



Form one students' engagement with computer games and its effect on their academic achievement in a Malaysian secondary school

Yee Leng Eow^{a,*}, Wan Zah bte Wan Ali^{b,1}, Rosnaini bt. Mahmud^{b,2}, Roselan Baki^{c,3}

^a Faculty of Educational Studies, University Putra Malaysia, Malaysia

^b Foundations of Education Department, Faculty of Educational Studies, University Putra Malaysia, 43400 Serdang, Selangor, Malaysia

^c Department of Language and Humanities, Faculty of Educational Studies, University Putra Malaysia, 43400 Serdang, Selangor, Malaysia

ARTICLE INFO

Article history:

Received 26 September 2008

Received in revised form 12 May 2009

Accepted 13 May 2009

Keywords:

Computer games

Academic achievements

Time spent playing computer games

Gamers and non-gamers

ABSTRACT

The main purpose of the study was to address the association between computer games and students' academic achievement. The exceptional growth in numbers of children playing computer games, the uneasiness and incomplete understanding foundation when starting the discussion on computer games have stimulated this study to be conducted. From a survey conducted on 236 form one students in one of the Malaysian secondary school, 75.8 percent were gamers. Playing computer games seemed to be more stereotypically boy's activity with 91.3 percent of the boys engaged in computer games compared to 54.1 percent among the girls. They spent an average of 8.47 hours per week playing computer games. Parents and teachers' concern about computer games was not something that went unwarranted as an overall result was predicting computer games as having negative associations with students' academic achievement. However, in-depth analyses by combinations of classes done step by step indicated that the initial results could be overruled by students from the last class, whom need extra attentions. As a conclusion, the findings in this study suggest some interesting yet ultimately weak associations between playing computer games and students' academic achievement. Nevertheless, caution is warranted in making any generalization as looking at the population as a whole will be different from its components. The generalizability of this study's findings is limited by the nature of the sample. Even so, blaming computer games for the students' bad academic performance in school is unjustified as there are many more other factors to look into before finding computer games as the scapegoat.

© 2009 Elsevier Ltd. All rights reserved.

1. Introduction

The current generation is growing up with a pastime that demands interaction and play (Becker, 2007) which can be accommodated through various computer gaming activities. This is mostly due to the fact that computer games comply with the children's contemporary needs, habits and interests (Henderson, 2005). However, not only children are fascinated with computer games, adults too are found to be deeply interested in these gaming activities particularly during their leisure hours (Saulter, 2007). This is not surprising at all because play is a natural way to learn as it is joyful and provide the opportunities to unconsciously integrate ideas (Petty, 1997; Pivec, 2007; Prensky, 2007). Basically, playing educational computer games is beneficial to most children since these games allow diverse opportunities for them to become more creative as compared to when they are in a more conventional learning environment.

According to Olson et al. (2007), findings on boys who seldom or have never played computer games are quite rare since gaming is often regarded as a social activity for boys. Nevertheless, nowadays, playing computer games is no longer dominated by boys. The number of girl gamers is found to be rapidly increasing too. In their study, Olson et al. (2007) found that one third of the boys being studied played computer games nearly every day while one in eight boys played 15 hours or more per week. Although in the past, males are found to spend more time playing games than their female counterparts, results from studies demonstrate that the gaps in terms of gender and time spent in gaming activities is closing in significantly. The Entertainment Software Association. (2007) reported that the average adult woman

* Corresponding author. Tel.: +60 16 3011786; fax: +60 34 2974451.

E-mail addresses: yleng1@yahoo.com (Y.L. Eow), wanzah@educ.upm.edu.my (W.Z.b.W. Ali), ros@educ.upm.edu.my (R.bt. Mahmud), ros_baki@putra.upm.edu.my (R. Baki).

¹ Tel.: +60 03 89468174.

² Tel.: +60 03 89468173.

³ Tel.: +60 03 89468179.

indulged in gaming activities was 7.4 hours per week while the average adult man played 7.6 hours per week. In 2003, males were found to spend an average of 18 minutes more a day playing games than the females. In 2004, males were found to spend only six minutes more each day than the females in gaming activities. At the same time, females found to be spending an average of two hours more per week playing games now than they did a year ago. On the same note [Gentile, Lynch, Linder, and Walsh \(2004\)](#) stated that children were spending increasing amounts of time playing computer games, in which an average of 13 hours per week spent for boys, and 5 hours per week for girls.

Therefore, it is not surprising that the entertainment software is becoming one of the fastest growing industries in the U.S. economy and it contributed US\$3.8 billion to the country Gross Domestic Product (GDP) in 2006 ([Siwek, 2007](#)). Computer games industry is undoubtedly a big business and it is going to expand rapidly in years to come. Hence, several issues related to education arise from this development in computer games industry. Many parents and educators observe computer gaming activities warily, suspicious of their unwarranted effect on students' learning ([Anderson, 2003](#); [Gentile & Anderson, 2003](#); [Giumetti & Markey, 2007](#)). One major concern is that involvement in gaming activities can have negative effects on students' academic achievement ([Gentile, Lynch, Linder, & Walsh, 2004](#); [Harris, 2001](#); [Smyth, 2007](#)). In addition, student gamers spend huge amount of time, money, effort and concentration on computer games ([Barr, Noble, & Biddle, 2007](#)). A review done by [Harris \(2001\)](#) also showed that computer games are not only causing students to be less academically capable but as well as creating less sociable attitudes. This is because computer games enthusiasts tend to isolate themselves from other students. Therefore, it is not unreasonable for parents and all parties concern to voice up their worries.

Despite all the concerns, at present, computer games environment has become the main building block of the children's world ([Funk, Buchman, Jenks, & Bechtoldt, 2003](#); [Gazit, 2006](#)). According to [Wittwer and Senkbeil \(2008\)](#), computers had no significant influence on their academic achievement no matter how they used it, either for academic purposes or entertainment such as playing computer games. Along similar lines, [Cagiltay \(2007\)](#) reported that computer games had positive effects on students' academic achievement. Computer games are also reported to have been positively motivating students ([Schaefer & Warren, 2004](#)), attracting students' attention in classroom ([Inal & Cagiltay, 2007](#); [Rousso, 2004](#)) and initiating students to learn something new ([Bailey & Moar, 2001](#)). Thus, it can be seen that researches done on computer gaming and its effects on students' learning and performance have provided conflicting findings. The question is, are we, the educators, going to stop computer games expansion (which is surely an unrealistic move) or are we going to move parallel and adapt it into our educational needs (which students will definitely enjoy playing them)? It surely needs a lot of researches and debates into making decisions about computer games adaptation into the world of education.

Most of the studies done were foreign based, mainly carried out in developed western countries. What is lacking here is a local study in Malaysia that addresses the question of whether computer games do affect students' academic achievements negatively. Many educators and parents neither played nor developed computer games ([Oblinger, 2006](#)), and this is especially true in the Malaysian context. So far, not many local researches have looked into the educational values offered by computer games. In the context of this study, computer gaming is considered as an entertainment system in which a computer is used to drive a video display and interacted with players using a variety of input devices. Beside that, computer games are consider to involve elements such as rules, goals, challenges, fantasy, mystery, curiosity, competition, skill and/or conflict ([Saulter, 2007](#)). Therefore, computer animations without some of these elements are just another visual display which would not being considered as computer games in the study conducted.

The exceptional growth in numbers of children playing computer games ([Carbonaro et al., 2008](#)) has stimulated this study to be conducted. In addition, many people begin the discussion on computer games with some uneasiness and with an incomplete understanding foundation ([Oblinger, 2006](#)). Apart from that, computer games are blamed for everything from youth obesity to fostering violence ([Bartholow, Bushman, & Sestir, 2006](#); [Carnagey, Anderson, & Bushman, 2007](#); [Funk et al., 2003](#)). Parents, educators, administrators and policy makers are generally more aware of the negative effects and easily hold computer games as responsible for whatever bad consequences shown. The rationale of the study is to enable parents, educators, administrators and policy makers to develop a better understanding on the effects of computer games on students' academic achievement before making any unjustified judgement on the contemporary youth culture. Thus, by probing the effects of computer games on students' academic achievement thoroughly, further decision on the acceptance of computer games as a new innovation in school could be considered. In the mean time, this paper also serves to provide a better view of the local students' current engagement in computer games. On the whole, the main question to be answered is whether computer games are negatively affecting students' academic achievements. Besides that, did the total time students spent a week on computer games affected their academic achievement as well? Therefore, is it justified to put computer games as the blame for students' bad performance in school?

2. Methods

In order to gather data related to students' engagement in computer games and effect of computer games on students' academic achievement, a survey was employed. Research samples were Form One (13 – 14 year-old) students from a school in the city of Kuala Lumpur, Malaysia. The school was selected as the students were of diverse background in terms of academic performance and social economic status. For the purpose of this paper, however, only part of the survey data is reported. The survey was administered in May 2008 and it was carried out in the students' respective classroom. As the main language of converse is Bahasa Malaysia, the questionnaires was translated into the language of Bahasa Malaysia. Researcher was present when the research was carried out in order to help students understand the research's needs and items.

Data were analyzed using statistical procedures such as cross-tabulation, one-way chi-square, two-way chi-square and Cramer's V for nominal data; while *t*-test was used to compare group differences involving interval scale of measurement data, and Pearson product-moment correlation coefficient analysis for effect size. Gamer and time spent for playing computer games per week were used as independent variable while academic achievements was used as dependent variable in the analyses. The academic achievement for form one students was based on the previous year national examinations taken, which was the Primary School Assessment Test or *Ujian Penilaian Sekolah Rendah* (UPSR). A total of 236 form one students from classes A to H completed the questionnaires, but 12 students were absent during the survey. Therefore, the findings were based on 95.2 percent of the form one students' population in that particular school which might have caused a slight limitation for any generalization to be made.

Download English Version:

<https://daneshyari.com/en/article/349618>

Download Persian Version:

<https://daneshyari.com/article/349618>

[Daneshyari.com](https://daneshyari.com)