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Abstract

In this study, it is aimed to determine the effect of video game playing time on academic performance of students who play video games and take computerized accounting courses at Uşak University and attend computerized accounting courses. The data obtained with the questionnaire applied to a total of seventy students within the scope of the study were analyzed with the SPSS 26 statistical analysis program. The findings obtained from the study revealed that the majority of the students played video games for 1-2 hours a day on average and preferred Akınsoft software in the computerized accounting course. Other findings obtained from the study show that playing video games accelerates the learning process, using computer, keyboard, mouse, etc. in computerized accounting course. It has been revealed that it provides practicality in the use of technological tools, provides practicality in the creation of accounting slips, facilitates the detection of errors in incorrectly created accounting slips, and enables the different accounting package programs to be investigated curiously. In addition, another finding obtained within the scope of the study revealed that the duration of playing video games contributed to the academic performance of the computerized accounting course at a low level.

Introduction

Game is a free activity that can be aimless or involve certain rules and can be enjoyed by interacting individually or in groups. Voluntary activity has many positive effects on all living things. However, in the past there was usually a chase, a catch, a search, etc. The games played in nature in different ways (Opie & Opie, 1984) have been partially replaced by video games with the development of technology today (Weinstein, 2010). It is possible to count console games, mobile games, games that can be played in electronic environments and interactive games designed in line with a certain scenario among the games that have gained importance with the development of technology and can be generally expressed as video games (Esposito, 2005; Koç, 2022). The use of video games, which can affect individuals' psychological and social development, physical, mental and language development, increase learning speed (Massner, 2022; Özcan & Eriş, 2021; Qi, 2021; Shukla & Mcinnis, 2021) as a tool that can provide a positive effect in education, is an important issue that should be emphasized. As a matter of fact, while the use of technology continues to be widely used among students both in and out of school, the need to examine the effects of technology and technological tools on classroom and academic performance is becoming

an increasingly important issue (Wentworth, 2014). In this context, it is important to start using technological tools and computer-assisted educational games in schools, albeit at a limited level. It is noteworthy in this context that the Tetris game, the software of which was developed by Alexey Pazhitnov, was adapted to mathematics subjects and transformed into a game in order to make students love mathematics subjects and increase their learning speed (Burgiel, 1997). Also, Working Capital Simulation: Managed Growth V2, Marty Raygun's Fistful of Dollars, Globalsym Euro Simulation, Bank On It etc. games can be counted as some of the video games that enable students to understand accounting and finance subjects more effectively and quickly.

It is clear that the uncontrolled use of information and communication technologies and video games, which can make many positive contributions in the field of education, may also have negative effects (Weinstein, 2010). Many studies dealing with the effect of information and communication technologies on performance have revealed that technology has many negative effects on performance (Chou, 2001). Among these effects, sleep disturbance, decrease in lesson performance, academic performance, and decrease in social development are among the frequently obtained findings. Individuals' minds have a certain limit in terms of their ability to process information from multiple channels, such as visual and verbal materials, and in terms of providing meaningful learning. When processing demands exceed individuals' processing capacities, there is a cognitive overload that reduces meaningful learning. At this point, considering that each channel can process a limited number of materials at one time, it is necessary to establish a connection between visual and verbal materials in order to ensure meaningful learning, and the learning environment should be designed to minimize unnecessary cognitive load (Mayer and Moreno, 2003). Therefore, it is possible to say that transferring visual and verbal information to students by making optimal use of information and communication technologies in order to ensure an effective and meaningful learning process can contribute positively to the learning process.

In this context, a summary presentation of some studies in the literature dealing with the effects of video games and information communication technologies on education is presented in Table 1.

Table 1. Information on Some Studies in the Literature on the Effects of Information Communication Technologies and Video Games on Education, lesson and Academic Success of Students

Authors	**Year**	**Purpose of Study**	**Results Obtained from The Study**	**Type of Work**	**Identification of The Study**
Özcan, Burcu & Eriş, Gülşah	2021	The aim of the study is to examine whether the effect of computer games on academic achievement differs according to variables such as gender, school average, preferred game type and reason for playing.	The findings obtained from the survey data collected from a total of 103 students within the scope of the study revealed that there was no significant relationship between the academic achievements of the participants and variables such as gender, school average, preferred game type and reason for playing. However, it was determined that the	Article	(Özcan and Eriş, 2021: 130-144)

Authors	**Year**	**Purpose of Study**	**Results Obtained from The Study**	**Type of Work**	**Identification of The Study**
			most preferred game genres of the students studying at the engineering faculty were strategy and adventure.		
Heins, Matthew C.	2017	The aim of the study is to examine the scientific studies in the literature on the effects of video games in the field of education between the years 2000-2015.	The findings obtained from the study reveal that scientific studies written on this subject in the literature generally emphasize the fact that sufficient technology cannot be accessed in education about the use of video games, and there are limitations in this regard in schools. In addition, it was emphasized in some studies that video games can be used in every content area, and in another study it was emphasized that video game application in classrooms was the best approach and video games could be applied more effectively to develop educational applications.	Thesis	(Heins, 2017:1-36)
Arias, Meghan	2014	In the study, it is aimed to scan the literature dealing with scientific studies on the use of video games in education according to certain criteria such as year, scope and subject.	The findings reveal that the publications in the literature focus on the cognitive benefits of video games in mathematics, social studies, mathematics, physical education, the relationship between addiction and parent and teacher attitudes, and potential obstacles related to video games. In addition, the findings reveal that despite the limitations, the use of video games in education is supported.	Article	(Arias, 2014: 49-69)
Wentworth, Diane Keyser & Middleton, June H.	2014	In the study, a questionnaire was applied to 483 students studying at a private university in New Jersey, USA, and it was aimed to examine the	The findings of the study revealed that there is a negative relationship between the frequency of technology use and academic performance.	Article	(Wentworth and Middleton, 2014: 306-311)

Authors	Year	Purpose of Study	Results Obtained from The Study	Type of Work	Identification of The Study
		relationship between students' working hours, lesson success and frequency of use of technological tools.			
Burgess, Stephen R. & Stermer, Ste ven Paul & Burgess, Me linda C. R.	2012	The aim of the study is to determine the effect of playing video games on the academic performance of university students. For this purpose, a questionnaire was applied to 671 university students regarding their video game usage histories and academic performances.	The findings of the study revealed that the academic achievement of university students who play video games is lower than those who do not play video games. In addition, participants reported that they were more likely to play video games in order to avoid doing homework. Therefore, in the study, it was concluded that there is a negative relationship between students' playing video games and their academic performance.	Article	(Burgess, Stermer and Burgess, 2012: 376-388)
Ellis, Yvonne & Daniels, Bobbie & Jauregui, Andres	2010	In the study, half of the 62 undergraduate students who took an accounting lesson in a business department at a university in the USA were allowed to text during the lecture, while the other half were not allowed. Thus, the effect of multitasking in the classroom on students' academic performance has been empirically examined.	The findings obtained from the study revealed that the academic success of the students who texted in the context of multitasking during class lectures was quite low compared to the other students who did not text in the class.		(Ellis, Daniels and Jauregui, 2010: 1-10).
Çankaya, Serkan & Karamete, Ayşen	2008	The aim of the study is to determine the effects of "Proportional Tetris" and "Proportional Clown" educational computer	The findings obtained from the study revealed that the students exhibited positive attitudes towards mathematics lessons and educational computer games. However, there	Article	(Çankaya and Karamete, 2008:115-127)

Authors	Year	Purpose of Study	Results Obtained from The Study	Type of Work	Identification of The Study
		games developed for primary school students on the subject of ratio-proportion in mathematics lesson, on students' attitudes towards mathematics lesson and computer games. The games and questionnaire form developed in this context were applied to a total of 176 students.	was no significant change in the attitudes of the students who played the "Proportional Tetris" and "Proportional Clown" games.		
Din, Feng S. & Calao, Josephine	2001	The aim of the study is to investigate whether children in kindergarten and education who play Sony PlayStation educational video games learn better than children who do not play such video games. For this purpose, an experimental group consisting of 47 children was formed in the study. In the study, using the control group, pre-test and post-test design, video games were played for 40 minutes a day for 11 weeks of school children.	Findings from the study, in which the Wide Range Achievement Test-R3 and ANCOVA were used in data analysis, revealed that children who played video games learned significantly better in spelling and decoding than children who did not play video games. On the other hand, no difference was found between the achievements of children in mathematics.	Article	(Din and Calao 2001: 95-103)

The contributions that can be made with this study, in which the effect of video games on the academic performance of the computerized accounting lesson is tried to be determined, are presented below;

- A contribution will be made to the literature on video games and computerized accounting.
- Will be able to determine whether the duration of video game playing has an effect on the academic performance of the computerized accounting lesson.

The Effect of Video Games on Computerized Accounting Lessons

Today, in higher education institutions, computerized accounting lessons, in which accounting knowledge and techniques are taught practically, are usually offered with traditional methods, accompanied by theoretical and applied lessons, in the training of accounting staff that businesses need. In computerized accounting lessons, theoretical lessons are transferred to students in a one-way flow of information by academicians in the classroom environment. The applied lessons in computerized accounting lessons are based on the students' realization of the knowledge they learned in the theoretical lessons in a computer environment, and the students also benefit from technology in this process. In computerized accounting lesson, students learn Netsis, Eta Windows, Eta Sql, Akınsoft, Akınsoft OctoPlus, Datasoft, Mikro, Logo etc. By using many more accounting package programs, they learn how to account for the financial transactions of the enterprises in the computer environment and how to arrange the accounting slips. In this context, since the computerized accounting lesson is based on transferring the data of the financial transactions of the enterprises to the computer environment, the success of this lesson, which is taught in higher education institutions, depends on the students' computer, keyboard, mouse, etc. It is possible to say that it is closely related to the ability to use technological equipment. In this context, the mastery of the computer, keyboard and mouse usage of the students who already play or have played video games can contribute positively to the academic success of the lessons by providing practicality in the computerized accounting lessons. In addition, the high perception of students while playing video games may enable students to detect incorrectly created accounting records in the computer environment faster in the computerized accounting lessons. However, despite the technological developments, due to the insufficient number of computers and other technological equipment working effectively in the school laboratories, more than one student is often obliged to carry out the computerized accounting lessons with a single computer. Therefore, it can be said that the lack of sufficient computers and other technological equipment in the laboratories prevents the effective teaching of this lessons, which should be carried out in a computer environment.

Along with the developments in technology at the end of the 1980s, the Institute-wide Task Force on the Future of MIT Education's final report prepared by the Accounting Education Change Commission (AECC) and the American Institute of Certified Transforming education and accounting education has come to the fore as a necessity in line with the views of Public Accountants (AICPA) on providing active learning by using technology in accounting education at universities (MIT, 2014; Moncada & Moncada, 2014). In this context, as a result of the rapid development of information technologies day by day, it has become inevitable for the education sector to adapt to these developments, to integrate information technologies into the education sector and to use these technologies in solving problems in the field of education (İşman, 2005). As a matter of fact, with the reflection of the developments in information technologies on the education sector, new learning methods focused on games and video games have been developed as an alternative to the traditional learning method based on learning with books, notebooks and pencils, where one-way information flow is ensured, or on the basis of students' learning with games that support these learning methods. In this context, the effects of the traditional face-to-face learning method and the possible effects of the learning methods in which information technologies are used intensively in education are presented in Table 2.

Table 2. The Effects of The Traditional Face-To-Face Learning Method and The Possible Effects of the Learning Method in Which Information Technologies are Used Extensively in Education

Game-Based Learning Method Using Information Technologies	**Traditional Learning Method Based on Classroom Lecture**
Students are actively involved in the learning process. Information flow and feedback are bidirectional.	Students are passively involved in the learning process. Usually there is a one-way flow of information.
A student-centered learning process is dominant.	A teacher-centered learning process is dominant.
Students learn knowledge by playing games and competing with themselves under the guidance of the teacher.	Students learn information from the teacher in the classroom.
Students spend as much time as they want to play and learn by playing.	All students are in the classroom environment and learn in a limited time.
Students acquire knowledge by having fun with different games.	Students acquire knowledge through routine training.
In the learning process, computer, tablet, mouse, mouse, etc. equipment is used.	In the learning process, books, notebooks, pens, etc. materials are used.
The level of focus is high in the game playing process.	It can cause focusing problems in the learning process.
An internal reward mechanism is dominant in learning by playing games.	Schools are equipped with external criteria.
It provides continuity in learning.	It provides instant learning.
Game culture is dominant in the learning process.	School culture is dominant in the learning process.
Each student can be offered a learning environment suitable for their learning level.	Even though at different learning levels, every student receives education in the same learning environment.
The performances of the students can be evaluated with the performance records in the games.	Students' performances can be evaluated through exams and tests.

According to Table 2, when the learning method based on classroom instruction and the learning method using technology are compared, it can be said that using technology in the education-teaching process plays an important role in the development of individuals' cognitive abilities, ensuring the continuity of learning and enabling students to take an active role in the learning process.

Methodology

Under this title, information about the purpose, scope and method of the research is presented.

Purpose of the Research

It is aimed to examine the relationship between the academic performance of the students who took computerized accounting lesson at Uşak University and participated to the frequency of playing video games and video games.

Scope of the Research

The scope of the research consists of students studying at Uşak University and taking computerized accounting lessons and a total of seventy students taking a general accounting lesson at the university and attending a computerized accounting course.

Research Study

In this study, which aims to evaluate the relationship between the academic performance of the students taking computerized accounting lessons in higher education institutions and the frequency of playing video games and video games, a questionnaire was applied to the students within the scope of the quantitative research method. The questionnaire form applied to the participants consists of three parts. The first part consists of questions about the demographic data of the participants. The second part consists of questions about the video game playing levels of the participants. The third part consists of questions about determining the effects of the duration of the participants playing video games on their academic performance in the computerized accounting lesson. The data collected from the participants by the questionnaire method were analyzed with the SPSS 26 statistical analysis program and the results were interpreted.

Results

Frequency Tables Created Within the Scope of Research

The frequency analysis table regarding the demographic data of the participants is presented in Table 3. When the data presented in the table is examined, it is seen that 74.3 percent of the participants are male students, 25.7 percent are female students, and 68.6 percent are between the ages of 19-22. While 72.9 percent of the participants are undergraduate students, 27.1 percent are associate degree students. In addition, according to the data presented in the table, Akınsoft, Eta, Netsis, Logo, Mikro package programs are among the accounting package programs used by the participants, and the most used accounting package program is Akınsoft with 15.7 percent. The time that 54.3% of the participants spend on video games during the day is between 1-2 hours on average.

In Table 4, the frequency table of the answers given by the participants to different propositions within the scope of the research is presented.

Table 3. Frequency Analysis Table of Participants' Demographic Data

Variables	**Options**	**Frequency**	**Percent (%)**
Gender	Female	18	25.7
	Male	52	74.3
Total		70	100
Age	18 and under	1	1.4
	19-22	48	68.6
	23-26	12	17.1
	27-30	4	5.7
	31-34	3	4.3
	35-38	2	2.9
Total		70	100
Education Level	Associate degree	27	38.57
	Licence	43	61.43
Total		70	100
Accounting Package Programs Used	Akınsoft	11	15.7
	Akınsoft, Eta, Netsis	1	1.4
	Akınsoft, Netsis	3	4.3
	Akınsoft, Netsis, Logo	1	1.4
	Eta, Netsis	7	10
	Eta, Netsis, Logo	9	12.9
	Netsis, Logo	10	14.3
	Netsis, Logo, Mikro	41	5.7
	Logo, Mikro	16	1.4
	Miro	7	22.9
	Mikro		10
Total		70	100
Average Hours Dedicated to Video	Under 1 hour	13	18.6
Games During the Day	1-2 hours	38	54.3
	3-4 hours	12	17.1
	5-6 hours	7	10
Total		70	100

According to the data presented in Table 4, fifty-six of the participants strongly agree with the proposition that playing video games provides practicality in the use of technological devices such as keyboard and mouse. Twenty-nine of the participants strongly agree with the proposition that playing video games accelerates the learning process in computerized accounting lesson. Thirty-five students agree with the proposition that playing video games ensures that the information learned in the computerized accounting lesson is permanent. Thirty-one students agree with the proposition that playing video games provides practicality in creating accounting slips in computerized accounting lesson. Twenty-seven students agree with the proposition that playing a video game

enables faster detection of errors in an incorrectly created accounting slip. Twenty-five students certainly agree with the proposition that playing video games arouses interest in different accounting packages. Thirty-one students agree with the proposition that playing video games contributes positively to academic performance in computerized accounting lessons.

Table 4. Frequency Table of the Participants' Response to Different Proposals within the Scope of the Study

	Absolutely agree	I Agree	Undecided	I do not agree	Absolutely agree	Total
Playing video games provides practicality in the use of technological devices such as keyboard and mouse.	56	8	5	1	-	70
Playing video games speeds up the learning process in computerized accounting class.	29	33	8	-	-	70
Playing video games ensures that the knowledge learned in the computerized accounting lessons is permanent.	20	35	4	8	3	70
Playing video games provides practicality in creating accounting slips in computerized accounting class.	26	31	5	8	-	70
Playing a video game allows me to detect the error in an accounting slip that I created incorrectly in the computer environment more quickly.	11	27	21	4	7	70
Playing video games makes me wonder and study different accounting packages.	25	17	19	5	3	70
Playing video games provides a positive contribution to academic performance in a computerized accounting lesson.	25	31	8	6	-	70

Crosstabs Created Within the Scope of Research

According to the data presented in Table 5, thirty-three students, who make up 47.14 percent of the participants, play video games for an average of 1-2 hours a day. These participants, who play video games for an average of

1-2 hours a day, also use keyboard, mouse, etc. in the computerized accounting lesson of playing video games. They also strongly agree with the proposition that technological tools provide practicality in their use.

Table 5. Cross Table between "Time of Playing Video Game" variable and the proposition "Playing Video Game Provides Practicality in Using Keyboard, Mouse and Similar Technological Devices in Computer Accounting Class"

		Playing video games provides practicality in the use of keyboard, mouse and similar technological devices.				
How many hours a day do you play video games on average?		Absolutely agree	I Agree	Undecided	I do not agree	Total
	under 1 hour	10	1	1	1	13
	1-2 hour	33	2	2	1	38
	3-4 hour	11	1	0	0	12
	5-6 hour	3	2	2	0	7
Total		56	8	5	1	70

According to the data presented in Table 6, eighteen students constituting 25.71 percent of the participants were undecided on the proposition that playing a video game enables faster detection of an error in a mis-created accounting slip in a computerized environment, while fourteen students, twenty percent of the participants, were undecided, agrees with the proposition.

Table 6. Crosstab between the variable "Time of Playing a Video Game" and the proposition "Playing a Video Game Allows the Student to Identify the Error in the Accounting Receipt Faster"

		Playing a Video Game enables faster detection of an error in a mis-created accounting slip in a computerized environment.					
How many hours a day do you play video games on average?		Absolutely agree	I Agree	Undecided	I do not agree	I absolutely not agree	Total
	under 1 hour	3	7	0	1	2	13
	1-2 hour	5	14	18	0	1	38
	3-4 hour	2	3	3	1	3	12
	5-6 hour	1	3	0	2	1	7
Total		11	27	21	4	7	70

According to the data presented in Table 7, eighteen students, who make up 58.06 percent of the participants and play video games for 1-2 hours a day, agree with the proposition that playing video games contributes positively to the academic performance in the computerized accounting lesson. Twelve students, who make up twenty percent of the participants and play video games for 1-2 hours a day, strongly agree with the relevant proposition.

Table 7. Cross-Table between Video Game Playing Time and the Proposition "Playing Video Games Positively Contributes to Academic Performance in Computerized Accounting Class"

		Playing Video Games Positively Contributes to Academic Performance in Computerized Accounting Class					
How many hours a day do you play video games on average?		Absolutely agree	I agree	Undecided	I do not agree	I absolutely not agree	Total
	under 1 hour	6	5	2	1	0	13
	1-2 hour	12	18	2	0	6	38
	3-4 hour	4	6	2	1	0	12
	5-6 hour	3	2	2	2	0	7
Total		25	31	8	4	6	70

Regression Analyzes Established Within the Scope of Research

Regression Analysis between the Independent Variable of Video Game Playing Time of Participants in Computerized Accounting Lesson and the Dependent Variable of Practicality in Creating Accounting Slips

According to the data presented in Table 8, the value of R=0.282 shows the fit of the model to the variables.

Table 8. Summary Table of Regression Model between Participants Gaining Practicality in Creating Accounting Slips in Computerized Accounting Lesson and the Time They Allocate to Video Games

Model	R	R Square	Adjusted R Square	Std. Error of The Estimate
1	.001[a]	.000	-.015	.95980

When the data presented in Table 9 are examined, it is seen that the duration of playing computer games in the computerized accounting lesson is not an important predictor in providing students with practicality in the creation of accounting receipts. Since R= 0.001, R^2= 0.000001, F (1.68)= 0.000, it can be said that 0.0001 percent of the total variance of students' practice of creating accounting receipts in computerized accounting lesson is explained by the students' playing time.

Table 9. Analysis of the Variance between the Time Students Allocate to Video Games and the Practicality of Creating Accounting Slips in Computerized Accounting Lesson (ANOVA[a])

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.000	1	.000	.000	.992[b]
Residual	62.642	68	.921		
Total	62.643	69			

a. Dependent Variable: Playing computer games contributes positively to the creation of accounting slips in the computerized accounting lesson.

b. Predictors: (Constant), How many hours per day do you play video games on average?

According to the data presented in Table 10, the calculated t value for the constant term α is 6.104 and the regression coefficient β is -0.10. The simple linear equation is y= 1.932 + (-0.001x).

Table 10. Regression Analysis on Predicting Practicality in Creating Accounting Slips in Computerized Accounting Lesson by Video Game Playing Time (Coefficients[a])

	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
Model	B	Standard Error			
(Constant)	1.932	0.316		6.104	0.000
Video game play time average	-0.001	0.135	-0.001	-0.10	.992

a. Dependent Variable: The average of practicality in the creation of accounting receipts in the computerized accounting lesson

Regression Analysis between the Independent Variable of Participants' Video Game Playing Time and Positive Contribution to Students' Academic Performance in Computerized Accounting Lesson

According to the data presented in Table 11, the value of R=0.017 indicates the amount of relationship between the predictor variable and the predicted variable in the model.

Table 11. Regression Model Summary Table between Academic Performance of Participants in Computerized Accounting Lesson and Time Spent on Video Games

Model	R	R Square	Adjusted R Square	Std. Error of The Estimate
1	.017[a]	.000289	-.014	.91254

According to the data presented in Table 12, since p= 0.000<0.025 (=0.050/2), participants' answers about how many hours of video game play per day on average are needed to explain the dependent variable.

Table 12. Analysis of the Variance between the Time Students Allocate to Video Games and Their Academic Performance in Computerized Accounting Lesson (ANOVA[a])

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.017	1	.017	.020	.887[b]
Residual	56.626	68	.833		
Total	56.643	69			

a. Dependent Variable: Playing video games provides positive contribution to academic performance in computerized accounting lesson

b. Predictors: (Constant), How many hours per day do you play video games on average?

When the data presented in Table 13 are examined, it is seen that the duration of playing video games is a predictor of the academic performance of the students in the computerized accounting lesson. Since R= 0.017, R2= 0.000289, F (1.68)= 0.020 and p<0.01, it can be stated that 0.0289 percent of the total variance of students' academic performance in computerized accounting lesson is explained by the time students play video games.

Table 13. Table of Coefficients between Academic Performance of Students in Computerized Accounting Lesson and Video Game Playing Time (Coefficients[a])

	Unstandardized Coefficients		Standardized	t	Sig.
Model	B	Standard Error	Coefficients Beta		
(Constant)	1.888	.301		6.276	0.000
Video game play time average	.018	.128	.017	.143	.887

a. Dependent Variable: Playing video games provides positive contribution to academic Performance in computerized accounting lesson

According to the data presented in Table 13, since the t value calculated for the constant term α is 6,276 and the significance level of the test is p= 0.000<0.025 (=0.050/2), the constant term α must be present in the model. The t value calculated for the regression coefficient β is 0,143. Since the significance level of the test is p= 0.000<0.025, the regression coefficient β should also be included in the model. Therefore, the simple linear equation is y= 1.888 + (0.018x).

Correlation Tables Created Within the Scope of Research

In Table 14, the correlation analysis of the relationship between the time students spend on video games and their academic performance in the computerized accounting lesson is presented. According to the table, it is seen that there is a directly proportional but low level relationship between the two variables. The Pearson correlation coefficient is 0.017. Therefore, a change in one of the variables affects the other variable in the same direction by 1.7 percent. In the light of these data, it is possible to say that as the time spent by the students on video games increases, their academic performance in the computerized accounting lesson increases by 1.7 percent in the same direction. In addition, considering the coefficient of determination (r2= 0.000289), it can be said that 0.0289 percent of the total variance in the computerized accounting lesson is due to video game playing time.

Table 14. Correlation Analysis of the Relationship between Students' Academic Performance in Computerized Accounting Lesson and Time Spent for Video Games

		How many hours a day do you play video games on average?	Playing video games contributes positively to academic performance in computerized accounting class.
How many hours a day do you play video games on average?	Pearson Correlation	1	0.017**
	Sig. (2-tailed)		0.887
	N	70	70
Playing video games contributes positively to academic performance in computerized accounting class.	Pearson Correlation	0.017	1
	Sig. (2-tailed)	0.887	
	N	70	70

** Correlation is significant at the 0.01 level (2-tailed)

Discussion

Computerized accounting lessons offered in higher education institutions are based on the ability to train accounting staff in line with the needs of businesses and the digital age, and to record the financial transactions of businesses in computer environment. During the process of this lesson, students can use computers, tablets, keyboards, mice, etc. use technological tools. Therefore, students' academic performance in this lesson, computer, tablet, keyboard, mouse, etc. their dominance in the use of technological tools can also have an impact. In this context, within the scope of the study, students can use computers, tablets, keyboards, mice, etc. In this study, the effect of playing video games in which technological tools are used effectively on the academic performance of the computerized accounting lesson has been tried to be determined.

The findings obtained within the scope of the study revealed that the duration of playing video games contributed to the academic performance of the computerized accounting lesson at a low level. In addition, other findings obtained within the scope of the study revealed that the participants played video games for an average of 1-2 hours a day, and the most preferred software among accounting package programs was Akınsoft software. In addition, the vast majority of participants use computer, keyboard, mouse, etc. in video games. They quite agree with the propositions that the use of technological tools and equipment provides practicality in the computerized accounting lesson, accelerates the learning process, provides practicality in the creation of accounting slips and facilitates the detection of errors in the accounting slips. It is useful to compare these findings obtained within the scope of the study with other studies in the literature that discuss the contribution of video games to the learning process of students and their academic performance. Accordingly, Heins (2017) revealed that sufficient technology could not be reached in education about the use of video games.

Within the scope of this study, the importance of each student following the lesson with a separate computer in order to increase the success of the students in computerized accounting lessons is discussed. However, it is possible to say that today, in computerized accounting lessons, a few students are still following the lesson on a single computer and that sufficient technology has not yet been reached in this regard. Arias (2014) conducted a literature review on the use of video games in education and revealed that despite the limitations in addition to his other findings, the use of video games in the field of education is supported. In addition, Çankaya and Karamete (2008) in their study aiming to determine the effect of computer games on students' lessons revealed that students exhibit a positive attitude towards their lessons and educational computer games. In their study of Din and Calao (2011) investigating whether children who play educational video games learn better than children who do not play such video games, they found that children who play video games learn significantly better in spelling and decoding than children who do not play video games. Dehghanzadeh et al. (2021), in their literature review on studies using gamification method for teaching a second language, concluded that most of the participants experienced the gamification method in a positive way as entertaining, interesting and motivating. In their study by Zwart et al. (2020), in which they tried to determine the effects of digital learning tools on nursing department students' mathematics learning, self-efficacy and task value, there was a large decrease in students' self-efficacy in the case of using digital learning tools in education, and a small decrease in students' self-efficacy in the case of face-to-face education. They concluded that there was a decrease and no significant difference could be

determined for the task value of the students.

Within the scope of this study, in which the effect of playing video games on the academic success of the computerized accounting lesson is discussed, according to the findings obtained from the cross tables, the propositions of the students' interest in video games provide practicality in the creation of accounting slips in the lesson, accelerate the detection of errors in the accounting slips, and accelerate the learning process. In this context, it is possible to say that it is important to teach the lessons with video games prepared in accordance with the curriculum in order to accelerate the learning process in the computerized accounting lesson and to ensure that the learned information is more permanent. In another study, Wentworth (2014) examined the relationship between the frequency of students' use of technological tools and their lesson success and revealed that there was a negative relationship between the two variables.

According to the data presented in Table 7 within the scope of this study, it is noteworthy that as the time students spend on video games increases, the level of participation in the proposition that playing video games contributes positively to academic performance in computerized accounting lesson decreases. Therefore, it can be said that as the time allocated to the use of video games and other technological tools increases, the success of the lesson decreases. In another study, Burgess et al. (2012) tried to determine the relationship between university students' playing computer games and their academic performance. According to the findings obtained by the authors from their studies, it was concluded that there was a negative relationship between both variables. However, since the students need to interact with the computer in the process of teaching the computerized accounting lesson, according to the findings of this study, it has been concluded that the academic performance of the students in this lesson is related to the duration of video game playing, albeit at a low level. Noroozi et al. (2019) presented ways to simplify the use and analysis of multimodal data in their study of multimodal data for designing visual learning analytics in the learning organization process. According to the findings obtained within the scope of this study, it is possible to say that it is important to continue researches on the regulation of the learning process and in this context, the use and analysis of multimodal data in the regulation of the learning process in the computerized accounting lesson, and the presentation of the computerized accounting lesson with more different methods and tools in addition to gamification.

Conclusion

In today's digital age, where video games are developing rapidly, according to the findings obtained from this study, in which the effect of video game playing time on the academic performance of computerized accounting lesson is tried to be determined by quantitative research method, those who study at Uşak University and take computerized accounting lessons, as well as those who take a general accounting lesson at the university. 25.7 percent of the subjects participating in the external computerized accounting lesson are female students and 74.3 percent are male students. According to other findings from the study, 68.6 percent of the students who play video games are between the ages of 19-22. Akınsoft, eta, Netsis, micro, logo, and micro accounting package programs used by the participants was the most preferred accounting package program, with 15.7 percent. Within the scope of the study, among the propositions in which the positive effects of playing video games are tried to be

determined, video games such as keyboard, mouse, etc. 47.14 percent of the participants, who play video games for 1-2 hours a day on average, agree with the proposition that technological devices provide practicality in their use. As the average hours devoted to video games per day increase, participants' video games use keyboard, mouse, etc. The level of agreement with the proposition that it provides practicality in the use of technological tools is decreasing gradually. Another of the knits discussed within the scope of the study, the proposition that playing a video game enables the error in a computerized accounting slip to be detected more quickly, is that 25.71 percent of the participants who play video games for 1-2 hours a day on average remain undecided, and that twenty percent of the participants are indecisive. indicates that he agrees with this proposition.

According to another important finding obtained within the scope of the study, it can be said that the duration of playing video games is a low level predictor of positively contributing to the academic performance of the students in the computerized accounting lesson. As a matter of fact, according to the data obtained within the scope of the study, it was concluded that as the time spent by the students in video games increased, their academic performance in the computerized accounting lesson increased by 1.7 percent in the same direction. When the findings obtained within the scope of the study are evaluated in general, video games, keyboard, mouse, etc. in computerized accounting lesson. It can be said that it is important in terms of providing students with practicality in the use of technological tools and enabling faster detection of errors in incorrectly created accounting receipts. In addition, it has been revealed that the duration of playing video games has a significant effect on accelerating the learning process in the computerized accounting lesson, providing practicality in the creation of accounting slips, and enabling students to be curious about different accounting package programs and to examine these package programs.

Recommendations

In the following studies, in order to determine the effect of video game playing time on the performance of the students' computerized accounting lesson, the number of participants will be increased and the participants will be asked to create an accounting slip for a predetermined financial transaction in a certain accounting software immediately after the video games to be played at different time intervals, and in this process. EEG data of students will be collected. Thus, while trying to create the same accounting slip of students who spend different times on video games, brain signal data will be examined and these data can be compared.

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