Educational Aspect Of History Themed Strategy Type Computer Games

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Abstract

In the study carried out, a general evaluation was made by examining the educational aspect of computer games in the category of history-themed strategy games and their relationship with education. As a result of the researches, it has been seen that these games with artificial intelligence contribute to the development of students' intellectual skills and increase their success in their lessons. Today, with the rapid development of technology and its active use in many areas of life, it has become a necessity to be included in the education-teaching processes. The use of computer games in education by programming has created many educational facts on a geographical basis, especially in history.

Keywords: Computer games, History, Strategy, Technology, Education, Teaching.

1. Introduction

New developments and regulations in the field of information and technology, on behalf of "Information It has reached the position of being the beginning of a new age called the "Age to the needs of society able to respond, be aware of the relationship between the concepts learned, It is in the stage of creation, which is assimilating by organizing and the last step of the bloom taxonomy.

Traditional education throughout history to raise individuals who can produce new products such as understanding of the modern age in educational activities by gaining a different perspective other than the understanding of make efficient use of technology to provide an appropriate understanding of development required [1].

Development and reform movements in every field emphasize the importance of education. The process of acquiring knowledge of our age does not depend only on the school environment, but also on the whole life. It has spread over a wide area to shape it [2].

Another issue is computer games; reaching huge audiences via the internet active for the purpose of entertainment, where individuals from all age groups can evaluate their time. They are a platform. As individuals are against artificial intelligence, they are also synchronized with each other. They can also play (synchronously). This situation shows how big computer games are. Indicates that it may have a domain. The ultimate purpose of computer games is to educate the users while at the same time entertaining them. Issues that should not be overlooked in terms of computer games; computer what is included in the content of the games, what kind of computer activities individuals enjoy, implicit teaching, which computer games both entertain and transfer to individuals what their purpose is [3].

Researching how computer games can contribute to courses such as history and geography, Kurt D. Squire is based on the game "Civilization III", based on the 2004 "Replaying History" title prepared his thesis. This study aims to explain the contribution of the students from the games in their education-teaching processes. Solving problems by playing the game "Civilization III" to some students. Skills, knowledge of geography, past civilizations in history and present-day countries. The students who played games were compared to those who did not.

They achieved better results in many subjects compared to [4]. The aim of this study; have fun with historical and strategic computer games. Apart from spending time, the educational contributions it offers to individuals are the subject of many researchers. The reviews about the importance of games in education by scanning sources and documents to compile data.

2. Computer Games and Education

Computer games are a set of various software, supported by graphics, shaped by the hand-eye coordination of individuals, containing the state of "interacting" and containing many sub-titles [5].

Computer games, which are an output of the synthesis of information and technology, offer players an area where they can interact with each other in a three-dimensional environment with a development process of fifty years, and in this area, individuals reveal their cognitive and sensory abilities in the virtual environment and at the same time.

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They are three-dimensional environments where they can provide interactive communication [6]. While it covers all the activities that are dependent on a purpose, aiming to reach the goal by following the rules determined during the planning phase, and in which individuals play an active role, all of the activities that bring many skills such as acquiring new information, ensuring the transferability of the acquired knowledge to different environments, and discovering their own self-efficacy are called educational games [7].

In order for educators to use educational games as a method in education and training processes, they should plan ahead and choose the educational game while serving the purpose. It should be chosen by taking into account the developmental characteristics of the individuals who will play. In addition to being interesting, the games are conveyed with a simple and clear expression technique in which all students can participate actively, the rules of the game can be perceived by all students. It is foreseen that it will be more beneficial for the teacher to give feedback, corrections and reinforcements on behalf of the whole class in the form of a general address, and that the mistakes of the students who make mistakes while playing the game should not be emphasized too much, and it is foreseen that teachers can use various types of educational games in their lessons within the framework of these issues [8].

Howard Gardner, who works on the field of educational science, has revealed various theories and opinions by considering the situations where traditional education methods are insufficient because each person's mind structure is different. One of these theories is "Multiple Intelligence Theory". On the basis of the theory, it has been determined that the use of materials that appeal to more than one sensory area such as maps, documents, cartoons, videos and music clips in education facilitates history teaching, apart from other teaching areas [9].

In short, computer games provide the opportunity for individuals to continue their education by increasing their acquisition efficiency, ensuring their meaningfulness, and approaching events from different angles.

3. Computer Games and Education

A historical themed strategic computer game; It includes political, geographical, sociological, military elements at a certain time in real world history. In addition, it offers the opportunity to change the course of history and events in the game with the moves that the user will perform on his own. Although the gameplay of most games is similar, their dynamics and game engine are different. It this situation offers users the opportunity to turn to games according to their interests.

3.1. Hearts of Iron

The Hearts of Iron series is a strategy-focused game set in the World War II era published by Paradox Interactive as seen in **Figure 1**. The series has four games so far, the last of which was released in 2016. With Hearts of Iron IV, users start their game by choosing one of two dates, 1936 or 1939. Players who choose the first date can prepare for the Second World War or choose the date 1939 and start the war directly. In the game, you can produce factories, surround the country with railways and develop economy and production. There are three types of production facility options as military, civilian and shipyard. Countries can produce their unique planes, rifles and ships in accordance with their history. It can be chosen which policies the country will focus on in various areas. It offers the opportunity to focus on ground forces, air forces, industry and many more. For example; It highlights names such as Mustafa Kemal Ataturk, Ali Fuat Cebesoy, Kazim Karabekir, Ahmet Ali Celikten, Nihal Atsiz, who have important traces in the history of the Republic of Turkey, in politics, and can be adapted to the modern world by making gains. With the focus tree, the country can be moved towards a specific goal. With the elections, those events can be realized in accordance with the historical trend or an alternative history can be kept alive. For example; when played with Turkey, you can sign the Sadabad pact, establish the Anadolu Agency, or claim rights within the borders of the National Pact. The mentioned guiding phenomena are also present in other states and include the historical events and ideals of those nations.

Figure 1. *Hearts of Iron IV*

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With the focus tree, the country can be moved towards a specific goal. With the elections, those events can be realized in accordance with the historical trend or an alternative history can be kept alive. For example; when played with Turkey, you can sign the Sadabad pact, establish the Anadolu Agency, or claim rights within the borders of the National Pact. The mentioned guiding phenomena are also present in other states and include the historical events and ideals of those nations. The technological developments of that time in the world were also reflected in the game with the researches. For example; With Turkey, you can develop the aircraft produced in TOMTAS Aircraft Factory or produce the M38 Kirikkale rifle. With diplomacy, countries can provoke each other to war, and they can cause rebellion by interfering in internal affairs. In accordance with the course of history, countries may join the war on the side of the Allies or the Axis Powers.

By making trade, raw material exchange between countries is ensured. Every country has the chance to use its own natural wealth or the tools it produces in trade. For example, while there is oil-based production in Iraq, there is production on Chrome and Steel in Turkey. While the soldiers who cannot adapt to the geographical conditions on the battlefield can perish quickly, the armies that are not inclined to the cold may perish in the snow. Hearts of Iron IV allows students to reflect on the historical events of the Second World War and to interpret events and developments from a different perspective. It helps students to better understand the balance of the world at that time, who was influential in the decision-making mechanisms of states, and what targets they were advancing by comparing them with what they saw in the lesson.

3.2. Europa Unıversalis

The Europa Universalis series is a strategy game set between 1444 and 1821, released by Paradox Interactive (**Figure 2**). There are four games in the game's series so far, and the latest game Europa Universalis IV was released in 2013. The user can start the game on any day-month-year date between the years mentioned above and can carry his civilization to the future by taking over the state of the state he chooses at that time.

The game offers you the opportunity to choose all the states you want on that date at the beginning. Whoever is the ruler in that country on the chosen date is reflected in the game along with the characteristics of that historical person? You can take people who have left their mark in history as consultants, and you can benefit from their abilities by appointing them as commanders of armies. For example; For the Ottomans, you can appoint Mimar Sinan as advisor, Oruc Reis as admiral, and Sokullu Mehmet Pasha as general.

With policy management, laws enacted by rulers in the past are also present in the game and can be implemented. For example; In the Ottomans, incomes increase by taking the Cizye Tax, but the non-Muslim people are uneasy about this situation. Again in the Ottomans, the country gains stability when the laws of Süleyman I (Kanuni) are approved.

The game, which also makes America and the African Continent discoverable, allows you to colonize the underground riches of those places. For example; Thanks to its geographical proximity, Portugal begins to colonize the eastern part of South America, namely Brazil, faster than other countries. Military units have been added to the countries themselves and their history. For example; while the Ottomans could use the Pedestrian Troops in the early days, as the technology developed, the Janissaries and later the Nizami Cedid infantry could be used.

The periods in history were reflected in the play with the institutes. The process that started with feudalism continues as Renaissance, Colonization, Printing, Global Trade, Factoryization and Enlightenment. On this occasion, players can see important steps in the history of the world. With the tasks given, the country is encouraged to act in parallel with the flow of history. Whatever the missions and goals of the countries in history, these features are reflected in the game exactly. For example; The conquest of Istanbul in the Ottomans, the unity of Anatolia, Eastern Anatolia, the Balkans, Egypt, North Africa, the Arabian Peninsula were presented to the player in the form of a task in accordance with the historical order.

While Europa Universalis allows students to see the history of the world in depth and from many different angles in a 400-year cross-section; interpret the conditions and developments of that time. Real Continuing in parallel with the historical flow, it helps the countries to experience their goals, gains or losses in addition to what is explained in the course.

Figure 2. *Europa Universalis IV*

3.3. Crusader Kings

The Crusader Kings series is a medieval strategy game released by Paradox Interactive as seen in **Figure 3**. There are three games in the series of the game so far, and the latest game, Crusader Kings III, was released in 2020. Game; it mainly deals with dynastic rule, state administration and periodic wars. Dynasties and feudal lords in the states of the time were transferred in accordance with history. While developing the game, the weight was given to state administration, dynasties and wars.

Overlords who are under the protection of the conquered lands, and his heirs from the royal lineage can be appointed as administrators. By strengthening one of the heirs, it can be ensured that he becomes more assertive in the struggle for the throne, while with the balance of the forces, each heir may be more likely to fight for the throne. As a result of the ruler's mismanagement, the overlords can rebel and act independently, while the rulers can silently assassinate their disloyal overlords. The great events of the time for the middle ages are given as war targets in the game. For example; The Pope could organize crusades as a very effective force, while the Vikings could continue their raids. Seljuks can start their western conquests by opening the gates of Anatolia.

In addition to showing the dynamics of the great wars in the middle ages, Crusader Kings offers students the opportunity to act in the conditions of that time, to think for the leaders of the period, and to develop their managerial skills by coping with the general problems of the age.

Figure 3. *Crusader Kings III*

3.4. Victoria

The Victorian series is a strategy game between 1836 and 1936, released by Paradox Interactive. The last product of the series Victoria II was launched in 2010. Victoria III is under development as of 2021 as seen in **Figure 4**.

Game; focuses on the industrial revolution, the technological developments of the period, colonialism, expansionism and the First World War. It is possible to see the colonial races of the countries that were the superpowers of the time in the industrialization period, and the period when imperialism and expansionism reached their peak in many respects. The game contains many technological developments chronologically. Technological developments start from the period when the foundations of the Industrial World were laid. It contains steam turbines, chemical industry, railways and many more details.

Victorian series; Students will learn how the process of the industrial revolution worked, how countries passed from colonialism to colonialism, the dynamics of the First World War, the world trade order in the 20th century, the processes and echoes of cultural and social developments, how the renewal stages of land and naval forces in the military took place and many events in the period. enable them to reinforce their learning.

Figure 4. *Victoria III*

3.5. Total War

Total War is a Series that contains many different games in its content. It was developed on the political and diplomatic structure of historical periods, the management of military forces and cities as seen in **Figure 5**.

Shogun: Total War, the first game in the series, was released in 2000. The last game, Total War Saga: Troy, takes place in the region within the borders of today's Turkey (Western Anatolia) and Greece, set in Ancient Greek times, and was released in 2020.

Figure 5. *Total War: Attila*

Total War (**Figure 6**); It offers the chance to command the field battles, the siege of castles and cities, as well as the defense of them, in three dimensions, as a general. While you can manage armies and troops, desired war tactics and strategies can be applied in the squares. The abilities, advantages and disadvantages of the units have been mathematically reflected in the game and it has been made possible for the battles to reach the result as a result of the moves of the users.

Figure 6. *Total War: Empire*

Although each game in the series reflects a different period, the most basic feature of the game is based on constantly defeating the enemies and conquering their lands. Serie; treasury management focuses on the use of resources and production, but each game's own dynamics may differ from the others.

With Total War games, students can provide details about how the wars take place on the squares, the discipline of the armies, the morale of the soldiers, the training of the troops and many more. They can also experience how the wars that the teachers describe in the lesson or read in the books take place, and they can even develop their analysis skills by trying different strategies in different conditions (**Figure 7**).

Figure 7. *Total War: Attila*

3.6. Civilization

Sid Meier's Civilization VI is a Strategy game developed by Firaxis Games. It is being released in 2016, and many new content has been added to the game with additional expansion packs as seen in **Figure 8**.

Civilization series, which is from the "4X" category of strategy games; It has game mechanics created by blending the terms "eXplore(explore), eXpand(spread), eXploit(exploit) and finally eXterminate(destroy)". Players first explore the dark areas on their maps, spread out into empty areas and destroy their enemies by exploiting those areas.

In Civilization, the player takes control of a civilization on randomly generated maps across a wide spectrum from prehistoric times to the future. There are different types of winning the game in the game, these can be achieved by in-game research, exploration, diplomatic moves, expansions, economic developments, administration and military conquests according to these winning types. Civilization is a turn-based strategy game. It gives each nation the right to make moves in turn. After the player makes his own actions, the turn passes to the other nation. When each nation completes its turn, the round is completed and they have the opportunity to move on to the next round. In the early ages, each round was equal to 50 years, while as the ages progress, each round corresponds to one year.

Players through ministries referred to as Advisors; they can adjust their military situation, scientific research situation, form of government and foreign policy. Cities produce various military and civil units. In addition, all kinds of buildings are built in cities. While buildings bring new features to cities, historical structures known as Wonders bring new features and powers across the country and provide superiority over competitors in various fields. The same is true for scientific research. There is an advanced diplomacy opportunity in the game, interstate relations, trade, technology and city exchange, war and peace agreements are made from the diplomacy screen that opens after clicking on the name of a country leader [12].

Figure 8. *Civilization VI*

4. Conclusion and Recommendations

In researches on the use of history-themed computer games; by using these games as materials in the teaching process of history lessons, it has been proven that students are able to assimilate the connection between historical thinking skills, the functioning of chronological processes, and enable the development of their cognitive abilities. In order for the use of such computer games in lessons to be beneficial, teachers should test the computer games themselves; it enables them to realize the incomplete, wrong aspects of the games and the aspects that are not suitable for the developmental periods of the students or the target acquisitions of the course, and to apply for solutions. The aforementioned adverse situation reveals that teachers' use of computer games in their lessons and adapting the games to the lessons require a detailed preliminary preparation process.

Today, with the development of technology, the inclusion of computer games in curricula other than entertainment purposes increases the motivation and interest of students in learning by concentrating their attention, and the content of computer games attracts attention. The fact that visual and effects increase the learning speed with the educational information given in the games, serving the target acquisitions, which is the aim of the curriculum, in which meaningful learning occurs, has revealed the importance of computer games in terms of using them in the education process [10].

According to another application, students at the seventh grade level of primary education were divided into two groups. While the students in one group received education with narrative-based methods, the students in the other group received their education in the game environment. At the end of the two-week process, the game-based learning environment; it has been revealed that students like it, reduce their anxiety, help them learn individually, and visually support learning [11].

The contributions of the games and their derivatives mentioned in the article to the students are obvious. Presenting such games as material to students and continuing their learning by experience will be much more beneficial for them individually. In addition, the inclusion of history-themed strategic computer games as a supporting material in history teaching processes is now a necessity to go beyond the limits of traditional education. As seen in the studies mentioned above, this situation will have a positive effect on students in terms of cognitive, sensory and psychological aspects and will increase the success coefficients of the students.

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