

Negative Effects of Online Games on Academic Performance

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Abstract – This paper attempted to study the negative effects of online games on students' academic performance. The respondents were the 154 Grade 11 senior high school students in Pangasinan State University-Lingayen Campus in SY 2017-2018. As a descriptive-correlational research, the study utilized a questionnaire that asked the respondents about their playing online games and the level of negative effect on their academic performance. The paper sought to determine the level of effect of playing online games on the respondents' performance in assignments, quizzes, class recitation, paper works and examinations, and correlate said negative effects with their culture on playing online games. They were asked to rate the level of effect as severe, moderate and negligible. The study found out that majority of the respondents played online games. Online games players had an average academic performance while non-players had a high academic performance. The predominantly male players preferred multi-player online games and they spent an average 2.14 hours a day and 4.45 days a week in playing. Their primary motivation in playing was for entertainment. There was a moderate negative effect of playing online games on their academic performance in assignments, quizzes, class recitation, paper works and examinations. There was a significant correlation between the respondents' GPA in Grade 10, their daily and weekly hours spent in playing, their motivation in playing online games and the level of negative effects on their academic performance. Based on the findings of the study, the researchers recommended that parents should do something in limiting their children's fondness in online games and that computer shop owners should prohibit students from playing online games during class hours.

Keywords – online games, negative effects, academic performance, research, senior high school

INTRODUCTION

The question of whether online games are beneficial or detrimental has been researched fairly well. The majority of people believe that online computer games have more negative effects on the players and there are researches that support this belief (Hellström, Nilsson, Leppert, & Åslund, 2012; Anastasia & Chaplain, 2005; Fleming Seay, 2004). There are also experts that claim the positive effects of online gaming (Prot, S., Anderson, C. A., Gentile, D. A., Brown, S. C., & Swing, E. L., 2014; McGonigal, J., 2011).

Significant negative association between time spent in gaming and academic performance have been confirmed in some studies (Anderson & Dill, 2000; Chan & Rabinowitz, 2006; Cordes & Miller, 2000; Gentile, 2009; Sharif & Sargent, 2006). In a study by Rideout, Foehr & Roberts (2010), 47% of a sample of American children and adolescents were found to get poor grades due to heavy gaming time. Comparatively, they noted that only 23% of their respondents who were not heavy game users got low grades. A similar study involving elementary school children showed that frequent gaming time significantly predicts low

academic performance at the end of the academic period even when intervening variables were controlled to a certain degree (Anderson, Gentile, & Buckley, 2007).

The child's potentials are not maximized in school when a portion of his time is heavily spent on gaming, especially online games wherein the challenge is not just to defeat the computer but to defeat real human beings who have mastered the games. This is the hypothesis of displacement. Online gaming can negatively influence school performance by displacing time that would have been spent in other educational activities such as reading and homework (Gentile, Lynch, Linder & Walsh, 2004). Empirical support for this hypothesis has been written about. American teens who play video games have been found to spend 30% less time reading and 34% less time doing homework than non-gamers (Cummings & Vandewater, 2007). A more glaring finding is found in the study of Prot, McDonald, Anderson & Gentile (2012). They found out that 90% of American children and teens play video games for an average of 2 hours per day and 25% of young males reported playing video games for 4 hours a day or more. The big question now is: how much



negative effect does online gaming exert on the academic performance of young people?

This paper sought to find out the degree of negative effects of online games on the academic performance of Grade 11 senior high school (SHS) students. Its humble attempt is not just to confirm the claim that online gaming has negative effects on students but also to determine the level of the negative effects on the small population of senior high school students of Pangasinan State University in Lingayen, Pangasinan, Philippines.

Adachi and Willoughby (2013) did a research that focused on the positive effects of video games on students. One aspect of their study is the self-reported positive effects of the games on the respondents academic grades. The present study mirrored the self-reporting method of their study but with inclination on the disadvantages of online games on the specific academic areas of doing assignments, quizzes, class recitation, paper works, and examinations.

OBJECTIVES OF THE STUDY

This study was conducted to determine the negative effects of online games on the academic performance of the Grade 11 senior high school students of Pangasinan State University- Lingayen Campus for SY 2017-2018.

To achieve this objective, the researchers determined the answers to the following questions: (1) What is the profile of the Grade 11 students in Pangasinan State University in terms of age, sex, graded point average in Grade 10, and weekly allowance? (2) What is the extent of playing online games of Grade 11 SHS students in PSU-Lingayen Campus in terms of type of online games being played, hours spent playing in a day, and number of days spent playing in a week? (3) What is the primary motivation of the student-gamers in playing online games? (4) What areas of their academic performance are negatively affected by their playing online games and the level of effect? (5) Is there a significant relationship between the level of negative effects of online games on their academic performance and their profile variables?

The hypothesis tested was the null: there is no significant relationship between the level of negative effects of online games on academic performance and the profile variables of the respondents.

MATERIALS AND METHODS

This research is by nature descriptive and correlational. It uses both dependent and independent

variables to determine the significance of their relationship (Thorndike, 1978).

The respondents of the study were the 154 Grade 11 senior high school students of Pangasinan State University-Lingayen Campus, coming from the following SHS strands: 21 from Science, Technology, Engineering and Mathematics (STEM), 30 from Information and Communication Technology (ICT), 12 from Industrial Arts (IA), 31 from Accountancy and Business Management (ABM), 29 from Humanities and Social Sciences (HUMMS), and 31 from Home Economics (HE). The instrument used was a questionnaire which consisted of two parts. Part 1 asked for the profile of the respondents in terms of age, sex, weekly allowance, GPA in Grade 10, preferred type of online games, number of hours spent daily playing games, number of days spent weekly playing games, and their primary motivation for playing. Part 2 dealt with the areas of academic performance that is negatively affected by their playing online games. The scale used was as follows: 3 for severe effect; 2 for moderate effect and 1 for negligible effect.

Data collected were subjected to statistical measures. Frequency counts and percentage distribution were used to plot the respondents' profile variables, mean and standard deviation were used to treat the level of negative effects of playing online games on academic performance, and chi-square test of independence was used to test the null hypothesis.

RESULTS AND DISCUSSION

Ninety-nine respondents were online game players and 72% of them were males. Only 12 online game players had high GPA. In contrast, 55 respondents who were mostly females were non-players of online games and 21 of them had high academic performance.

Eighty-two percent of the online game players preferred the multi-player online games; more than half of them had average to high weekly allowance; they spent at least two hours daily in playing; and they played for 4.45 days weekly. The players' primary motivation in playing online games was entertainment.

The playing respondents admitted that their engagement in online games had a moderate negative effect academic areas of doing assignment, quizzes, class recitation, paper works, and examinations.

Chi-square table of independence among variables

Academic Areas Negatively Affected	Age		
	X ²	df	p-value

Assignment	8.380	2	.015
Quizzes	9.851	2	.007
Recitation	8.373	2	.026
Paper works	9.844	2	.018
Examinations	8.366	2	.037

Academic Areas Negatively Affected	Sex		
	X ²	df	p-value
Assignment	8.321	2	.025
Quizzes	9.876	2	.007
Recitation	8.314	2	.036
Paper works	9.869	2	.018
Examinations	8.307	2	.047

Academic Areas Negatively Affected	GPA		
	X ²	df	p-value
Assignment	8.341	2	.031
Quizzes	9.893	2	.007
Recitation	8.334	2	.042
Paper works	9.886	2	.018
Examinations	8.327	2	.053

Academic Areas Negatively Affected	Weekly allowance		
	X ²	df	p-value
Assignment	8.322	2	.011
Quizzes	9.881	2	.007
Recitation	8.315	2	.022
Paper works	9.874	2	.018
Examinations	8.308	2	.033

At the alpha level of .05, the results show that the respondents' variables of age, sex, GPA in Grade 10, and their weekly allowance had a significant relationship on the negative effects of their playing online games on their academic performance.

The relation between age and the following academic areas being negatively affected by online games was significant: assignments, $X^2(2, N = 154) = 8.350, p < .05$; quizzes, $X^2(2, N = 154) = 9.851, p < .05$; recitation, $X^2(2, N = 154) = 8.373, p < .05$; paper works, $X^2(2, N = 154) = 9.844, p < .05$; and examinations, $X^2(2, N = 154) = 8.366, p < .05$.

The relation between sex and the following academic areas being negatively affected by online games was significant: assignments, $X^2(2, N = 154) = 8.321, p < .05$; quizzes, $X^2(2, N = 154) = 9.876, p < .05$; recitation, $X^2(2, N = 154) = 8.314, p < .05$; paper

works, $X^2(2, N = 154) = 9.869, p < .05$; and examinations, $X^2(2, N = 154) = 8.307, p < .05$.

The relation between GPA and the following academic areas being negatively affected by online games was significant: assignments, $X^2(2, N = 154) = 8.341, p < .05$; quizzes, $X^2(2, N = 154) = 9.893, p < .05$; recitation, $X^2(2, N = 154) = 8.334, p < .05$; and paper works, $X^2(2, N = 154) = 9.886, p < .05$.

The relation between weekly allowance and the following academic areas being negatively affected by online games was significant: assignments, $X^2(2, N = 154) = 8.322, p < .05$; quizzes, $X^2(2, N = 154) = 9.881, p < .05$; recitation, $X^2(2, N = 154) = 8.315, p < .05$; paper works, $X^2(2, N = 154) = 9.874, p < .05$; and examinations, $X^2(2, N = 154) = 8.308, p < .05$.

This led the researches to reject the null hypothesis.

It was worth noting that most online game players were young males. A visit to various computer shops and Internet cafes confirm the presence of more young males than females implying that age and sex are predictors of online game playing. The fact that only 12 of the 99 players had high GPA in Grade 10 did not compare positively with the fact that 21 of the 55 non-players had high GPA. It is, therefore, safe to say that the Grade 10 GPA of the respondents influenced their engagement to online games. Lastly, playing online games is not free. It requires the player to have a budget for gaming. Therefore, the weekly allowance of the players had a significant relationship to their engagement in online games.

CONCLUSION AND RECOMMENDATION

There has to be an admission to the claim that playing online games has benefits to the players (Bavelier, Achtman, Mani & Föcker, 2012; Bavelier & Davidson, 2013; Ewoldsen, Eno, Okdie, Velez, Guadagno & DeCoster, 2012), but there it is also undeniable that engagement in these kind of games also has its detrimental effects.

This paper shows that the players themselves admit that their academic performance was affected by their playing online games. While the negative effects may not be severe, they were still negative effects that have to be addressed. The possibility that the moderate negative effect might worsen at some future time is always there unless some interventions are done.

The researchers, therefore, recommended that parents should check on the online activities of their children especially in this age of advanced technology.



Also, the computer shop and Internet café owners should also contribute to minimizing the negative effects of playing online games to their young student clients.

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