4 hours but less than 5 hours	6	30.83	7	Should Be Improved
5 hours and above	8	35.63	11.77	Fairly Well
Total	30	32.33	8.06	

Legend: 0–30 – Should Be Improved | 31–50 – Fairly Well | 51–70 – Excellent

The respondents' levels of time management in terms of playing ML as shown in table 7a, shows that those who played 2 hours but less than 3 hours with (M = 30.00, SD 5.87) "Should be Improved". While those who played less than 2 hours (M = 32.89, SD 9.36), 3 hours but less than 4 hours (M = 33.50, SD 2.12), and 5 hours and above (M = 32.75, SD 7.68) were all "Fairly Well".

Furthermore, the respondents' levels of time management in terms of answering module as shown in table 7b, showed that those who spent 2 hours but less than 3 hours (M = 35.00, SD 5.66), and 5 hours and above (M = 35.63, SD 11.77) in answering module were "Fairly Well". On other hand, those who answered their module less than 2 hours (M = 28.40, SD 5.60), 3 hours but less than 4 hours (M = 30.50, SD 6.02), and 4 hours but less than 5 hours (M = 30.83, SD 7.00) "Should be Improved".

The last objective of the study number of hours playing Mobile Games, number of hours in answering module and time management predictors of academic performance of junior and senior college students of NIPSC Lemery Campus are showed in table 8.

Table 8. *Number of Hours Playing Mobile Games, Number of Hours in Answering Module and Time Management Predictors of Academic Performance of Junior and Senior College Students of NIPSC Lemery Campus*

Model	*Unstandardized Coefficients*	*Sig.*
	R	
(Constant)	1.724	.000
Time Management	.003	.475
Time in Playing Mobile Games	.035	.167
Time in Answering Module	.002	.931

Time management, number of hours in answering module and number of hours playing ML were not predictors of academic performance of junior and senior college students of NIPSC-LC.

Conclusions

Based on the findings, the following conclusions were made:

The academic performance of junior and senior college students of Northern Iloilo Polytechnic State College – Lemery Campus was "very good" (1.69) even though they are playing mobile legend in their satisfactory time.

The number of hours playing Mobile Games of junior and senior college students of Northern Iloilo Polytechnic State College – Lemery Campus had a mean of less than 2 hours of playing with the total percentage of 60. Thus, the students spent their time in playing mobile legend is lesser than spending time in answering their modules. The academic performance of the respondents was not affected even if they play mobile legend as their grades are still "very good" (1.69).

The number of hours spent in answering modules had a mean of 5 hours and above with a total percentage of 26.7. Thus, the students made used of their time in answering their modules rather than spending too much time in playing mobile Games.

The academic performance of junior and senior college students of NIPSC –LC when grouped according to number of hours spent in playing mobile Games, showed that the longer the time they spent in playing, the lower their academic performance was; and when grouped according to time management, the results showed that respondents whose time management skill was poor, the lower the academic performance was. On the other hand, when time management skill was "excellent", the higher the academic performance was.

The level of time management of junior and senior college students of Northern Iloilo Polytechnic State College – Lemery Campus in terms of playing Mobile Games and answering modules were both meant as "fairly well". Therefore, the time management skill of NIPSC-LC students interpreted as, they managed their time fairly well but should use the time management guide to increase their skill.

The number of hours spent in playing mobile Games, number of hours spent in answering modules and level of time management were not predictors of academic performance. Thus, the hypothesis was "accepted".

In view of the conclusions generated from the findings of the study, the following recommendations are given:

The students should enhance their time management skills in terms of playing mobile legend and answering modules.

The students should limit their time spent in playing mobile legend as it can affect their physical manifestation (Anand, 2007) and academic performance negatively when they become addicted (Neo, Skoric, and Teo, 2009).

The parents and the teachers should allow the students to play mobile Games at least 2 hours a day as it will not affect negatively their academic performance, but instead it will give them relaxation, relieve pressure, improve their concentration and enhance their creativity and develop cognitive skills such as reasoning, spatial awareness and problem solving (Bowen, 2014; Nuyens et al, 2019). However, too much spending time in playing mobile Games could result to academic failure, emotional disturbance, anxiety, loneliness and aggression (Chak and Leung 2004; Funk et. al 2004: Lo et. al 2005; Scott, 1995).

Parents should also monitor their children in playing mobile Games as the results showed that, the longer the number of hours spent in playing Mobile Games, the lower the academic performance was.

The school should organize electronic sports competition at least once a year as it relieves boredom (Anand, 2007), relaxation, stress reliever, challenge and competition, enjoyment, social interaction, even mentally escaping from the real world (Castillo, et al, 2017) and cognitive skills (Amin, K et al, 2020). Students should maintain and enhance their time management skills as it has great contributions to the academic achievement (Britton and Tesser, 1991).

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