



IMPACT OF COMPUTER GAMES ON STUDENTS GPA

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Abstract:

The computer game industry has flourished to become the world's largest entertainment, one of the problem students playing with electronic games for long time without thinking about negative affections especially on their GPA. In this paper to present impact of computer games on creativity and academic achievement of basic school students, we proposed a questionnaires form for 100 students at basic schools. The result of our research explained that the students playing between 1-3 hours per day with electronic games their GPA not decreased or very few which is -0.22% per hour, in same time students that playing more than 3 hours per day their GPA decreased more which is -2.41% per hour. The result help the students to play with electronic games carefully, because if they playing for few hour not return negative affection and sometimes helped them to opining their mind and study, but if playing for more than three hours most time return negative affection for their GPA.

Keywords: computer game, basic school, educational technology

1. Introduction

During the late 19th century and throughout the 20th century, new types of mass media were produced and consumed such as dime novels, films, comic books, radio, recorded music, television, video and computer games, and the Internet. Each medium was often immediately praised for its potential benefits and criticized for its potential harms. Many studies have been conducted to test whether technological advances, specifically

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computers, are advantageous or disadvantageous to individual's school performance [1].

As the technology improvement cases the possibility of many things, it has made some wanted and unwanted significant changes in peoples' daily life. In the ground of modern cultural and industrial competition, the computer games as a new phenomenon has a massive grow in a short time. Moreover, it has attracted the interest of many countries and governors. This cultural arm as a quiet and effective media has effected all aspects of our life. Children, teenagers and adults are attracted to them interestingly and receive their evident and hidden messages [2]. Because of the fascinated attraction of these games for children and teenagers, they spend a lot of time playing games, in fact students spend their mental and nervure energy on these games to finish the games with tired eyes and mind [3]. Since the computer games have a lot of fans among children and teenagers, these anxieties are more intense and they are based on two factors: the first factor is related to the amount of time that children spend on these games and the second one is related to the nature of the game. So, students whom are potentially regarded as injurious charm full, when children and teenagers ignore the other educational and social activities and spend their free time on these games. In this case the most important concern is that doing computer games take (waste) the time of other activities such as school activities, free study or exercise [4].

The video game industry has flourished to become the world's largest entertainment medium [5]. The industry posted an estimated \$34.2 billion in revenue in 2012, and revenue is expected to grow at an average of 5.5% over the next five years [6]. The advancements in technology have led to video games that are increasingly complex, immersive, engaging, and enabling of a wide range of activities, goals, and social behavior [5]. It is now difficult to find a household in the United States that does not have some sort of video game system, whether it is from common video game consoles or pc-based computer games. Due to the engaging nature of video games, users often find them to be a common part of their normal leisure activities, and spend considerable amounts of time playing them. U.S. gamers are now playing video games an average of 8 hours a week and this number is steadily rising [7].

With increased type of games and installed on many devices such as Computer, Ipad, and smart phone, opened the door for playing games for long times by children and students. In Kurdistan Region and Iraq, students after school and holydays are playing with electronic games without control and without behaviors about positive and negative effects. The problem is playing electronic games for long time will be students ignore the study. In this paper, we will find the effective electronic games on Basic school students.

The paper is organized as follows: the Section 2 explains the background work on effectiveness electronic games on students. The Section 3 prepared research process for solving problem. In the section 4 presents the result of implementation research process. Section 5 presents some concluding remarks and points to future works.

2. Related Work

The studies done on the effect of computer technology usage and computer games over the students' creativity are not similar. Many researches demonstrate the improvement of children creativity after using computer technology and computer games [8-11]. Other research [12] show that there is no difference in the children creativity before and after using computer technology and computer games. Zap,2006 [11] concluded that in recognition of skills and problem solving, children who played computer games scored significantly higher than those who did not. He also stated that computer and video games are useful tools for the development of children's cognitive skills and problem solving. According to Gelfond and Saloni Pasternak, 2005 [13], computer games, given diverse and quality to children and teenagers games, offer diverse methods for problem Studies of [8, 14-16] also showed that rate of playing computer games has negative correlation with student achievement; while other research [4] showed that there is no negative relationship between computer games and educational attainment.

The results of this research showed that computer games effect on the reduction of authenticity and expansion dimensions of students is meaningful. When comparing averages we found that students who play computer games have lower scores in authenticity and expansion dimensions than students who do not play. Doran et al., 2002[17] concluded that playing these games can leave meaningful effect on interpersonal interactions and thereby on social skills of children. Expansion variables in girls have meaningful relation and the boys have gained higher scores in flexibility. There seems to be a positive and meaningful relation between flexibility and educational advancement. The results of this research and study of PashSharifi, 2004 [18] showed that boys have greater creativity than do girls. There is a positive relation between characteristic factors such as externalism, conscience, flexibility and creativity.

According to [19], of 58,273,000 students of nursery and K-12 school age in the USA, 56% of students played computer games. Along with the popularity among students, computer games have received a lot of attention from educators as a potential way to provide learners with effective and fun learning environments. Gee,2005 [20] agreed that a game would turn out to be good for learning when the game is built to incorporate learning principles. Some researchers have also supported the potential of

games for affective domains of learning and fostering a positive attitude towards learning [21].

School performance is affected by several factors, however, for the purpose of the study; the factors considered are limited to school factors, family factors and factors affecting computer gaming, and IQ level (see Figure 1). School factors such as class size, number of books and number of teachers affect students' performance. It is hypothesized that class size is negatively related to student's performance. Bigger class size will have a negative impact on school performance. However, number of teachers and books positively affect students' performance. Schools can be private or public. School type affects school performance due to the differences on grading system and resource endowments. Private schools have higher ratio of resources than public schools relative to students[1].

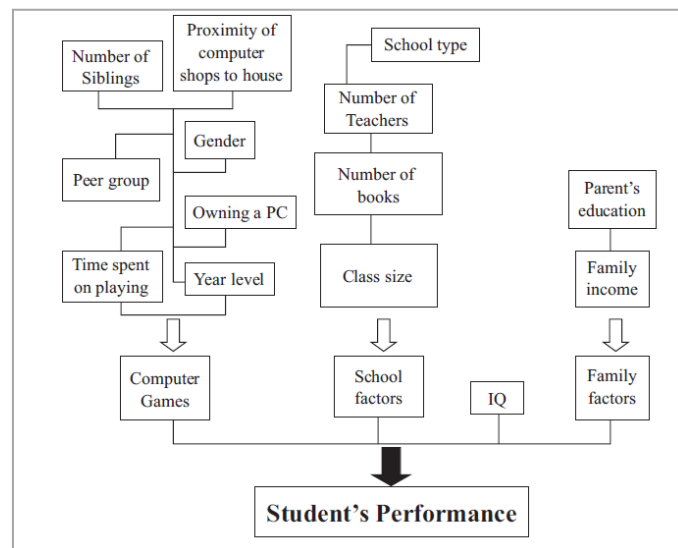


Figure 1: Factors affecting School performance [1]

Based on [22] there was a distinct and significant difference in the reported GPA's between high usage video game players and low usage video game players. This is a very important finding as it relates to the college-age demographic that this research focused on. To reiterate previously cited research, Weaver states that over 70% of college students report being avid video game players, due to the fact that they have limited parental supervision and flexible schedules. This research suggests that increased video game usage leads to lower GPA's in the college-age demographic.

The findings of the another study by M. Seifi, et al, showed that playing computer games has no significant effect on critical thinking, however, there were a significant effect of playing computer games on students' educational achievement ($P < 0/05$). Furthermore, the results showed that the type of computer game has no

significant effect on students' disposition to critical thinking and their educational achievement [23].

Another relevant study was conducted to investigate the effect of different kinds of computer games on students' performance in mathematics in Iran. To this end, by cluster random sampling method, two schools in Behbahan, Iran, were selected. In each school, two classes were selected by random sampling method (n=128). Data was collected by math tests and structured interview. The sample was divided into two groups: The first group used computer games every day or every other day for half an hour (n=62). The second group didn't use computer games or used them during summer holiday (n=66). The results of independent T-test showed that the average scores of first group (M=17/51) were significantly ($p<.001$) different from the scores of the second group (M=15/42). The results also showed that the average scores of group who used war games (N=35, M=17/74) were not significantly different from those who used sport games (N=27, M=17/22) [24].

3. Methodology

For presenting effective of electronic games on the student GPA, we prepare a questionnaires form for 100 students at basic school in Slemani city-Iraq. Then we ask students to answers carefully and honesty. Then we compare GPA with original GPA from schools. Then compare the GPA before and after playing with electronic games. Finally, we will go to conclude the results as shown in Figure 2. The questionnaires form consists of the following questions:

1. Are you interest with electronic games?
 - Yes
 - No
2. Why you use electronic games?
 - I am alone.
 - Habit with games
 - For imitation with others.
 - For enjoy
 - Other reasons
3. How many hours play with electronic games per day?
 - 1-3 hours
 - 4-6 hours
4. Write your GPA
 - Before starting playing
 - After one year playing

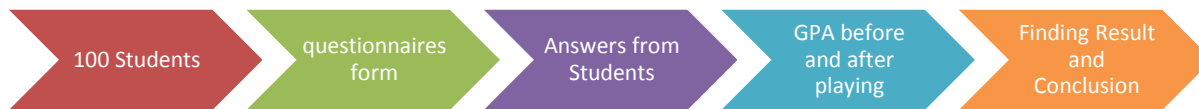


Figure 2: Research Process

4. Result and Discussion

After implementing our methodology by using four questions for 100 students in Slemani city, we get different result from students. Bases on student answers 86% of the students liked playing with electronic games but 14% do not interest with electronic games as shown in Table 1 and Figure 3, which is a normal result because some people not interest with technology.

Table 1: Result of Answer question 1

No	Question	Yes	No
Q.1	Are you interest with electronic games?	%86	%14

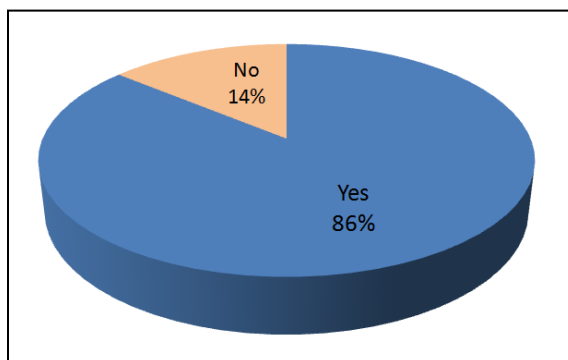


Figure 3: Chart for Result of Answer Question 1

The students answered the question 2 which asks them for which reason you playing with electronic games, and we get different rate from their answers, as shown in Table 1 49% students playing with electronic games because they are alone at home, 20% because habit with games, 6% for imitation other friends, only %17 playing for enjoy, explained in Figure 4.

Table 2: Result of Answer question 2

No.	Question	I am alone	Habit with games	For imitation	For Enjoy	Other Reasons
Q.2	Why you use electronic games	49%	20%	6%	17%	8%

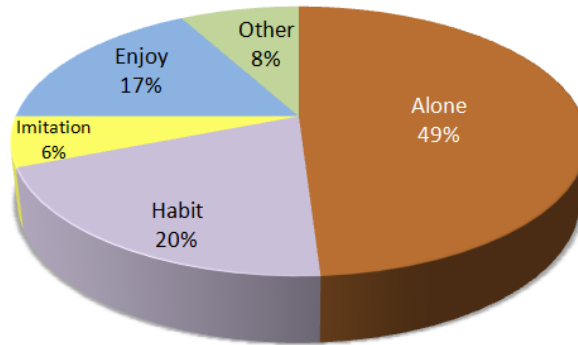


Figure 4: Chart for Result of Answer Question 2

When we asked the students on the form how many hours playing with electronic games per day, most of them 1-3 hours playing with electronic games which rates 80%, but other playing more than 3 hours, as shown in Table 3 and Figure 5.

Table 3: Result of Answer question 3

No.	Question	1-3 hours	4-6 hours
Q.3	How many hours play with electronic games per day?	80%	20%

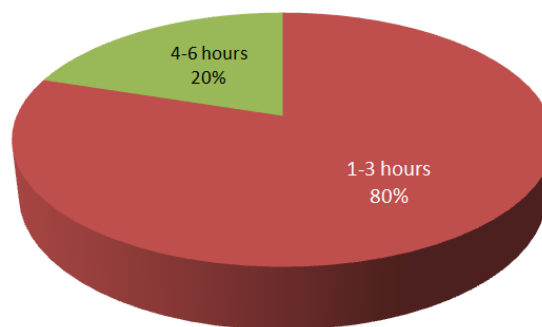


Figure 5: Chart for Result of Answer Question 3

Important question in our research is “Write your GPA before and after playing with electronic games”, we asked students write your GPA honestly, after their answer we compared with original GPA from their schools and compared with previous questions that are “how many hours you playing with electronic games”. Table 4 shows the whole result, the students that playing between 1-3 hours per day their GPA

notdecreased or very few which is $-0.22\%/h$, in same time students that playing more than 3 hours per day their GPA decreased more which is $-2.41\%/h$, clearly presented in Figure 6.

Table 4: Result of Answer question 4

No.	Duration playing per day	Average student GPA before starting play	Average student GPA after starting play	Decrease GPA for 3 hours	Decrease GPA per hour
1	1-3 hours	75.00%	74.30%	-0.66%	-0.22%
2	4-6 hours	76.00%	68.80%	-7.20%	-2.41%

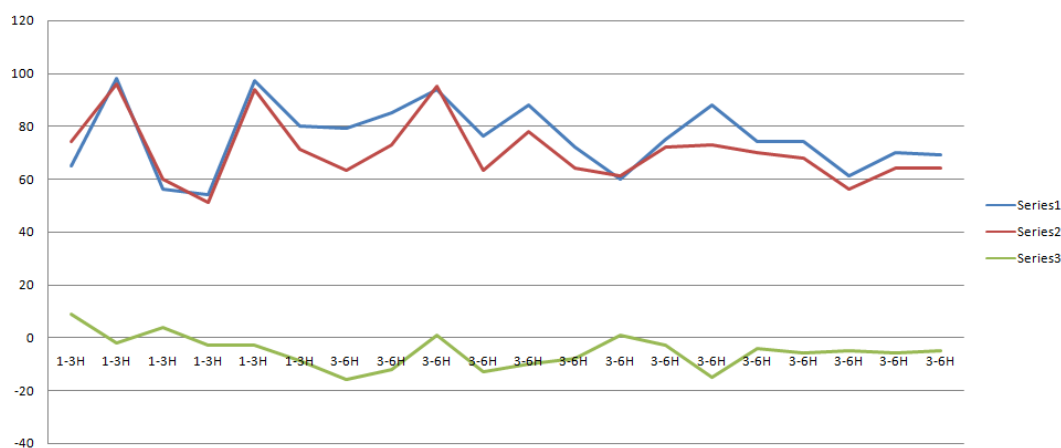


Figure 6: Chart for Result of Answer Question 4

As explained in literature review playing with electronic games had positive and negative affection. The result of Table 4 and Figure 6 give us good results that are; if they playing few hours not return negative affection and sometimes helped then to opining their mind and study, if used for more than three hours most time return negative affection for their GPA.

5. Conclusion and Future work

In this paper to present impact of computer games on creativity and academic achievement of basic school students we proposed a questionnaires form for 100 students at basic schools. Important question in our research is “Write your GPA before and after playing with electronic games”, we asked students write your GPA honestly, after their answer we compared with original GPA from their schools and compared with previous questions that are “how many hours you playing with electronic games”. Table 4 shows the whole result, the students that playing between 1-3 hours per day their GPA not decreased or very few which is $-0.22\%/h$, in same time students that playing more than 3 hours per day their GPA decreased more which is $-2.41\%/h$. we

recommend for researchers that extend our work by using more students with more criteria, also they can find the impact of computer games on eyes, health, and thinking.

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