EDUCATIONAL COMPUTER GAMES IN THE DETERMINATION OF VOCATIONAL TENDENS

E. İlkay and T. Sevindik

Abstract— The concept of game is one of the oldest concepts in the life of the human being. People have always used the concept of game in their lives in order to have fun and to relax. But over the past forty years, traditional games have begun to change platforms and games have evolved from traditional to digital. In this context, a significant development has been seen as a process of digital game development in personal computers, palm electronic devices and mobile phones. Although it is seen as one of the most important problems in today's world, we should use digital games in order to reach positive results. In this study, a study has been done to determine the professional tendencies of computer games and primary school children. This research was extracted from the MSc Thesis and prepared for evaluation purposes.

Keywords— *Game, Digital game, Vocational guidance, Cognitive interaction.*

1. INTRODUCTION

THE game is an experience that can be used for different purposes in various branches of science, whose history is known to be based on ancient times. Acording to TDK, the game has been defined as intelligence-enhancing entertainment, which has certain rules. [1]. Erşan (2006) stated that the game was an activity that existed in every period of life, the shape of the games, the characteristics of the games, the game materials varies for different cultures but is an unchanging universal feature for anywhere a child present. [2]. Montaigne stated "It should be noted that the games of children are not games, and must be considered as their most serious actions. For truly it is to be noted, that children's plays are not sports, and should be deemed as their most serious actions." [3]. Games have many benefits for people. Prensky listed some of them as follows [4].

1. Games are a form of fun. That gives us enjoyment and pleasure.
2. Games are form of play. That gives us intense and passionate involvement.
3. Games have rules. That gives us structure.
4. Games have goals. That gives us motivation.
5. Games are interactive. That gives us doing.
6. Games are adaptive. That gives us flow.
7. Games have outcomes and feedback. That gives us learning.
8. Games have win states. That gives us ego gratification.

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9. Games have conflict/ competition/ challenge/ opposition. That gives us adrenaline.
10. Games have problem solving. That sparks our creativity.
11. Games have interaction. That gives us social groups.
12. Games have representation and story. That gives us emotion.

Prensky claims that nothing else can provide us with all of this. Books and movies, which perhaps come closest, have many of these characteristics, but they are not interactive, and are typically experienced alone. Games, at their best, are highly social, highly interactive experiences. [4].

2. THE PLACE AND IMPORTANCE OF THE GAME IN EDUCATION

Games are indispensable in children's lives. For this reason, it is the fact that the game is within the child's life makes it directly related to education. It is known that games contribute to the development of some skills such as focus and concentration. According to Amory and Seagram, the role of play in psychological, social and intellectual development is especially important in early childhood. [5]. Children learning through play can improve their social and cognitive skills, become emotionally mature and gain the confidence they need for new experiences and environments. [6]. Ghazali (1058-1111) also states that the game is important in the education of the child. According to him, play renews the memory of the child, increases the learning power and rests the child. Plato (B.C.427-347) emphasizes that the child should grow with play and that the game has an important place in the discovery of the talents of children. Poyraz (2003) and Öztürk (2001) also stated that the game enables teachers, parents and children to discover the hidden talents of children and that they can contribute to their education in this respect. [7].

3. DEFINITION OF COMPUTER GAMES

As a result of the rapid development of technology, computers have started to be found at homes, offices, schools and all environments. The transition to the computer age, as well as all sectors computer games were brought to the game industry. Oxford Dictionaries defines computer games as "a game played by a computer, usually a video game. A similar concept of video games is defined as "A game played by electronically manipulating images produced by a computer program on a monitor or other display" [8]. Kirriemuir (2002) states that the video and computer game concepts can be used interchangeably because of a screen in which the game is watched and data entry is provided by means of keyboard or joystick. [9].

4. HISTORY OF COMPUTER GAMES

The introduction of computers into human life has affected people's many behaviours, such as getting information, sharing, socializing and entertainment, as well as playing behaviour. When we look at the history of computers, it is seen that people have met with computer games shortly after computers appear [10].

5. CATEGORIES OF COMPUTER GAMES

The concept of computer games has shown many diversity since their first appearance into life, both the devices used in the digital game and digital game genres. In this context, in order to classify computer games, Presky classifications are classified into 8 main categories [11].

- Adventure games
- Action Games
- Strategy games
- Simulation Games
- Role Playing Games
- Puzzle Games
- Sports Games
- Fighting Games.

6. COMPUTER GAMES AND DEMOGRAPHICS

DeKanter (2005) stated that today's learning generation is extremely game literate [12]. In addition, the National Institute on Media and the Family indicated that video games were part of the daily lives of almost all children, either directly or through friends and family members, and that 92% of children aged 2-17 years played video and computer games. [13].

7. BENEFITS OF COMPUTER GAMES AND EDUCATION

In addition to being a recreational activity for people, video games provide people with various benefits, such as developing active learning and critical thinking skills, building knowledge, and supporting access to and use of electronic form information. [14]. In addition, it is stated that computer games have the benefits of providing hand-eye coordination, spatial abilities, imagination, reasons of shapes, mathematical thinking with geometry, visualization of objects related to chemistry and physics, and integration of shapes in space. [9].

8. GAME DESIGN

Game design is the process of creating the content and rules of a game. Good game design is the process by which the player feels the motivation to reach and the process of forming the rules that the meaningful decisions that he / she will take in order to achieve these goals. [15]. When designing an educational game, it is necessary to combine game design with the theory of education and to determine the game goals in parallel with the educational objectives. This is called educational game design. In this research, which was produced from a master thesis, the focus was on the development of computer games in determining the professional tendencies of children and in this context, the importance of the concept of vocational guidance came to the fore.

9. VOCATIONAL GUIDANCE

A chosen profession of the individual determines;
a) Whether he / she has a permanent job throughout his life,
b) Whether he / she is a successful person in his / her life,
c) The nature and place of the environment to live in,
d) Income and livelihood of the family,
e) Whether to enjoy his / her job or not,
f) Whether there is a businessman with a sense of responsibility,
g) To provide satisfaction in general and to determine whether or not to be happy in life [16].

However, as Reeves and Karlitz (2005) reported, "There are approximately 12,000 kinds of professions known in the world. The diversity of occupations makes it difficult for the individual to make an appropriate career choice, and unfortunately, as Özgüven (2000) states, Many people are unaware of their interest and ability in the field before they start any work or activity. they can only discover after their experiences and their own interests. [18] This situation shows us the importance of occupational guidance in the life of the individual. We can describe the professional guidance, "help individuals to recognize various professions, choose professions appropriate to their qualifications, prepare for their chosen profession and develop professionally." In cases where vocational guidance and career counseling are insufficient, individuals can choose wrong professions due to many factors such as fears, concerns, misinformation and environmental impact. [19]. Therefore, vocational guidance plays a critical role in shaping the individual's educational life. At the same time, vocational guidance significantly affects the society and the state as well as the individual. Yeşilyaprak (2003) stated that the significant results of vocational guidance are emerging in the development of countries. [20]. Occupational guidance is a process that includes psychological and guidance services for students to prepare for their profession This process starts from the pre-school period and focus on the student's development period.

Vocational guidance helps individuals in the process of career selection;

- To helping them to reach realistic and objective information about professions,
- To help them discover their skills and skills,
- To help all professions to appreciate, appreciate and develop a correct attitude towards working,
- Help students to learn about existing colleges and universities,
- It aims to help the professional development period to gain professional development duties and help the next period to be ready for development tasks and so on.

In summary, vocational guidance helps students to make career planning in accordance with their personal, academic and social development.

10. CONCLUSION

As conclusion we can say that occupational preferences deeply affect the individual's life, living standards, social status and happiness in general. Therefore, it is vital for the individual to make the right professional choices. Here, an important responsibility arises for the instructors who will shed light on the student while realizing their vocational preferences. Vocational guidance processes are directly related to the abilities and interests of the individual and it is necessary to collect in-depth information about the individual. It makes. At this stage, it is critical that vocational guidance should benefit from the opportunities of developing and expanding new technologies.

Finally, since computer games, which are a part of the life of the new generation, have brought about significant changes in the way individuals express themselves, vocational support processes are supported by educational computer games that can provide in-depth information about the student. It can be said that more studies are needed to use as.

REFERENCES

[1] Türk Dil Kurumu, Genel Türkçe Sözlük, http://tdk.gov.tr/index.php?option=com_gts&arama=gts&guid=TDK.GTS.5c7d07d886e1 31.35987066, 4 Mart 2019..

[2] F. Erbay and N. D. Saltali, "Altı yaş çocuklarının günlük yaşantılarında oyunun yeri ve annelerin oyun algısı", Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, Vol.13, No.2, 2012 pp.249-264..

[3] A. Egemen, Ö. Yılmaz, İ. Akil, Oyun, oyuncak ve çocuk, 2004.

[4] M. Prensky, "Fun, play and games: What makes games engaging", Digital gamebased learning, Vol.5, No.1, 2001, pp.5-31.

[5] A. Amory and R. Seagram, "Educational game models: conceptualization and evaluation: the practice of higher education", South African Journal of Higher Education, Vol.17, No.2, 2003, pp.206-217.

[6] J. Kahn and S. E. Wright, "Human Growth and the Development of Personality: Social Work Series". Elsevier, 2013.

[7] S. Koçyiğit, M. N. Tuğluk and M. Kök, "Çocuğun gelişim sürecinde eğitsel bir etkinlik olarak oyun", Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi, Vol.16, 2007, pp.324-342.

[8] Oxford Living Dictionaries, https://en.oxforddictionaries.com/definition/computer_game, 4 March 2019.

[9] M. B. Horzum, T. Ayas and Ö. Ç. Balta, "Çocuklar için bilgisayar oyun bağımlılığı ölçeği", Türk Psikolojik Danışma ve Rehberlik Dergisi, Vol.3, No.30, 2016.

[10] P. O. Durdu, A.Tüfekcı and K. Çailtay, "Üniversite Öğrencilerinin Bilgisayar Oyunu Oynama Alışkanlıları ve Oyun Tercihleri: ODTÜ ve Gazi Üniversitesi Öğrencileri Arasında", Eurasian Journal of Educational Research, Vol.19, 2005.

[11] M. Prensky, "Fun, play and games: What makes games engaging. Digital gamebased learning", Vol.5, No.1, 2001, pp. 5-31.

[12] N. DeKanter, "Gaming redefines interactivity for learning", TechTrends, Vol.49, No.3, 2004, p.2631.

[13] S. S. Elizabeth, "Evolution in the classroom: What teachers need to know about the video game generation", TechTrends, Vol.49, No.5, 2005, pp.17-22.

[14] W. R. Watson, C. J. Mong, and C. A. Harris, "A case study of the in-class use of a video game for teaching high school history", Computers & Education, Vol.56, No.2, 2011, pp.466-474.

[15] B, Brathwaite and I. Schreiber, "Challenges for game designers", Nelson Education, 2009.

[16] A. N. Canel, "Eğitimde rehberlik hizmetlerinin yeri ve önemi", Pegem Atıf İndeksi, 2017, pp.118-151.

[17] A. T. L. İ. Abdullah, and G. Keldal, "Mesleki Kişilik Tipleri Envanterinin Geliştirilmesi", Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi, Vol.18, No.1, pp.73-93.

[18] R. Kamaşak and F. Bulutlar, "Kişilik, mesleki tercih ve performans ilişkisi: akademik personel üzerine bir araştırma", Organizasyon ve Yönetim Bilimleri Dergisi, Vol.2, No.2, 2010, pp.119-126.

[19] F. N. Yilmaz, "Lise Öğrencilerinin Meslek Seçimlerini Etkileyen Faktörlerin İkili Karşılaştırmalar Yöntemiyle İncelenmesi", Eğitimde ve Psikolojide Ölçme ve Değerlendirme Dergisi, Vol.8, No.2, 2017, pp.224-236.

[20] G. Karancı, İşgücünün geliştirilmesinde Türk eğitim sistemindeki rehberlik hizmetlerinin rolü (Doctoral dissertation, DEÜ Sosyal Bilimleri Enstitüsü), 2010.

BIOGRAPHIES

Emre İlkay was born on 26/07/1993 in Kayseri. After a year later my family moved to Amasya and I spend most of my childhood at there before my family moved again, this time Adana. I started my primary school in Adana at Vakıfbank İlköğretim Okulu and studied there for 3 years and several other schools. I went to Nedim Ökmen Anatoilan Teacher School. I graduated from Mustafa Kemal University in 2015. While when I still a student in university, I started game programming and I spent most of my free time on it since then. After graduation I started my master's degree at Yildiz Technical University and also started my professional life as game developer.

Tuncay Sevindik was born on 23/09/1977 in Bakırköy district of Istanbul. Started primary education at Hasan Kağnıcı Primary School and contained to Güneşli Secondary School, Mehmet Niyazi Altuğ Secondary School and Bağcılar Industrial Vocational High School. I graduated from Fırat University, Faculty of Technical Education in 1999. After that I started my master's degree in Educational Sciences in 2000 and completed my doctorate in 2007 at the same department. I continued my academic career as a faculty member since 2007, and since 2010 at Yıldız Technical University.