The effect of computer-assisted foreign language teaching on the student's attitude and success[1]

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Abstract

This research was carried out to determine the impact of computer-assisted teaching on teaching English. The first phase of the research was designed as an experiment and computer-assisted teaching and traditional teaching methods were conducted synchronically in two different groups. In the second phase, effects of variables such as gender, age, receiving private lesson and types of high schools of the students who attended the implementation were analysed.

The sample of the research consisted of 40 first year undergraduate students from the first bachelor's level program and another 40 from the second bachelor's level program   in the Department of Computer Education and Instructional Technology in the Faculty of Education at Sakarya University in 2003-2004 academic year fall semester. The students of the first bachelor's level program were assigned to be the control group and the students of the second bachelor's level program were assigned to be the experimental group. The experimental group was given the computer-assisted lessons for twelve weeks but traditional teaching methods were meanwhile used in the classes of the control group. The experimental group used a compact disc in the laboratory as an educational material, which was prepared by the researcher.

Data for attitude evaluation were gathered by questionnaires and success was evaluated through students' examination grades. In determining the success rate, pre-test and post-test grades were used as the data.

At the end of the research, the results revealed that traditional teaching methods caused the students grouped according to the variables such as gender, age, private lessons and types of high schools to develop a negative attitude towards English lessons whereas computer-assisted teaching method led the students to develop a positive attitude. Although it was observed that traditional teaching methods made a positive impact on the success of the students in English classes, this impact was weaker than computer-assisted teaching did in the other group. The students who studied English in computer-assisted teaching classes showed a more positive attitude towards English classes than   the ones who studied English using traditional teaching methods.

Keywords: Attitude; motivation; achievement; computer-assisted language teaching; traditional teaching methods.

1. Introduction

It is beyond the shadow of a doubt that technology has invaded people's lives for better or worse (Elradii, 2014). Nowadays, almost every sphere of life from industry to education is affected by the outstanding developments in technology. A few decades ago, people who used letters to communicate with one another never imaged that technology would be so widespread and gain momentum. Yet, technology has been used extensively in schools, offices and houses, and computers along with mobile phones have substituted for those old-fashioned communication tools (Karakaya, 2010).

Computer technology is one of the most life-changing components of technology. Computers have affected the ways people do their jobs as well as their daily lives (Başöz and Çubukçu, 2014). Thus, it is not surprising to see the reflections of computer in education. During

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this unprecedented period in technological development, the computers have grown to be the leading learning tools. Of the uses of computers in classrooms, the earliest included the teaching of traditional curriculum and fundamental skills. They were used as a medium to transfer the instructions along with their roles as an addition to the classroom instructions of teachers (Fouts, 2000).

Computer teaching has a prominent role in remodelling the education systems. Searching for information in online sources is considered as much easier than it is in thick books (Kamboj and Kamboj, 2013). As another innovated aspect, the classes have become more learner-centered contrary to traditional methods; therefore, individual differences in learning styles have come into prominence. By promoting audio-visual input and allowing students to engage in various types of activities, the continuum of learning is interactive and meaningful thanks to computers. Concerning their own learning paces, interests and language proficiency levels, students form their learning process by using computer-assisted materials (Alparda, 2010).

Considering all the aspects of computer use mentioned above, it is about time computers found its way to the area of language learning/teaching since the 1960s (Lee, 2000, cited in Özerol, 2009). English, as the lingua franca of the 21st century, is spoken by about 380 million native speakers and 700 million foreign language speakers. Since English is one of the widely used languages around the world, teachers and researchers are in search of new techniques to teach it or other languages. The most popular and common technique is Computer-Assisted Language Learning (CALL) defined by Levy (1997) as a broad term covering the search for the roles and applications of computers in ESL/EFL classrooms.

Since classrooms are equipped with various technological devices such as interactive whiteboards, projectors, and computers, teachers are requested to keep up with the recent developments in the inclusion of technology. This requirement might appear to be unnecessary; however, integrating technology into the classroom provides teachers with plenty of advantages (Bayhan, Olgun, and Yelland, 2002). Students move from artificial and passive learning environment to more authentic one. Instructional technologies are essential to raise students' awareness of learning experiences (Karakaya, 2010). Teachers use computers for personalized and efficient activities to help learners in the development of the language skills. The use of CALL increases learners' motivation towards learning language, and it allows them to engage in their own learning process (Hani, 2014).

Although there are a number of studies conducted to explore the teachers' attitudes toward CALL, there has been little research on prospective teachers' perceptions of CALL, especially in a national context which is distressing when the requirement of the use of CALL in pre-service teachers' future career is taken into account. Therefore, the focus of this study is to investigate EFL pre-service teachers' perceptions of CALL.

2. Literature Review

With the innovations and its application in language classrooms, technology has added new dimensions to teachers' role and current teaching-learning techniques (Alparda, 2010). The advancing role of computers in the learning environment has led many studies exploring their benefits as an educational tool. In general, language teachers and prospective teachers have positive perceptions towards integrating technology in language classrooms for several reasons (Sarıçoban, 2013; Başaran, 2013; Erguvan, 2015).

In EFL context, CALL is one of the most prominent issues in literature. In one of the earliest studies regarding teachers' perception towards CALL, by Özerol (2009) conducted in Turkey, the results obtained from the questionnaire indicated that teachers favoured the use of CALL in terms of its suitability for developing language skills and for its role in language learning practice. As for the data collected through a semi-structured interview, the interviewees affirmed that CALL is an effective technique to grab students' attention and make language learning process smooth. Having 320 in-service teachers, Başaran (2013) found that the teachers perceived computers as a beneficial instructional technology. Similarly, another study into instructor's

perceptions which was conducted by Baskaran and Shafeeq (2015) examined the attitudes of teachers and demonstrated that implementing CALL into language classrooms is perceived as motivational and easy. Furthermore, Erguvan's (2015) study endorses the results of aforementioned research that CALL promotes motivation for learning a language. The findings of the study also indicated that CALL enables students to get exposed to a wide variety of intriguing and instructional materials.

Although teachers have positive attitudes towards technology use in language classroom, the results of various studies indicated that a considerable number of teachers have difficulties in integrating technology into their classrooms. Saqlain and Mahmood (2013) reported that installation of educational software might be challenging for teachers. The results of Saqlain and Mamood's (2013) study also demonstrated that schools did not have language labs in which students could develop their language skills through different technological aids and online sources. Likewise, Başaran (2013) stated that the lack of technological aids in language classrooms was one of the primary problems in applying CALL. Similar results were reported by Hedayati and Marandi (2014). Teachers encounter with a number of barriers while they put CALL into practice, and the lack of technological equipment and unavailability of the Internet connection are crucial obstacles for implementing CALL despite the fact that the Internet is more easily accessible in a wider range all over the world nowadays. Besides, Hedayati and Marandi (2014) indicated that the main obstacle in integrating CALL is related to teachers. Since during their university education teachers are generally not well prepared for using computers in their classes, they suffer from lack of knowledge in how and why to use technology in the classroom.

Not only teachers but also students attach great importance to the integration of computers into language classrooms. One of the studies in literature on learners' perception of CALL carried out by Cunningham (2000) exhibited that word processing served as a beneficial tool to enhance students' writing skill in terms of mechanics and organization of written texts (cited in Bulut and AbuSeileek, 2009). In a similar vein, Stepp-Greany (2002) pointed out that students asserted the efficacy of the use of computer on their communicational skills. More than half of the participants admitted that their receptive skills had improved thanks to lab activities. Another study into learners' attitudes towards CALL which was carried out by Talebinezhad and Abarghoui (2013) investigated how Iranian high school students perceive computer usage for improving their listening and reading skills. Based on the data collected through the questionnaire, it was suggested that they liked the idea of the computer-assisted learning environment in which they get a chance to improve their receptive skills. Another study on learners' attitudes of CALL which was conducted by Mokhtari (2013) revealed that students anticipate computers to be used more extensively in language classrooms.

As one of the core elements of language learning, vocabulary learning via computers has gained momentum. In Cellat's (2008) experimental study, teacher-centred instruction is compared with computer-assisted vocabulary instruction to examine their effectiveness on learners' vocabulary learning. The findings of the study revealed that since learners were in charge of their vocabulary learning process which led to individualized learning promoting motivation, CALL enabled students to learn vocabulary prominently. In alignment with Cellat (2008), Kılıçkaya and Krajka (2010) reported that learners acquire vocabulary units in a more efficient way through various types of activities provided by CALL instead of bordering students to traditional paper and pen vocabulary learning activities.

Since integrating technology into curriculum has become more and more of an issue in foreign language learning context, it is essential to raise pre-service teachers' awareness of using CALL applications as a facilitator in fostering language development. Kuo's (2008) study uncovered pre-service teachers' perceptions of Internet-assisted language learning considering their personal experiences and teaching philosophies. The results of the study showed that although pre-service teachers hold favourable attitudes towards the use of internet-based language instruction and regard

technology as an essential means of teaching for their future careers, they could not ensure if they have the necessary skills and knowledge of implementing technology into the language classroom. Akçaoğlu's (2008) research touched on a significant matter. That is, when pre-service and in-service teachers are compared, it is found that pre-service teachers possess more favourable attitudes toward computers than in-service teachers. The reason might lie behind the fact that after pre-service teachers begin their professional practice, they might be restricted by their institution in spite of their readiness and motivation to combine technology with the curriculum. As another study with positive results regarding computer use in language learning, Sarıçoban (2013) reported that prospective teachers believed that CALL is advantageous. With respect to pre-service teachers' perception of CALL, Başöz and Çubukçu (2014) highlighted that CALL not only creates a stress-free environment but also brings flexibility to language learning. The participants emphasized that CALL allows them to develop their vocabulary knowledge and language skills as an extension of conventional learning methods.

Along with the studies presenting the positive attitudes of teacher candidates towards the use of computer in a classroom, there are a number of studies concerning the barriers in implementing CALL from the viewpoints of pre-service teachers.

Başöz and Çubukçu's (2014) study not only displayed the pre-service teachers' positive attitudes towards CALL but also revealed that the participants have negative perceptions of CALL. The participants disagreed with the item saying that language learning assisted by computers is as efficient as oral practice. Taking the similar stance with Başöz and Çubukçu (2014), Samani, Baki, and Razali (2014) documented two biggest barriers. The first and the foremost barrier was the weak integration of computer caused by the lack of CALL training. The second barrier, on the other hand, was related to the poor access to computer resources. Lastly, Merç (2015) remarked two notable aspects regarding the barriers for using computers in a classroom environment. According to the quantitative results of the study, due to the fact that the facilities lack the basic technological equipment, the pre-service teachers stated that they did not have enough opportunity to make use of CALL. Additionally, a considerable number of prospective teachers found the training they got inadequate.

In the light of literature above, this study was conducted with the aim of answering the following questions:

2.1. Statement of the Problem
What is the effect of the computer use on student attitude and achievement in the process of language learning?

2.1.1. Sub-Problems
1. Do the attitudes of the students who attend Computer-assisted Foreign Language (CAFL) classes or traditional foreign language classes toward foreign language differ according to the variables; such as gender, age, type of high school, attending preparatory class or not, and receiving private lessons or not?
2. Do the attitudes of the students who attend CAFL classes display significant difference before and after attending the classes?
3. Do the attitudes of the students who attend traditional foreign language classes display significant difference before and after attending the classes?
4. Do the attitudes of the students who attend CAFL classes or traditional foreign language classes display significant difference toward foreign language?
5. Do the achievements of the students who attend CAFL classes or traditional foreign language classes differ according to the variables of gender, age, type of high school, attending preparatory class or not, and receiving private lessons or not?
6. Do the achievements of the students who attend CAFL classes display significant difference before and after attending the classes?

7. Do the achievements of the students who attend traditional foreign language classes display significant difference before and after attending the classes?
8. Do the achievements of the students who attend CAFL classes or traditional foreign language classes display significant difference?

3. Research Methodology

In this chapter, information under the title of the study's model, population, study group, data collection tools and the data analysis are presented.

3.1. The Study's Model

The Trial model was used in this study. Trial models are research model in which the data to be observed are produced with the purpose of determining the cause-effect relationships, under the direct control of the researcher. In this model, what is desired to be observed is produced by the researcher (Karasar, 2002; 87).

3.2. The Study Group

The study group was comprised of the 1stgrade students of daytime and evening education at CEIT department of Sakarya University, Faculty of Education in 2003-2004 academic years fall semester. Study and control groups consisted of 40 undergraduate students who studied at 1stgrade daytime and evening education classes at Sakarya University, Faculty of Education, Department of CEIT in 2003-2004 academic years. The scores of the achievement test were used as a criterion in creating the groups. The distribution ranges were defined as 1-20, 21-40, 41-60, 61-80, 81-100 and the students were included in these groups according to their scores. The students were proportionately separated into two groups according to their achievement scores. Gender and the type of high school were equalized in the groups. One of the proportionately separated groups were defined as study group; the other, as control group.

The study group was given computer-assisted English instruction for 12 weeks; whereas with the control group, traditional teaching methods were used. While the control group received homework with simple printed materials prepared by the researcher; the study group prepped with the homework that had been prepared in a way that they could study on the computer environment and receive immediate feedback.

3.3. Design

1-2. Week: The Present Perfect Tense & The Present Perfect Continuous Tense
3-4. Week: The Past Continuous Tense
5-6. Week: The Future Simple / Going to
7-8. Week: Comparison of Adjectives
9-10. Week: The Past Perfect Tense
11-12. Week: Relative Clauses

Before the implementation, in addition to the achievement test, attitude survey toward English was applied on the students; then the lessons in study and control groups started.

Traditional classes were conducted in the classroom environment, as teacher-centred, with the use of question-answer technique and the board. Prefabricated worksheets were distributed to the students and the activities were conducted verbally. The subjects were followed through the course book.

In computer-assisted teaching, classes were conducted in the laboratory environment, as student-centred, at the students' own pace; the teacher's role was to guide when the students needed. Explanations and dialogue parts of every topic were prepared as PowerPoint presentations in order that the students could listen. Also in practice part, with the use of Visual Basic programs it was ensured that the students received immediate feedback on the design that was prepared as a

CD which showed whether the students' answers were correct or wrong. The worksheets were also designed in a way that the students could receive immediate feedback. At the end of the implementation, attitude survey toward English and achievement test were applied to the students again.

In education, not being able to tell; but rather being able to tell and perform plays an important role. The basic aim of lifelong education is to equip the individual with modern information on their field of ability and interest, improve creativity, being productive and maintain these during their whole life; while improving the individual's abilities with all of their sense organs "Ant Technique" (Baytekin, 2000). In this technique, sense of cooperation and owning the whole work is prioritized. In order to actualize this, a group of students were given duties and responsibilities in preparation of the CD that was going to be used as the course material (e.g. assigning students whose English is adequate and pronunciation is decent in preparing the audio records in the CD).

3.4. Data Collection Tools

Information Form: This section was comprised of 7 items. The section included personal information. This form included the information such as the students' name and surname, gender, age, type of high school - Science High School (SHS), Vocational High School (VHS), Super High School (SuHS), Anatolian Technical Vocational High School (ATVHS), General High School (GHS), Anatolian High School (AHS)-, whether they received English education previously, attended an English course or received private lessons and the ÖSS score used for enrolling in the department.

Attitude Survey: This section consisted of 41 items. Information on attitude toward English was included in the section. Attitude scale which has been developed by Dr.Hande Gürel was used to measure the students' attitude toward English in the current study. Since the attitude scale's validity and reliability check were previously done, these were not performed again.

Achievement Test: Achievement test was made up of 40 questions. The test included fall semester topics in which the implementations were done. Grammar topics that were taught and distributions of the questions on the test are as follows.

Pr. Perfect & Pr. Perfect Cont.Tense	01 – 11	Past Continuous Tense	12 – 16
Future Simple / Going to	13 – 22	Comparison of Adjectives	23 – 28
Past Perfect Tense	29 – 34	Relative Clauses	35 – 40

During the implementation process, the control group was regularly assigned with printed homework for the weekend every week, while the study group was assigned with homework on CDs which they can study on a computer.

3.5. Data Analysis

In determining the attitude and achievement levels, the total attitude and achievement scores were averaged, standard deviations were calculated and 3 levels were defined as "low," "average," and "high" according to the average value.

Numeric data gathered from the data collection tools were transferred into SPSS package program; then, statistical analyses were done and the information gathered was analysed. In the analysis of the data; to define the level regarding the students' attitude towards foreign language and their achievement levels, frequency and percentage techniques were used; in the analysis of the differences regarding the groups' attitudes towards foreign language and their achievements, independent study group T-test technique was used.

4. Results

This section includes findings and comments. In the presentation of the findings, order of the sub-problems was followed. The tables and then comments regarding the tables were presented.

Table 1. Pre-test Attitude towards foreign language and Achievement Scores of the Groups

	Group	N	$\overline{X}$	St. d.	St. error mean	t	p
Pre-test Achievement Scores	Study Group	40	44,40	20,43	3,23	-,70	,48
	Control Group	40	47,47	18,43	2,91		
Pre-test Attitude Scores	Study Group	40	140,72	24,04	3,80	,77	,44
	Control Group	40	137,00	18,66	2,95		

When Table 1 is examined, it was observed that there was not a significant difference between the groups' pre-test attitude and achievement scores (p> 05). Therefore, the total achievement and attitude scores of the groups were analysed.

Table 2. Frequency Values Regarding the Attitudes of the Students towards Foreign Language According to the Gender Variable

Group	Gender	N	Pre-test Attitude Scores			Post-test Attitude Scores			Total
			Low	Average	High	Low	Average	High	
Study Group	Male	N	10	9	10	4	11	14	29
		%	34,50	31,00	34,50	13,80	37,90	48,30	100
	Female	N	2	4	5	0	6	5	11
		%	18,20	36,40	45,50	0,00	54,50	45,50	100
Control Group	Male	N	11	7	11	14	8	7	29
		%	37,90	24,20	37,90	48,20	27,60	24,20	100
	Female	N	3	5	3	5	6	0	11
		%	27,30	45,40	27,30	45,46	54,54	0,00	100

Table 3. Frequency Values regarding the Attitudes of the Students Toward Foreign Language According to the Age Variable

Group	Age	N	Pre-test Attitude Scores			Post-test Attitude Scores			Total
			Low	Average	High	Low	Average	High	
Study Group	18 and below	N	1	0	1	0	1	1	2
		%	50,00	0,00	50,00	0,00	50,00	50,00	100
	19-21	N	9	12	11	4	14	14	32
		%	28,10	37,50	34,40	12,50	43,80	43,80	100
	22-24	N	2	1	3	0	2	4	6
		%	33,30	16,70	50,00	0,00	33,30	66,70	100
Control Group	18 and below	N	4	1	3	5	1	2	8
		%	50,00	12,50	37,50	62,50	12,50	25,00	100
	19-21	N	8	10	11	11	13	5	29
		%	27,60	34,50	37,90	37,90	44,80	17,20	100
	22-24	N	2	1	0	3	0	0	3
		%	66,70	33,30	0,00	100	0,00	0,00	100

According to Table 3, when the pre-test attitude scores and post-test attitude scores of the students of all ages in the study group are examined, it is understood that the attitude scores

displayed a positive increase. On the contrary, it was seen that post-test attitude scores decreased in the control group when compared to the pre-test attitude scores. According to the age variable, this can be explained in a way that the traditional English education causes the students to develop negative attitudes; whereas CAT led them to develop positive attitudes.

Table 4. Frequency Values regarding the Students' Attitude Toward Foreign Language According to the Type of High School Variable

Group	Types of High School		Pre-test Attitude Scores			Post-test Attitude Scores			
			Low	Average	High	Low	Middle	High	Total
Study Group	GHS	N	4	0	4	0	4	4	8
		%	50,00	0,00	50,00	0,00	50,00	50,00	100
	AHS	N	1	6	6	1	6	6	13
		%	7,69	46,15	46,15	7,69	46,15	46,15	100,00
	SHS	N	0	1	0	0	0	1	1
		%	0,00	100,00	0,00	0,00	0,00	100,00	100
	VHS	N	5	4	1	1	4	5	10
		%	50,00	40,00	10,00	10,00	40,00	50,00	100
	SuHS	N	0	1	1	0	1	1	2
		%	0,00	50,00	50,00	0,00	50,00	50,00	100
	ATVHS	N	1	1	4	0	2	4	6
		%	16,67	16,67	66,67	0,00	33,33	66,67	100
Control Group	GHS	N	1	2	4	0	3	4	7
		%	14,29	28,57	57,14	0,00	42,86	57,14	100
	AHS	N	4	6	4	4	7	3	14
		%	28,57	42,86	28,57	28,57	50,00	21,43	100
	SHS	N	0	1	0	0	1	0	1
		%	0	100,00	0,00	0,00	100,00	0,00	100
	VHS	N	4	3	3	5	3	2	10
		%	40,00	30,00	30,00	50,00	30,00	20,00	100
	SuHS	N	2	0	0	2	0	0	2
		%	100,00	0,00	0,00	100,00	0,00	0,00	100
	ATVHS	N	1	2	3	0	4	2	6
		%	16,67	33,33	50,00	0,00	66,67	33,33	100

According to the Table 4, it is observed that there was not a difference that can be regarded as good in the attitudes of the Anatolian and Super High School students in the study group; while there was an increase between the pre and post-test scores of the other high school students toward English. In contrast to this situation, in the control group it was seen that post-test attitude scores either did not change or decreased. This situation can be interpreted according to the type of high school variable in a way that the traditional English education causes the students to develop negative attitudes toward English; while Cat led them to develop positive attitudes.

Table 5. Frequency Values regarding the Attitudes of the Students toward Foreign Language According to the Variable of Receiving Private lessons or Not

Group	Private lesson		Pre-test Attitude Scores			Post-test Attitude Scores			Total
			Low	Average	High	Low	Average	High	
Study Group	attended	N	1	0	5	0	1	5	6
		%	16,70	0,00	83,30	0,00	16,70	83,30	100
	Not attended	N	11	13	10	4	16	14	34
		%	32,40	38,20	29,40	11,80	47,10	41,20	100
Control Group	attended	N	0	1	4	1	1	3	5
		%	0,00	20,00	80,00	20,00	20,00	60,00	100
	Not attended	N	13	11	11	17	13	5	35
		%	37,10	31,40	31,40	48,60	37,10	14,30	100

When Table 5 is examined, it can be seen that when the pre and post-test attitude scores of the students who either attended or not attended private lessons in English were compared, it can be seen that their scores increased in the post-test which shows that their attitudes toward English turned to be positive. Contrary to this situation, in the control group it was seen that the post-test attitude scores of the students who took or did not take private course decreased when compared to their pre-test scores. This can be interpreted according to the variable of taking private course or not in a way that traditional English education causes the students to develop negative attitudes toward English while CAT led them to develop positive attitudes.

Table 6. t-test values of the study group regarding their attitudes towards foreign language

Attitude	N	$\overline{X}$	St. d.	St. error mean	t	p
Pre-test Attitude Scores	40	140,72	24,04	16,33	-7,07	,00
Post-test Attitude Scores	40	159,00	18,85			

When Table 6 was examined, there was a significant difference between the pre - test and post - test scores of the students who attended CAFL classes which proves they developed a more positive attitude towards English lessons.

When the average scores of pre-test and post-test attitude scores are examined, it can be seen that post-test scores were higher than pre-test scores. In this case, it can be said that Computer Assisted Instruction (CAI) positively affected students' attitudes towards the end of the practice compared to their initial attitudes towards English lessons.

Table 7. t-test values of the control group regarding their attitudes towards foreign language

Attitude	N	$\overline{X}$	St. d.	St. error mean	t	p
Pre-test Scores	40	137	18,66	15,38	,19	,84
Post-test Scores	40	136,52	23,54			

Examining Table 7, no significant difference was found between the pre-test and post-test scores of the students who attended English lessons using traditional methods (P> .05). When the averages of pre-test and post-test attitude scores are examined, it can be seen that post-test scores are lower than pre-test scores. In this case, it can be said that the traditional methods did not create a positive change in the attitudes of the students at the end of the implementation compared to their initial attitude towards English lessons.

Table 8. Post-test t-test values of the study group and control group regarding their attitudes towards foreign language

Group		N	$\overline{X}$	St. d.	St. error mean	t	p
Post Test Attitude Scores	Study Group	40	159,00	18,85	2,98	4,71	,00
	Control Group	40	136,52	23,54	3,72		

When Table 8 was examined, a significant difference was found in the attitudes of the students in the study group and control group towards foreign language lessons ($p<.05$).

When the mean values related to the attitudes of the participants were examined, it can be said that the students in the study group showed a more positive (= 159) attitude towards English lessons than the mean values(= 136.52). of the students in the control group.

It can be said that at the end of the treatment which was provided in that regard, CAI causes students to have more positive attitude towards the lesson compared to the traditional language teaching. Aytürk (1999) also found the same result in his study. The attitudes of students who received computer-assisted instruction in English were found to be more positive than the attitudes of students who received traditional instruction in English. The findings of Neu and Scarcella, who conducted a similar research with 54 university students on written expression and took student opinions on that subject, also show that the attitudes of students towards CAI are positive (Neu and Scarcella, 1991, Odabaşı, 1997).

Table 9. Frequency Values of The Participants' Achievement in Foreign Language Lessons based on Gender Variable

Group	Gender		Pre-test Scores			Post test Scores			Total
			Low	Average	High	Low	Average	High	
Study Group	Male	N	13	7	9	6	12	11	29
		%	44,80	24,10	31,00	20,70	41,40	37,90	100
	Female	N	4	4	3	3	3	5	11
		%	36,40	36,40	27,30	27,30	27,30	45,50	100
Control Group	Male	N	12	9	8	14	10	5	29
		%	41,40	31,00	27,60	48,30	34,50	17,20	100
	Female	N	2	6	5	2	5	6	11
		%	15,40	46,20	38,50	15,40	38,50	46,20	100

According to Table 9, when the pre-test and the post-test achievement scores of the study group students are examined, achievement scores displayed a positive increase. However, the achievement scores of the control group were lower. When this result is examined, it can be interpreted that traditional English instruction does not contribute to the achievements of the students in English lessons, and that the CAI contributes to their success regardless of gender difference.

Table 10. Frequency Value of the Participants' Achievement in Foreign Language Lessons based on Gender Variable

Group	Age		Pre-Test Scores			Post-test Scores			Total
			Low	Average	High	Low	Average	High	
Study Group	18 and below	N	1	1	0	0	2	0	2
		%	50,00	50,00	0,00	0,00	100	0,00	100
	19-21	N	12	9	11	8	10	14	32
		%	37,50	28,10	34,40	25,00	31,30	43,80	100
	22-24	N	4	1	1	1	3	2	6
		%	66,70	16,70	16,70	16,70	50,00	33,30	100
Control Group	18 and below	N	5	1	2	6	0	2	8
		%	62,50	12,50	25,00	75,00	0,00	25,00	100
	19-21	N	7	11	11	8	13	8	29
		%	24,10	37,90	37,90	27,60	44,80	27,60	100
	22-24	N	2	1	0	2	0	1	3
		%	66,70	33,30	0,00	66,70	0,00	33,30	100

According to Table 10, when the pre-test and the post-test achievement scores of the study group students from all age groups are examined, achievement scores displayed a positive increase. However, the post-test achievement scores of the control group decreased compared to their pre-test scores. When this result is examined, it can be interpreted that traditional English instruction does not contribute to the achievements of the students in English lessons, and that the CAI contributes to their success regardless of age.

Table 11. Frequency Value of The Participants' Achievement in Foreign Language Lessons based on High School Variable

Group	Type of High School		Pre-test Attitude Scores			Post-test Attitude Scores			Total
			Low	Average	High	Low	Average	High	
Study Group	GHS	N	5	2	1	3	3	2	8
		%	62,50	25,00	12,50	37,50	37,50	25,00	100
	AHS	N	1	4	8	0	4	9	13
		%	7,69	30,77	61,54	0,00	30,77	69,23	100,00
	SHS	N	0	0	1	0	0	1	1
		%	0,00	0,00	100,00	0,00	0,00	100,00	100
	VHS	N	8	1	1	1	7	2	10
		%	80,00	10,00	10,00	10,00	70,00	20,00	100
	SuHS	N	0	2	0	0	1	1	2
		%	0,00	100,00	0,00	0,00	50,00	50,00	100
Control Group	ATVHS	N	0	4	2	0	2	4	6
		%	0,00	66,67	33,33	0,00	33,33	66,67	100
	GHS	N	4	3	0	5	2	0	7
		%	57,14	42,86	0,00	71,43	28,57	0,00	100
	AHS	N	2	4	8	2	4	8	14
		%	14,29	28,57	57,14	14,29	28,57	57,14	100
	SHS	N	0	0	1	0	0	1	1
		%	0	0,00	100,00	0,00	0,00	100,00	100
	VHS	N	8	0	2	5	4	1	10
		%	80,00	0,00	20,00	50,00	40,00	10,00	100
	SuHS	N	0	1	1	1	0	1	2
		%	0,00	50,00	50,00	50,00	0,00	50,00	100
	ATVHS	N	1	4	1	0	4	2	6
		%	16,67	66,67	16,67	0,00	66,67	33,33	100

According to Table 11, when the pre-test and the post-test achievement scores of the study group students and control group students from all school types are examined, achievement scores displayed a positive increase. On the contrary, it was seen that the percentages of the post-test scores decreased compared to the percentages of the pre-test scores in the control group. When this result is examined, it can be interpreted that traditional English instruction does not contribute to the achievements of the students in English lessons, and that the CAI contributes to their success regardless of their high school types.

Table 12. Frequency Value of the Participants' Achievement in Foreign Language Lessons based on Receiving Private Lessons or Not

Group	Private Course		Pre-test Achievement Scores			Post-test Achievement Scores			Total
			Low	Average	High	Low	Average	High	
Study Group	Attended	N	3	1	2	3	0	3	6
		%	50,00	16,70	33,30	50,00	0,00	50,00	100
	Not attended	N	14	10	10	6	15	13	34
		%	41,20	29,40	29,40	17,60	44,10	38,20	100
Control Group	Attended	N	4	1	0	2	1	2	5
		%	80,00	25,00	0,00	60,00	20,00	40,00	100
	Not attended	N	10	12	13	13	12	10	35
		%	28,60	34,30	37,10	37,10	34,30	28,60	100

According to Table 12, when the pre-test and the post-test achievement scores of the study group students who attended a language course or/and got private lessons are examined, achievement scores displayed a positive increase. On the contrary, it was seen that only the percentages of the post-test scores of the control group students who did not attend a language course or/and got private lessons decreased compared to their pre-test scores. When this result is examined, it can be interpreted that traditional English instruction does not contribute only to the achievements of the control group students who did not attend in English lessons, and that the CAI contributes to their success no matter if they attended a language course or/and got private lessons or not.

Table 13. t-test Values of the study group regarding their Achievement in foreign language course

Achievement	N	$\overline{X}$	St. d.	St. error mean	t	p
Pre-test Scores	40	44,40	13,37	2,11	-11,14	,00
Post-test Scores	40	67,97				

When Table 13 is examined, there is a significant difference between the pre-test and post-test scores of the students in the study group. When the average pre-test and post-test attitude scores of the study group (see table 6) are examined, it can also be seen that post-test scores (=159.00) are higher than pre-test scores (=140.72). In this case, it can be said that CAI created a positive difference not only in the students' achievement scores in English lessons but also in their attitudes towards English lessons.

Table 14. t-test Values of the Control group regarding their Achievement in foreign language course

Achievement	N	$\overline{X}$	St. d.	St. error mean	t	p
Pre-test Scores	40	47,47	9,54	18,43	-6,47	,00
Post-test Scores	40	57,25				

When Table 14 is examined, there is a significant difference between the pre-test and post-test achievement scores of the control group students (P <.05). When the average pre-test and post-test attitude scores of the control group (see table 7) are examined, it can be seen that post-test scores (=136.52) are slightly lower than pre-test scores (=137.00). In this case, it can be said that language teaching through traditional methods has also created a positive change in the achievements of the students in English course whereas it does not change the control group students' attitudes towards English classes.

Table 15. t-test Values of the Study Group and Control group regarding their Achievement in foreign language course

Achievement	Group	N	$\overline{X}$	St. d.	St. error mean	t	p
Post-test Scores	Study Group	40	67,97	16,3149	2,57963	2,662	,009
	Control Group	40	57,25	19,5680	3,09399	2,662	,009

When Table 15 is examined, there is a significant difference in the achievement scores of the study and control group students in foreign language lessons (P <.05). When the mean achievement scores of participants are examined, it can be said that the study group (= 67,97) were more successful in English lessons than the control group (= 57,25). According to this, it can be said that at the end of the treatments, the students who received CAI have become more successful in the courses than the students who received the traditional English instruction. This finding also supports the results of Aytürk (1999)'s research. Aytürk found in his research that the achievement of the students who received CAI in English language classes was higher than that of the students who received traditional instruction. Uluser İnan (1997), who reached a similar result, found a significant difference between the post-test achievement scores of the study group and control group in her study, *"A Study on the Influence of Computer-assisted Instruction in English Teaching"*

Although the implementation in each group had positive impact on the students' achievement scores, it can easily be said that study group who studied English using CAI increased its achievement score from 44.40 in the pre-test to 67.97 in the post-test. However, the control group had a slight increase in its achievement score; from 47.47 in the pre-test to 57.25 in the post-test.

5. Discussion and Suggestions

Traditional English instruction causes students to have a negative attitude towards English lessons according to the students' gender, age, high school type, receiving a private lesson or attending a course or not, while CAI enables them to have a positive attitude.

CAI increases the students' attitudes towards English lessons positively.

English instruction through traditional methods did not change the students' attitudes towards English classes in a positive way.

Students who received English language classes through CAI have developed more positive attitudes towards English language classes compared to those who were instructed through traditional methods.

Traditional English instruction affected the students' achievement in English language classes in a positive way according to the variables of the students' gender, age, high school type, receiving private lesson or attending course.

CAI had positive impacts on the students' achievements in English language classes.

Traditional language instruction also has a positive effect on students' achievement in English language classes. However, this increase is rather low compared to the CAFL classes.

There was a significant difference between the students who were instructed through CAI, and those who received English language classes through traditional methods. CAFL students were more successful than traditional language learners.

It was found that CAI was also effective on student motivation since the students adapted to computer applications during the research implementation and most of the participants were not willing to go out of the laboratory during the breaks, which indicated that the students regarded learning by means of computer as an enjoyable activity.

The findings of the study revealed the following implications and suggestions.

- The computer should be used in educational institutions as a complementary educational tool.
- Teacher candidates should have a basic instruction to make use of computers and sort out technical problems which may be encountered during the classes.
- If it is aimed to use computer-assisted teaching in the process of language instruction, teachers of English language should be aware of various software and keep themselves updated with the ongoing educational advances.
- Language teachers should be capable of selecting proper software and applications in accordance with levels and interests of their students. They ought to consider the age of their students because young learners can learn a foreign language through colourful and enjoyable material.
- While teachers select course material, they should take the opinions of field experts into account.
- Software which are selected for the language class should be user-friendly. The interface of the program should be simple and usable for the students of all levels. Students should not tackle with the ambiguities and complexities of the software.
- Programs which are selected for the language class should provide students with immediate feedback. The feedback should be motivating and encouraging for the repetitions of activities.
- Information for students should be provided through different channels such as audial, visual and textual.
- Programs which are selected for the language classes should be affordable and easily accessible.

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