

IT TEACHERS' PERCEPTION ABOUT USING GAMES IN EDUCATION

Göknur Kaplan Akilli, Ömer Faruk İslim, Neşe Sevim

Middle East Technical University (TURKEY)
akilli@metu.edu.tr, islim@metu.edu.tr, nsevim@metu.edu.tr

Abstract

The current study is a quantitative study that aims to investigate Information Technology (IT) teachers' perceptions about using games in education. In this study survey method was used. A questionnaire was administered to a total of 31 IT teachers (18 male and 13 female). The analysis revealed an important issue regarding the perception of IT teachers about the educational use of games. The results showed that when the teachers are asked to answer a generic question about the use of games in education, their answers were inclined to be more negative than positive, which might be because of focusing the negative aspects. However, despite the negative opinions about the computer games stated above, when separate statements about positive aspects of the games were given IT teachers respond positively to those items. This shows that, there is confusion about the games in teachers mind. They focused on the negative effects of the computer games so that they did not recognize the benefits of those games at first glance. But when they were asked about the benefits, they realized those benefits and responded positively to the items.

Keywords: Educational game, IT teachers.

1 INTRODUCTION

Video games are attracting millions of people all over the world, whereas the number of gamers is increasing each day rapidly by the contribution of new technologies. In recent years, digital games became a part of our daily life [1]. There are several theories such as Csikszentmihalyi's Flow Theory and Malone's Motivation Theory that strive to explain why people play games this much. These theories have some attributes in common which are also parallel to education in general. Both theories emphasize the importance of achievable clear goals; challenge of the activity; frequent, clear and constructive feedback; and user control, which also correspond to certain essential principles of education [2] [3] [4].

When the number of people, especially the number of students, playing computer games and the positive effects of games on students take into consideration, keeping games out of educational scope seems impossible.

The combination of two different fields, i.e. game and education, comprised a new term: educational game. Educational games are software that use game format to teach a topic or develop problem solving skills [5]. Educational computer games have two dimensions: fun and teaching. They provide teaching while having fun simultaneously [6].

Teachers' perception about integrating technology into classroom is critical, since they are the ones who will use the technology in their classrooms or not. Making millions of dollars' worth investments alone does not guarantee that those technologies will be used. Teachers should be both ready psychologically and knowledgeable how to utilize such technologies [7].

IT teachers should be the innovators to adapt new technologies and instructional methods to their and other teachers' courses. They have the key point to using games in education. If their perceptions are positive to use games in their courses they can convince the others. So, perceptions of the IT teachers using computer games in education are very important. This study investigates the IT teachers' perceptions that are working in a school. To be more specific the research question in this study is the following question:

1. What are the perceptions of IT teachers graduated from CEIT towards using games in education?

2 METHOD

This was a descriptive study and survey method was used. The questionnaire was developed by Can for her master thesis in 2003 and it was adapted for this study with permission. 5 experts were checked the items in questionnaire about its clarity and appropriateness for the study. All experts were from Computer Education and Instructional Technology department. One of them was expert on measurement and evaluation in education and the others are expert on using games in education. The questionnaire corrected according to experts advices and resent them. Second control was made by the experts and then questionnaire sent to participants via Facebook.com social network or e-mail and they were sent back by social network or e-mail by the participants The participants were informed about the aim of the study and asked whether they were volunteer to participate. Then, they were distributed questionnaire and asked to fill it.

Questionnaire is consisted of two main parts. In the first part, there are three sections. First section included twelve questions that aimed to collect the demographic data of the participants such as age, gender, work experience, etc. In the second section, there are eight questions to get ratio of weekly activities such as watching TV, playing computer games, reading book, etc. Finally there are seventeen questions in the third section to learn teachers' general idea about games. In second part, there are nineteen questions. These questions are Likert type questions related with using games in education. A four-point scale (strongly agree, agree, disagree and strongly disagree) was used instead of five-point scale in order to eliminate high number of neutral responses [7]. The frequencies of the responses to the Likert type questions were calculated and descriptive statistics were conducted. PASW 18 program was used to perform the necessary tests.

The sample of this study is consisted of 31 IT Teachers. All teachers graduated from Computer Education and Instructional Technology Department in Turkey. In this study there were 18 male and 13 female. 25 of them are working at primary school, four of them are working at high school and two of them are working at public education center. The average age of the participants are 26,13, ranging from 23-year-old to 28-year-old. The less experienced teacher has been working for one year and the most experienced teacher has been working for four years. Seven participants have never played a computer game, nine participants were playing games but they are not playing now and 15 participants play computer games.

3 FINDINGS

The findings of these study were given under two heading; general perceptions of it teachers towards playing game and perceptions of it teachers using games in education.

3.1 General Perceptions of IT Teachers towards Playing Game

The general perceptions of the IT teachers towards playing games were gathered by 16 items in the questionnaire. It is seen that teachers agree with the statements that illustrates the negative effects of computer games except only one statement. This situation reflects the negative perceptions of IT teachers towards playing computer games.

The results of the study shows that teachers are mostly agreed or disagreed with five statements. The percentages of these statements are over 90%. Firstly, teachers agreed that playing computer games requires too much engagement time (90.3%) and playing computers game with violent content affects people negatively (96.8%). Moreover, according to them playing computer games teaches something only if an existing game is modified with educational purpose (90.3%) and playing computer games teaches something only if the game is designed with educational purpose from the very beginning (93.5%). Finally, teachers disagreed that playing computer games is only suitable for children (96.8%).

3.2 Perceptions of IT Teachers using Games in Education

The general perceptions of IT teachers towards using games in education were gathered by 19 items in the questionnaire. The results show that teachers agreed nearly all of the statements. In addition, it is seen that half of the teachers disagreed with only one statement. In this part, three statements are agreed more than 90% percent of teachers. Firstly, teachers are agreed that computer games can be used parallel with the educational program (93.5%) and games can help student to achieve cognitive

goals defined in the curriculum. Lastly, 96.8% of the participants agree that computer games can be useful if they are used as a conducive learning tool.

4 DISCUSSIONS AND CONCLUSION

This study aims to investigate IT Teachers' perceptions about using games in education. Results show that IT teachers do not have enough information about the educational aspects of the games and they develop negative perception towards playing games. Majority of the IT teachers think that playing computer games requires lots of time. Moreover, they think that playing computer games is waste of time. This study also reveals that IT teachers have concerns about the effects of computer games in social life. Most of them agree that computer games leads to addiction and it negatively affect the social life of the players. In addition, they stated that violent games affect the behaviors of the players negatively. Finally, majority of IT teachers do not believe that games teach players. They stated that computers games should be revised or designed from beginning if it is aimed to teach players. Despite these negative statements, most of IT teachers believe that computer games can be used in each course and in all educational levels. Moreover, according to them computer games can be used without any time problem and any class management problem with the educational program. Finally, they stated that computer games help student to achieve cognitive goals, affective goals and psychomotor goals defined in the curriculum. But according to them to achieve those goals, computer games should have clear and realistic goals.

This study reveals an important issue regarding the perception of IT teachers about the usage of games in education. They results showed if a general question was asked to teachers about the games, they gave negative answers because of focusing the negative aspects. However, despite the negative opinions about the computer games stated above, when separate statements about positive aspects of the games were given IT teachers respond positively to those items. This shows that, there is confusion about the games in teachers mind. They focus on the negative effects of the computer games so that they do not recognize the benefits of those games at first glance. But when they are asked about the benefits, they realize those benefits. For this reason, IT teachers should be given education about the importance and benefits of computer games. A course related with computer games may be integrated to the curriculum of educational faculties so that all of the teacher can be informed about benefits of those games.

The findings of this study have limitation. There are 31 IT teachers in this study so that generalization is limited. The same study should be conducted again with more participants around all cities in Turkey. The same study also can be conducted with other branch teachers to see their perception about those games.

REFERENCES

- [1] Mcgonical, J. (2010) TED Ideas Worth Spreading. Gaming Can Make a Better World. Retrieved from http://www.ted.com/talks/lang/eng/jane_mcgonical_gaming_can_make_a_better_world.html
- [2] Csikszentmihalyi, M (1990). Flow : The Psychology of Optimal Experience. Harper Perennial, London. Flow Chapter 2.
- [3] Csikszentmihalyi, M. (2004). Creativity, Fulfillment and Flow (Video File) Retrived from <http://www.youtube.com/watch?v=fXleFJCqsPs>.
- [4] Malone, T. & Lepper (1987). Making Learning Fun: A Taxonomy of Intrinsic Motivations for Learning. In Snow, R. & Farr, M. J. (Ed), Aptitude, Learning, and Instruction Volume 3: Conative and Affective Process Analyses. Hillsdale, NJ.
- [5] Demirel, Ö., Seferoğlu, S. & Yağcı, E. (2003). Öğretim Teknolojileri ve Materyal Geliştirme (4. Basım). Ankara: Pegem A Yayıncılık.
- [6] Bayırtepe, E. & Tüzün, H. (2007) Oyun-Tabanlı Öğrenme Ortamlarının Öğrencilerin Bilgisayar Dersindeki Başarıları Ve Öz-Yeterlik Algıları Üzerine Etkileri. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 33, 41-54.

- [7] Can, G. & Çağıltay, K. (2006). Turkish Prospective Teachers' Perceptions Regarding the Use of Computer Games with Educational Features. *Journal of Educational Technology & Society*, 9 (1), 308-321.