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Abstract

The aim of this study is to examine the effect of teaching the "History of world civilizations" unit of High School 2nd History Lesson using computer assisted instruction methods on students' achievement, attitudes towards history lesson and retention of learned information. The experimental design model was preferred as the research model in the study, and the history lesson achievement test and attitude towards lessons scale created by the researchers were used as data collection tools. First of all, in the study, the effect of the lesson subjects taught by using computer assisted teaching methods and the lesson subjects taught by traditional teaching methods on the academic achievement, attitude and recall level of the students in the high school 2nd grade history lesson was adapted to the experimental design model used in the research. The data used were compiled by using a scale created by the researcher, pre-test, post-test and retention (recall) test. In our study, it was found that the achievement test scores of the History lesson "History of world civilizations" unit showed a significant difference between the experimental and control groups, which were taught using two different teaching techniques after the experiment. According to these results, it was understood that computer-aided history teaching method is a more effective method in increasing academic achievement, attitude and retention of students on the learning of related units and subjects than traditional teaching methods in the processing of "History of world civilizations" unit.

Introduction

The history lesson deals with events that took place long before the present day. The topics in the history curriculum are generally far from students' daily lives and experiences. Although there are many historical remains and materials from the past around us, history can be defined as an abstract lesson in terms of its content. Because of this characteristic of the history lesson, especially younger students have problems in making sense of events that took place long before their own time period. In other words, due to the fact that history is taught without bringing the past into the present, in the eyes of some students, history is a boring, incomprehensible lesson

consisting of a series of names, numbers, figures and items. One of the ways of bringing the past to the present and making history lessons more understandable and enjoyable is to make use of technological tools and materials related to the content of the lesson. It is possible to use a wide range of materials based on new technologies in history lessons. Some of these are applications such as 'online written materials', 'videos, pictures and graphics', 'online objects and models', 'computer software' (Beck & Eno, 2012; Friedman & Hicks, 2006; Hicks, Canning & Lee, 2014; Oulmaati, Ezzahri & Samadi, 2017; Seferoğlu, 2010; Yagci, 2017).

In the current age of science and technology, it is thought that it is important for history teachers to use teaching tools effectively, to benefit from instructional technologies, and to use information technologies in the educational environment in their activities to increase the interest of new generations in history lessons and to make history lessons more enjoyable and understandable. With the use of digital tools in education and training activities, more focus has been placed on presenting content through multiple channels rather than a single channel, and it has been accepted that the use of multiple forms is beneficial (Ainsworth 2006; Mayer, 2009; Schnotz, 2014). With the advent of multimedia computing and the Internet, the role of computers in education has now become an important issue confronting large numbers of teachers throughout the world (Aslan, 2011; Doster & Cuevas, 2021; Kaleli, 2020; Ozkale & Koc, 2020). For this reason, the use of technology for history lessons is seen as the most important aid in fulfilling the basic principles in the curriculum of this lesson (Haitao, 2021; Oulmaati, Ezzahri & Samadi, 2017; Raghaw, Paulose & Goswami, 2018; Reiman, 2021; Serhan & Welcome, 2022; Zeren-Akbulut, 2021; Xefteris, Palaigeorgiou & Tsorbari, 2018).

In history teaching, CAL has features such as increasing students' motivation by giving them a sense of interest and curiosity, concretizing abstract concepts that are difficult to understand and remember through models and simulations, and making teaching more effective and enjoyable with multimedia techniques (audio, animation, video, picture, etc.). Thanks to CAL, education can be individualized and a transition from teacher-centered teaching to student-centered teaching can be achieved. Thus, students can understand history topics and concepts more easily and have a positive attitude towards history (Güven & Sülün, 2012). The use of ICT in the teaching-learning process can improve the quality of education in various ways such as increasing student motivation, cooperation and participation. Since history is one of the lessons in the curriculum at the middle and high school level in Kazakhstan, its integration with computer-assisted instruction can lead to significant improvements in students' learning. Computer-assisted instruction improves individuals' ability to learn concepts and facts by comprehension rather than memorization (Adeyemi, 2012; Bartlett et al., 2000).

Considering the achievements that students are expected to gain in history lessons, it is thought that the teaching should especially address the affective aspect of the students. In this direction, different teaching methods and techniques are applied in order to endear the history lesson to students and to increase the level of achievement of the gains. One of these methods is computer-assisted instruction (Yagci, 2017).According to Baş, Kubiatko, and Sünbül (2016), CAL can be defined as the activities in which students interact with computers in the teaching process and computers function as a teaching tool and a teaching environment in this process. In CAL, the principles of self-directed learning are combined with computer technology and the computer is used in the teaching process not as an option but as a complementary and reinforcing element of the system. CBCL constitutes

the most widespread use of computers in educational institutions and can be used to provide environments to support students in learning certain subjects, as well as to access information resources, to do projects and research assignments, and to present them more systematically (Kara, 2020; Kukul, 2022).

The teaching of history has traditionally been based on memorizing facts and lecturing with an emphasis on the chronological order of events (Waring,, Torrez & Lipscomb, 2105). This focus on delivering information without connecting it to people's real lives has unjustifiably encouraged the belief that history is a boring subject (Russell & Pellegrino, 2008). While computers have created and continue to create new realities and opportunities in education (Angeli & Tsaggari, 2015), there are few studies on the integration of computers into the teaching of history lessons (Beck & Eno, 2012, Friedman & Hicks, 2006; Hicks, Canning & Lee, 2014). In our country, the lecture method is generally preferred when teaching history lessons and the use of this method reveals various problems. The main ones are that the lesson becomes boring with lecturing, students' interests and needs cannot be determined, and high-level cognitive learning does not take place because students are passive. Since there is no feedback in the use of the lecture method, the use of this method leads to incomplete communication. In addition, when the lecture method is frequently preferred, students' affective characteristics towards the lesson are negatively affected (Afrasiabifar & Asadolah, 2018; Aslan, 2016; Nagima et al., 2022; Zhumash et al., 2021; Ospankulov et al., 2022). In addition, with the use of the lecture method, students' higher-order thinking skills cannot develop and students cannot use the knowledge and skills they have learned in different fields. In other words, permanent learning cannot be realized by using the lecture method (Akdeniz et al., 2016; Vallée et al., 1998). In order to achieve the goals of history curricula, it is necessary to include practices that take individual differences into account in teaching, based on the fact that not all students can learn with the same activities. With the approaches that can be used for this purpose, students will actively participate in learning and take more responsibility in the learning process. One of the approaches that can be used in this context is computer-assisted instruction (CAI) applications (Rosali, 2020).

Computer-assisted learning involves the use of the computer as an auxiliary tool in learning, such as writing homework, accessing information using the Internet, and making calculations using various software (Owusu et.al., 2010; Thomas, 2001). On the other hand, computer-assisted learning is defined as the use of the computer as an instructor directly to the student (Kausar, Choudhry, & Gujjar; 2008; Soe, Koki, & Chang, 2000). Computer-assisted instruction is a teaching method in which the computer is used as an environment in which learning occurs, which strengthens the teaching process and student motivation, which the student can benefit from according to his/her own learning speed, and which is formed by the combination of self-learning principles with computer technology. Computer assisted education can be defined as activities in which students interact with the lessons programmed on the computer during the teaching process, where the teacher plays the role of guide and the computer plays the role of environment.

The existence of the elements mentioned above is necessary for computer assisted instruction to be successful. However, when we look at the factors affecting the computer-assisted instruction process, it is seen that it includes various variables such as lesson outcomes, student motivation, innovations, interaction, individual learning differences, the type, scope and quality of the courseware, the teacher's perception, attitude, expectation and

changing role in computer-assisted education, the integration of the curriculum with the education program, and the way computer-assisted education is carried out in the school (Cotton, 2008; Paje, Rogayan & Dantic, 2021 Şahin & Yıldırım 1999; Warschauer & Healey 1998). On the other hand, Online and Blended learning has proved to be a vital instrument for increasing learners' motivation and satisfaction (Aslan, 2016).

The use of computer-assisted educational interfaces positively affects academic achievement (Domagk, 2010; Holmes, 2007; Lusk & Atkinson, 2007; Plant et al., 2009; Sünbül, Gündüz & Yılmaz, 2022). However, this effect does not occur directly, but as a result of increased motivation and attitudes towards the lesson (Baylor & Kim, 2009; Keller, 2010; Kim & Baylor, 2008; Louwerse et al., 2005; Rosenberg-Kima et al., 2008). In almost all studies in the literature, it is stated that CAL increases motivation and retention, especially academic achievement. Kulik, Kulik, and Bangert-Drowns (1985) analyzed 200 studies comparing computer-assisted instruction with ongoing instruction and stated that CAL increased student achievement by 20%. Similarly, Camnalbur (2008) analyzed 78 quantitative studies comparing CAL with the traditional method and found that CAL method was more successful than the traditional method in terms of students' academic achievement. The main benefits of CAL (Barker et al., 1985), whose primary objectives are effective teaching, individual learning, and providing interactive materials, are that it gives most of the management to the student, increases motivation, eliminates time and space problems, can be repeated as many times as desired, can be designed in the form of feedback, deduction or induction, and can offer many multimedia in a single environment (de Jong & van Joolingen, 1998; Eggen & Kauchak, 2007; Trey & Khan, 2008). In this context, in this study, the effects of computer assisted instruction on students' academic achievement, attitudes and retention of what is learned in 2nd grade history lessons were examined.

Method

This study aimed to examine the effect of computer-assisted instruction on various variables in history lesson. For this purpose, the research was conducted based on the experimental model with pre-post test control and experimental group design. The research was applied in the "History" lesson, "History of world civilizations" unit in the 2nd grade high school curriculum of Pavlodar public schools. For a research to be experimental, participants should be randomly selected according to the conditions of the experimental procedure (Fjermestad, J. & Roxanne Hiltz, 1998). In addition, Gersten et al. (2005) stated that in an experimental study, unbiased assignment to groups should be made and the effects of other independent variables that affect the dependent variable, but whose effects were not investigated in the current study, on the dependent variable should be controlled. Pre-testing the research groups, knowing their degree of similarity before the research and interpreting the post-test results accordingly provides more accurate results (Fjermestad, J. & Roxanne Hiltz, 1998). For this reason, pre-post test measurements were made for the relevant variables for the experimental and control groups included in the study. The experimental design used in the study is shown in Table 1. In the study, G1 represents the experimental group in which ICT-Computer assisted history teaching program was applied, and C represents the control group in which traditional history teaching was applied. T1: Pretest (History Achievement Test; Scale of Attitude Towards History Lesson). T2: Pretest (History Achievement Test; Scale of Attitude towards History Lesson). T3: Retention Test (History Achievement Test)

Table 1. Experimental Design of the Research

Groups	Pretest	Experimental Process	Posttest	No practice	Retention
G1	T1	ICT-History Teaching (6 Weeks)	T2	4 weeks	T3
C	T1	Traditional Teaching (6 Weeks)	T2		T3

For this study, a computer-assisted history curriculum was prepared by taking into account the principles of Computer Assisted Instruction method. Then, educational activities were designed in accordance with this program. In the control group, teaching was carried out with the aid of the principles of "presentational teaching" and the "lecture method" technique. The applications were carried out in parallel with the high school 2nd grade history lesson curriculum, in a six-week period, two hours per week for each group, 12 hours in total. While planning the research design, computer-assisted instruction and traditional instruction in history lesson were determined as independent variables. Attitude towards history lesson, success in history lesson, attitude towards computer assisted instruction and retention of what is learned in history lesson were determined as dependent variables in the study.

Before the "History of world civilizations" unit was taught, the achievement test related to the unit and the attitude scale towards history lesson were applied to both groups as a pre-test, and the data obtained were entered into the system to be evaluated at the end of the experiment and the results were recorded. In the study, in the experimental group where the CAL method was applied and in the control group where the traditional teaching method was applied, the "History of world civilizations" unit was started and finished at the same time on the dates specified in the program. At this stage, exercise repetition programs, one-to-one teaching program and simulation program software were used as Computer Assisted Instruction Application in teaching the "History of world civilizations" unit in the experimental group. Within the scope of experimental applications, the subjects of the related unit were taught with traditional learning and teaching techniques such as traditional lecture, question-answer, discussion, etc. with the students in the control group. The measurement tools developed after this stage were applied to the groups simultaneously as a post-test at the end of the experimental applications. Four weeks after the application of the post-test, a recall and retention test was applied to measure the effect of the CAL method on the retention of knowledge. At the end of the research, the results of the pre-test, post-test and recall and retention test were compared between the experimental and control groups and the necessary evaluations were included in the last part of the study.

Participants

In the 2022 academic year, the participants of the study were second grade students studying in a public high school in Pavlodar. For the main application, after the two branches in the relevant school were equalized in terms of dependent and control variables, the groups were determined by simple random sampling method. Simple random sampling method is a sampling method in which the process of drawing units for sampling from the universe is carried out in accordance with the principle of randomness. In this context, 66 students, 33 in the

experimental group and 33 in the control group, were assigned to the study groups. In researches, it is important to determine whether a factor other than independent variables significantly affects the dependent variables. In this context, it is necessary to determine whether there is a difference between the groups by determining whether the participants have a computer and computer technologies and the duration of computer use in the studies dealing with computer-assisted instruction. For this reason, data were collected from the participants about their computer and computer technology use with the help of the Personal Information Form before the application. In this context, the majority of the participants in both groups (82.60%) had a computer at home, and there was no significant difference between the groups in terms of having a personal computer. Similar to this finding, the majority of the participants have internet connection at home and there is no significant difference between the groups in terms of access to internet connection at home.

Data Collection Tools

Personal Information Form

The personal information form was prepared by the researcher to better identify the participants in the study and to determine their computer usage time, computer and internet ownership status and socio-economic status. This data collection tool was administered to the participants one week before the instruction started.

History Lesson Achievement Test

The reason for the application of the History Lesson Achievement Test was to determine that there was no significant difference between the groups in terms of history lesson knowledge in the formation of the groups (experimental-control) before the application, and to determine the level of achievement in the history lesson in the relevant unit after the application. For this purpose, a five-choice multiple-choice History Lesson Achievement Test, one true and four false, was prepared by the researcher in line with the determined gains, which measures the knowledge of the students in the "History of world civilizations" unit in the 2nd grade high school history lesson. In order for a measurement tool to be used, it must be valid, reliable and useful (Fraenkel & Wallen, 2009). Whether a test is valid, reliable and useful can be measured with many techniques. The techniques used for this study were determined in line with the criteria established by Webb (1997). These criteria are categorical unity (content validity), information consistency (content validity, usefulness), and information relevance range criteria (construct validity, reliability, criterion validity). Within the framework of these criteria, 30 questions related to the "History of world civilizations" unit were determined for the test. During the test development process, item difficulty indices of 30 questions were calculated between .40 - .81 and discrimination indices were calculated between .32 - .76. Item difficulty ranges between 0 and 1. As the item difficulty index approaches zero, it is understood that the item becomes difficult, the items around .5 are moderately difficult, and the item becomes easier as it approaches one (Webb, 1997). The item discrimination index (rjx) is determined by the correlation between the item and the total score (± 1 range). Items with an item discrimination index below .20 should be removed from the test. In this respect, it can be said that the difficulty of the items in the high school 2nd History lesson achievement test is at a medium level, but their discrimination is at a high level. The last step of the test

analysis is to test the reliability of the measurement tool. According to the KR-20 formula, the reliability coefficient of this test was found to be .87. Although it is generally stated that a reliability coefficient greater than .80 is appropriate for test reliability, the limit is accepted as .70. Since the reliability coefficient value of the History Lesson Achievement Test is greater than .70, it is understood that the test is reliable and can be used.

Attitude Scale towards History Lesson

As a data collection tool, a five-point Likert-type "Attitude Scale for High School Students towards History Lessons" consisting of 18 items and one factor developed by the researcher to determine the attitude levels of high school students was used. In the development of the scale, data were obtained from students studying at various high school levels in Pavlodar. The validity study of the scale was carried out with both explanatory factor analysis and confirmatory factor analysis calculations. The explanatory variance of the unidimensional scale is 65.71%. The internal consistency coefficient (Cronbach Alpha) for the whole scale was calculated as 87. For each item in the scale, "Strongly disagree", "Disagree", "No opinion", "Agree" and "Strongly agree" options were used. The high validity and reliability levels obtained show that the scale is sufficient to measure high school students' attitudes towards history lessons.

Data Analysis Techniques

Before starting the analysis of the data, the results of the Kolmogorov-Smirnov normality test were examined to measure whether each dependent variable showed a normal distribution within the scope of normality tests. Since the Kolmogorov-Smirnov normality test analysis results showed normal distribution in all groups for the dependent variables, parametric tests were used. Mean and standard deviation (SD) values were used as descriptive statistics to determine students' attitudes towards history lesson and academic achievement scores.

Independent Samples t Test technique was used to compare pre-test, post-test attitude, achievement and retention scores between experimental and control groups. The items in the attitude scale were scored as "1- Strongly disagree", "2- Disagree", "3- No opinion", "4- Agree" and "5- Strongly agree". For the reverse items in the scale, the opposite scoring was applied. A minimum of 18 and a maximum of 90 points can be obtained from the scale. The scores obtained from the scale were divided by the number of questions and determined as the student's attitude score towards the history lesson. A high average score means that attitudes are positive.

Findings

Table 2 shows whether the pre-test scores of the students' academic achievement in history lesson differed according to the groups (experimental-control) in the comparison of the use of computer assisted instruction method and traditional method. As seen in the t-test results in Table 2, academic achievement scores do not show a significant difference in the pre-test results according to the groups [$t=-0.16$; $p>0.05$]. It can be said that the history lesson achievement of the students in the experimental and control groups were equal to each other before the experimental procedures of the study.

Table 2. Examining the Differences in History Lesson Pre-Test Academic Achievement Scores according to Groups

	Group	N	Mean	Std. Deviation	t	p
Pretest	Experimental	33	12.18	1.81	-0.16	0.87
	Control	33	12.24	1.15		

Table 3 shows whether the pre-test scores of the students' attitudes towards the history lesson differed according to the groups (experimental-control) in the comparison of the use of computer assisted instruction method and traditional method.

Table 3. Examining the Difference in Pre-test attitude Scores towards History Lesson according to Groups

	Group	N	Mean	Std. Deviation	t	p
Pre-test attitude	Experimental	33	3.27	0.57	-1.03	0.31
	Control	33	3.45	0.83		

As seen in the t-test results in Table 3, history lesson attitude scores do not show a significant difference according to the groups in the pre-test results [$t=-1.03$; $p>0.05$]. It can be said that before the experimental procedures of the research, the attitudes of the students in the experimental and control groups towards the history lesson were at a medium level and equal to each other.

Table 4 shows whether the academic achievement post-test scores of the students differed according to the groups (experimental-control) in the comparison of the use of computer assisted instruction method and traditional method in history lesson.

Table 4. Examining the Difference of History Lesson Post-Test Academic Achievement Scores according to Groups

	Group	N	Mean	Std. Deviation	t	p
Post-test	Experimental	33	19.30	2.23	6.55	0.00
	Control	33	16.06	1.77		

As seen in the t-test results in Table 4, there is a significant difference in the history lesson post-test academic achievement scores according to the groups [$t=-6.55$; $p<0.05$). When the mean values are analyzed, it is seen that the post-test history lesson scores of the experimental group are significantly higher than the control group. While the average of correct answers per student in the experimental group was 19.30 in the post-test phase, this value remained at the level of 16.05 in the control group.

Table 5 shows whether the attitude post-test scores of the students differed according to the groups (experimental-control) in the comparison of the use of computer assisted instruction method and traditional method in history lesson. As seen in the t-test result in Table 5, there is a significant difference in the post-test attitude scores of the history lesson according to the groups [$t=-3.41$; $p<0.05$). When the mean values are analyzed, it is seen that the post-test attitude scores of the experimental group towards the history lesson are significantly higher than the

control group. In the post-test attitude scores, the average per student in the experimental group was 4.24, while this value remained at the level of 3.55 in the control group.

Table 5. Examining the Difference in Post-test attitude Scores towards History Lesson according to Groups

	Group	N	Mean	Std. Deviation	t	p
Post-test Attitude	Experimental	33	4.24	0.90	3.41	0.00
	Control	33	3.55	0.75		

Table 6 shows whether the retention test scores of the students differed according to the groups (experimental-control) in the comparison of the use of computer assisted instruction method and traditional method in history lesson. As seen in the t-test result in Table 6, history lesson retention test scores differ significantly according to the groups [$t=2.24$; $p<0.05$). When the mean values are examined, it is seen that the final history lesson retention test scores of the experimental group are significantly higher than the control group. In the retention test, the average correct answer per student in the experimental group was 16.15, while this value remained at the level of 15.03 in the control group.

Table 6. Examination of the Difference in History Lesson Retention Test Scores according to Groups

	Group	N	Mean	Std. Deviation	t	p
Retention	Experimental	33	16.15	1.89	2.24	0.03
	Control	33	15.03	2.17		

Discussion and Conclusion

In this study, the effect of computer-assisted history teaching on students' academic achievement, attitudes and retention of what was learned was investigated. In the study, a significant difference was found between the experimental group students in which computer-assisted history teaching was applied and the control group students in whom the traditional method was applied in favor of the experimental group in terms of academic achievement. Similar studies (Abdullah & Mustafa, 2019; Akour, 2008; Carter, 2004; Dinçer, 2015; Ivers & Barron, 1998; Kausar, Choudhry, & Gujjar, 2008; Kaleli, 2020; Kaleli, 2021; Kulik & Kulik, 1991; Najjar, 1996; Öztürk, 2012; Tirosh, Tirosh, Graeber, & Wilson, 1990; Wallace-Spurgin, 2018; Yen, Tuan, & Liao, 2010), the benefits of computer-assisted instruction in the learning-teaching process were identified and their use was recommended. This result shows that computer-assisted history teaching positively affects students' academic achievement. This can be attributed to the fact that the history teacher uses the computer as an auxiliary tool to teach the facts in the unit with rich stimuli and remarkable examples. In addition, the use of audio-visual materials in the realization of interactive applications related to historical instructional content contributed positively to achieving the target outcomes. Thanks to computer-assisted history teaching, the learning-teaching process in the classroom was individualized and student-centered practices were realized rather than teacher-centered teaching. Thus, high school students were able to understand history topics and concepts more easily and achieve high levels of success. According to Sünbül et al. (2002), computer-assisted instruction contributes significantly to the understanding of the subject by increasing students' focus time and interest in the lesson with multimedia materials

such as videos, slides and animations. All these factors contributed to the high academic achievement of the students in the experimental group in the history lesson.

Another result of the study is the change in the attitudes of the experimental and control group students towards history lessons after the experimental applications. According to the findings of the study, the experimental group students who received computer-assisted history instruction developed higher and more positive attitudes towards the lesson compared to their peers who received traditional instruction. These findings are similar to the results of the studies conducted by Güven & Sülün (2012); Ivers & Barron (1998); Kausar, Choudhry & Gujjar (2008); Mensah & Nabie, (2021); Odom & Bell (2012); Rutten, van Joolingen, & van der Veen (2012); Selwyn (1999). In almost all of the studies examined, it was found that computer-assisted instruction increased students' motivation and attitudes and positively affected their participation in the lesson. It is thought that the teaching methods and approaches used in the lesson will affect students' affective characteristics such as attitudes, self-efficacy, motivation and anxiety towards the lesson; these affective factors will affect students' performance in the lesson and thus their academic success (Alan & Sünbül, 2015). The innovations and multi-stimulus computer environments offered to learners have generally attracted attention and therefore positive effects on students' attitudes towards the history lesson have emerged.

The last finding reached in this study is about the effects of computer-assisted history teaching on learning retention. In the study, a significant difference was found in favor of the experimental group in terms of the retention of what was learned between the experimental group students in whom computer-assisted history teaching was applied and the control group students in whom the traditional method was applied. These findings are similar to the findings of studies conducted by Barg (2009), Chang (2002), Dori & Sasson (2008), Edrich et al. (2016), Huang (2012), Kaleli (2021), Maier, Wolf & Randler (2016), Robb et al. In computer-assisted instruction, visual and auditory materials play a very important role in the retention of what is learned. Because it is very easy to concretize abstract concepts with the help of computer programs. In addition, the developed material can be easily updated according to developing technology and changing needs. From this point of view, it is thought that this study is important to examine the retention of history learning and to suggest new studies on this subject (Edrich et al., 2016; Maier, Wolf, & Randler, 2016). Computer-assisted instruction (CAI) increases learning retention in terms of enabling the learner to learn the relevant subject at an appropriate pace, ensuring active participation in the lessons, creating enriched learning environments and supporting permanent learning, creating the opportunity to monitor students' performances, and providing students with the opportunity to practice and repeat outside of class hours (Chang, 2002; Huang, 2012).

To summarize, it was determined in this study that computer-assisted history teaching increases academic achievement, attitudes and retention of what is learned. From this point of view, it is recommended that computer-assisted teaching practices should be frequently used in history lessons. In this regard, it is suggested that history teachers should be trained on the use of tools that will enable them to develop course content in computer environment. At the same time, it is important to develop up-to-date computer-supported multimedia learning materials that history teachers need and to increase their access to previously developed materials. This study was conducted in the light of a quantitative paradigm based on experimental practice. In future studies, it is

recommended to examine the variables that affect students' achievement and attitudes in history courses with qualitative and mixed model research.

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