THE EFFECTIVENESS OF COMMERCIAL SOFTWARE IN TEACHING GRAMMAR

A MASTER'S THESIS

BY

ZEYNEP ERŞİN

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To my dearest sister Merve,
*For the magic spell she casts upon my life…***Expecto Patronum,**

this thesis is dedicated.

"I believe a leaf of grass is no less than the journey work of stars".
Walt Whitman, 1855.

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ABSTRACT

THE EFFECTIVENESS OF COMMERCIAL SOFTWARE IN TEACHING GRAMMAR

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This study explored the effectiveness of commercial software in teaching grammar as compared to blended and teacher-led learning conditions, and the attitudes of students towards using commercial software to learn grammar.

The study was conducted with a participant teacher and 42 upper-intermediate level preparatory school students at Yıldız Technical University School of Foreign Languages, who were assigned to one of the instruction groups, which were computer-based, teacher-led and blended. A three-week procedure of grammar teaching was carried out according to the groups of the participants through materials developed by the researcher.

The data were gathered via a pre-test, three immediate post-tests, a delayed post-test and a students' attitude questionnaire. Following the pre-test, the computer-based group was given only computer-based instruction. This group reviewed and practiced the target structures through the commercial software. The teacher-led group was given instruction by the participant teacher. They reviewed and practiced the target structures with the teacher in the classroom. The blended group was given instruction via the participant teacher. They reviewed and practiced the target structures through the commercial software. All the participants were given immediate post-tests right after the procedure. The delayed post-test was administered two weeks after the procedure ended. One week later, they were administered the attitude questionnaire.

The results of the quantitative analysis revealed that the teacher-led instruction was slightly more effective than the computer-based and blended learning conditions. The results also indicated that the students' attitudes towards using commercial software to learn grammar were negative.

This study implied that further research is needed to integrate computer-assisted language instruction into our educational systems in different ways after eliminating its disadvantages, which may negatively affect students' attitudes.

Key Words: Computer-assisted language learning (CALL), blended learning, effective grammar instruction.

ÖZET

TİCARİ YAZILIMLARIN DİLBİLGİSİ ÖĞRETİMİNDEKİ ETKİNLİĞİ

ZEYNEP ERŞİN

Yüksek Lisans, Yabancı Dil Olarak İngilizce Öğretimi Bölümü

Tez Yöneticisi: Yrd. Doç. Dr. JoDee Walters

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Bu çalışmada ticari yazılımların dilbilgisi öğretimindeki etkinliği, bilgisayara dayalı, karma ve öğretmene dayalı dilbilgisi öğretimi kıyaslanarak araştırılmıştır. Ayrıca öğrencilerin dilbilgisi öğreniminde ticari yazılım kullanmaya yönelik tutumları da incelenmiştir.

Çalışmaya Yıldız Teknik Üniversitesi Yabancı Diller Yüksekokulu Temel İngilizce Bölümü'nden 42 öğrenci ve bir öğretim görevlisi katılmıştır. Öğrenciler bilgisayara dayalı, karma ve öğretmene dayalı olmak üzere üç öğrenim grubuna ayrılmıştır. Öğrencilere, eğitim guruplarındaki değişikliklere uygun olarak, üç hafta boyunca dilbilgisi öğretilmiştir. Çalışmada kullanılan materyaller araştırmacı tarafından hazırlanmıştır.

Çalışmanın verileri bir ön test, üç adet son test ve bir gecikmeli son test kullanılarak elde edilmiştir. Öğrencilerin tutumları ise bir anketle ölçülmüştür. Ön testin arkasından, seçilen hedef dilbilgisi konuları bilgisayara dayalı öğrenim grubuna ticari

yazılım aracılığıyla öğretilmiştir. Bu öğrenciler hedef yapıları da ticari yazılım vasıtasıyla tekrarlamış ve örnekler çözmüştür. Öğretmene dayalı grup ise tüm çalışmaları sınıflarında katılımcı öğretim görevlisi vasıtasıyla yapmıştır. Konu anlatımı karma grup için de öğretmen vasıtasıyla yapılmıştır. Bu grup konu tekrarlarını ve alıştırmaları ticari yazılım vasıtasıyla yapmıştır. Her uygulamanın ardından, öğrencilere son testler verilmiştir. Uygulama tamamlandıktan iki hafta sonra öğrencilere gecikmeli son test verilmiştir. Takip eden haftada ise öğrencilere tutum anketi uygulanmıştır.

Verilerin nicel analizi öğretmene dayalı dilbilgisi öğretiminin bilgisayara dayalı ve karma öğretimden az bir farkla daha etkin olduğunu ortaya koymuştur. Öğrencilerin dilbilgisi öğreniminde ticari yazılım kullanmaya yönelik tutumlarının ise olumsuz olduğu ortaya çıkmıştır.

Bu çalışma, bilgisayara dayalı öğretimin, tespit edilen dezavantajları ve öğrencilerin olumsuz tutumları ortadan kaldırıldıktan sonra, mevcut eğitim sistemimizle farklı şekillerde bütünleştirilebilmesi için daha fazla araştırmaya ihtiyaç olduğunu ortaya koymuştur.

Anahtar kelimeler: Bilgisayara dayalı dil öğretimi, karma öğretim, etkin dilbilgisi öğretimi.

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TABLE OF CONTENTS

ABSTRACT iv
ÖZET vi
ACKNOWLEDGEMENTS iv
TABLE OF CONTENTS vii
LIST OF TABLES x
LIST OF FIGURES xi
CHAPTER I: INTRODUCTION 1
Introduction 1
Background of the Study 2
Statement of the Problem 11
Research Questions 13
Significance of the Study 13
Conclusion 15
CHAPTER 2: LITERATURE REVIEW 16
Introduction 16
Aspects and Approaches to Grammar Teaching in Second Language Acquisition 17
The importance of Grammar Teaching as a Skill 22
CALL Applications in Teaching Language Skills 25
Students' Attitudes towards CALL 28
The Advantages, Disadvantages and Implementation Challenges of CALL 31
Blended Learning 36
Computer-based versus Teacher-directed Instruction 41
Conclusion 48
CHAPTER III: METHODOLOGY 49
Introduction 49
Setting 49
Participants 51

Materials and Instruments 53
Materials 53
The Commercial Software: Macmillan Practice Online 53
The instruments 54
Tests 54
Students' Questionnaire 56
Data Collection Procedure 58
Data Analysis 60
Conclusion 60
CHAPTER IV: DATA ANALYSIS 62
Introduction 62
Overview of the Study 62
Analysis of the Tests 64
The Results of the Pre-Tests 65
Immediate Post-Test Results 68
The Comparison of Gain Scores among Groups 70
Delayed Post-Tests 73
The Comparison of Gain Scores over Time 74
The Data from the Students' Questionnaire 77
Conclusion 88
CHAPTER V: CONCLUSION 91
Introduction 91
General Results and Discussion 92
Research Question 1: The differences in the effectiveness of computer-based, teacher-based, and blended grammar instruction in a Turkish EFL context 92
Research Question 2: Students' Attitudes towards Using CS in Learning Grammar 97
Pedagogical Implications 103
Limitations of the Study 105

Suggestions for Further Research....108
Conclusion....108
REFERENCES....110
APPENDIX A: SAMPLE MPO TEACHING MATERIAL (SUBJUNCTIVE NOUN CLAUSES)....119
APPENDIX B: SAMPLE MPO TEACHING MATERIAL (PARTICIPLE REDUCTION) 121
APPENDIX C: TEACHING MATERIAL 1 (PARTICIPLE REDUCTION)....124
APPENDIX D: TEACHING MATERIAL 1 FOR THE BLENDED GROUP (PARTICIPLE REDUCTION) 128
APPENDIX E: TEACHING MATERIAL 2 (CONDITIONAL INVERSION) 131
APPENDIX F: TEACHING MATERIAL 2 FOR THE BLENDED GROUP (CONDITIONAL INVERSION)....135
APPENDIX G: TEACHING MATERIAL 3 (SUBJUNCTIVE NOUN CLAUSES)...139
APPENDIX H: TEACHING MATERIAL 3 FOR THE BLENDED GROUP (SUBJUNCTIVE NOUN CLAUSES)....142
APPENDIX I: MACMILLAN PRACTICE ONLINE SAMPLE UNIT SCREENSHOTS 145
APPENDIX J: MACMILLAN PRACTICE ONLINE SAMPLE EXERCISES SCREENSHOTS....147
APPENDIX K: THE PRE-TEST....149
APPENDIX L: IMMEDIATE POST TEST ON PARTICIPLE REDUCTION....153
APPENDIX M: IMMEDIATE POST TEST ON CONDITIONAL INVERSION 155
APPENDIX N: IMMEDIATE POST TEST ON SUBJUNCTIVE NOUN CLAUSES 157
APPENDIX O: THE DELAYED-POST TEST....159
APPENDIX P: STUDENTS' QUESTIONNAIRE IN ENGLISH 162
APPENDIX R: STUDENTS' QUESTIONNAIRE IN TURKISH....166

LIST OF TABLES

Table 1- Characteristics of the student participants 52

Table 2 - Pre-test results.....66

Table 3 - Immediate post-test results 69

Table 4 - Gain scores on target structures 71

Table 5 - Delayed post-test results 74

Table 6 – Gain scores over time.....75

Table 7 - Frequencies and percentages of use of computers in daily life 79

Table 8 - Frequencies and percentages of aims of using computers 80

Table 9 - Frequencies and percentages of general attitudes towards using computers in general and for educative purposes, ...82

Table 10 - Frequencies and percentages of general attitudes towards using CS to learn grammar 85

LIST OF FIGURES

Figure 1 - The design of the pre-test 55

Figure 2 - The design of the immediate post-tests 55

Figure 3 - The design of the delayed post-test 56

Figure 4 - The content and number of questions in the questionnaire 57

Figure 5 - Research design of the study 64

Figure 6 - A summary of the pre-test results 68

Figure 7 - A summary of immediate post-test gains 73

Figure 8 - A summary of all the test results 76

CHAPTER I: INTRODUCTION

Introduction

The implementation of computer and information technologies in language teaching has resulted in numerous studies exploring the importance of computer-assisted language learning (CALL) and students' attitudes towards using it. Today there are more opportunities and technological applications to implement CALL into our language teaching curricula.

Integrating CALL into language teaching requires a profound analysis of what will be taught and how the procedure will be implemented. Teaching different skills requires the use of appropriate CALL activities which should be determined through a needs analysis. Teacher competence, the technological abilities of students and the curriculum should also be taken into consideration. The technical facilities of the institution should also be previewed before the procedure.

Today, CALL is mostly used as a supplementary resource to other language teaching methods. Apart from using CALL tools individually, the blended learning method is also widely used as a solution to integrate technology with our educational system by combining face-to-face instruction with CALL (Driscoll, 2002). CALL's capacity to interact and provide immediate corrective feedback underlines its necessity and importance. There are several types of CALL, one of which is commercial software (CS) which provides instruction and opportunities to practice the target language. It also provides numerous individual production opportunities for students.

Teaching grammar through CS may be more advantageous than traditional grammar instruction when considering its capacity to present cross-references to examples, a wider selection of various methods and practices, self-assessment procedures and immediate feedback selections. Students are given information and detailed explanation about their mistakes and how they can correct them. In addition, learners' attitudes towards CALL are significant in terms of making decisions to integrate technological facilities to our current educational system.

This study explores the effectiveness of CS in teaching grammar, both alone and in the context of blended learning, as compared to traditional instruction methods. It also aims to explore students' attitudes towards using CALL.

Background of the Study

Computer technology has long been used to facilitate the teaching and assessment of various disciplines. Language learning is no exception. Computers offer exciting opportunities constituting a unique form of instructional technology which is different from those of other disciplines (Ducate & Arnold 2006). It is, though, still a matter of controversy considering the conditions of teachers and students who lack training and motivation. As Grabe stated (2004), computer-assisted language learning is used quite rarely in contrast to its potential. Teachers sometimes cannot instruct courses or cover the exercises through CALL since they may have problems with technological applications. In addition, it may be problematic to prepare and implement a parallel curriculum with CALL procedures. Students, though less frequently, may have some problems with using CALL applications due to lack of technological knowledge.

However, it is widely believed that computer-assisted education will advance learning (Bebell, O' Conner, O' Dwyer, & Russell, 2003; Smith, 2003).

In order to decide whether to use computers in language learning, it is of great value to frame the relationship among pedagogy, theory, and technology, physical infrastructure, efficacy, copyright concerns, categories of software (e.g., tutorial, authentic materials engagement, communication uses of technology), and evaluation (Garrett, 2009, p. 93). In the decision-making process, we should analyze the features of the courseware or any other CALL application to be meaningfully related to a spectrum of message-oriented, interactive and communicative language teaching/learning tools (Craven, et al., 1990). Meaningful software should lead to "pertinence, text reconstruction activities, guesses about language, problem-solving endeavors, guided writing, comprehension-based retention, simulation, contextualized input, thematic use of language and creative writing" (Guberman, 1990, p. 38). Additionally, the teacher should be experienced in integrating this novel instruction medium with other tools or classroom activities for which language learners need assistance (Guberman, 1990).

CALL has been defined as a young branch of applied linguistics, providing various kinds of processes to improve one's language (Beatty, 2003). Adopting CALL methodologies may shift the learning and teaching styles of students and instructors away from learning grammar prescriptively to using language in a communicative way, as suggested by Beatty (2003). What is most distinctive about computers in language teaching is their capability to interact (Nelson, 1976 as cited in Kenning & Kenning, 1983; Levy, 1997). Acting like a tutor, computers can give immediate feedback, correct

answers, and provide necessary explanations and cross-references, which facilitates learning and develops the students' critical thinking abilities by directing the learners to participate in the learning process and by raising their alertness (Kenning & Kenning, 1983).

In situating CALL within a broader methodological and theoretical context, emphasis is placed on various themes such as language skill development, input and output, learner autonomy, individualization and differentiation, motivation and feedback (Ducate & Arnold, 2006). As for language skill development, CALL presents an ability to provide learners with contextualized authentic language, which has a significant place in communicative language teaching. It also promotes the development of communicative competence (Ducate & Arnold, 2006).

In addition, CALL promotes learner autonomy. It provides opportunities to involve students more and more in the decision making and learning processes, which helps to shift from teacher-centered classrooms to a more student-centered and student directed classroom (Ducate & Arnold, 2006). Learners can select the material appropriate to their levels of proficiency (Ducate & Arnold, 2006). Providing individual work opportunities, CALL also creates a low-anxiety environment in which even shy and reticent students actively participate (Chun, 1994). Such a notion has a positive effect on motivation, which is one of the most influential factors in language learning (Ducate & Arnold, 2006). Providing immediate feedback for corrective purposes, CALL applications also assist learners in gaining competence. Such benefits may result in positive student attitudes towards using CALL. In other words, the features of CALL

that stimulate learner autonomy and motivation may have a positive effect on learners' attitudes.

Garrett (2009) stated that there are three categories of software: tutorials, engagement with authentic materials and communication. Tutorial CALL is developed to present and teach grammatical features of the language explicitly and generates corrective feedback. Authentic materials engagement CALL consists of template programs to allow teachers to annotate audio, video and written texts with the necessary linguistic information (Garrett, 2009). Communication CALL depends on computer-mediated communication and focuses more on function and implicit instruction. It mainly tries to empower the learner to use and understand the language (Warschauer, as cited in Fotos, 1996).

Tutorial CALL provides excellent opportunities to improve one's language through dictations, pronunciation work, listening and reading comprehension activities, and writing assignments. It also gives corrective feedback to students' answers (Garrett, 2009). Most of these programs give detailed information and explanations on grammar and lead students to printed sources, by referring to textbook explanations and assigning form-based drill and practice through a wide selection of methods and practices. Moreover, computer-assisted language learning technologies are good sources for students to focus on their individual problems and needs for practice (Wyatt, 1984). However, in the traditional classroom settings, these opportunities are quite limited in terms of the selection of the materials presented and the methods used. Traditional settings may also lack opportunities to address all the individual needs of the learners

and may not provide as much feedback in comparison to CALL. Accordingly, several methods to build a bridge between traditional instruction and CALL have been developed to diminish the disadvantages of both modes of instruction, one of which is the blended learning method (Driscoll, 2002).

Blended learning has been regarded as a solution to the challenges of using CALL (Driscoll, 2002), as suggested by Gündüz (2005) and Hubbard (2010). Among the various definitions of blended learning, today it is mostly considered as the combination of traditional face-to-face instruction with CALL applications (Bencheva, 2010; Driscoll, 2002; Oliver & Trigwell, 2005; Whitelock & Jelfs, 2003). Promoting group work and interaction among learners, and facilitating individualized learning, blended learning is considered to be advantageous regardless of its diverse definitions (Mikulecky, 1998; Schumacher, 2010). In addition, blended learning enables the instructor to select the most appropriate CALL applications for the learners and support traditional instruction with technology according to the individual needs of each learner (Motteram & Sharma, 2009). This advantage, however, may sometimes be problematic since the learners may select one mode of instruction and disregard the other (Motteram & Sharma, 2009). The effect of CALL may be undermined due to the presence of the teacher (Motteram & Sharma, 2009).

Pedagogically, blended learning enables students to be involved in their learning process more since it stimulates autonomy (Graham, 2006; Stracke, 2007). Blended learning is the springboard for shifting from a teacher-centered learning environment to a more student-centered approach (Stracke, 2007). In this way, students' attitudes

towards blended learning may affect the stakeholders' decisions whether to use it.

Relevant studies (Baş & Kuzucu, 2008; Sagarra & Zapata, 2008; Stracke, 2005; 2007; Wang & Wang, 2010) showed that students have positive attitudes towards blended learning, mostly because blended learning supports the individual needs of the learners, includes a variety of materials, and still allows the guidance and the presence of the teacher. However, there are also negative attitudes towards blended learning (Jarvis & Szymczyk, 2009; Sagarra & Zapata, 2008; Stracke, 2007). The reasons behind these negative attitudes may be the lack of support and meaningful combination of these two modes of instruction. Time allotment or learners' preferences can be other reasons (Jarvis & Szymczyk, 2009; Sagarra & Zapata, 2008; Stracke, 2007).

Several studies have also been conducted to explore learners' attitude towards pure computer-assisted language instruction. Nutta (1998) interviewed the participants of her study in terms of their views of the computer program and computer-based learning. The results revealed that the participants, who were accustomed to using computers, had positive attitudes towards computer-based instruction. Akbulut (2007) and Bulut and Abu Seileek (2010) conducted similar studies with participants experienced with computers. The results from these studies also indicated positive attitudes. However, Min's study (1997, as cited in Chiu, 2003) indicated negative results. The participants in this study revealed negative attitudes towards computer-assisted language instruction since they were not used to using computers in an educative setting when learning English. Thus, the more experience the learners have with using technology, the more positive effects technology has on their attitudes (Warschauer,

1996). Their experience is essential for developing positive attitudes towards using them.

There have been several studies (Abu Naba'hl, Hussain, Omari & Shdeifat, 2009; Abu Seileek & Rabab'ah, 2007; Chenu, Gayraud, Martinie & Tong, 2007; Nutta, 1998; Torlakovic & Deugo, 2004) conducted to explore the effectiveness of computer-based instruction in comparison to teacher-directed instruction for teaching L2 structures. Abu Seileek and Rabab'ah (2007) studied the effect of computer-based grammar instruction on the acquisition of verb tenses in an EFL context. The researchers found that both methods had an effect on the acquisition of verb tenses, but the computer-based method was more effective than the teacher-driven instructional method.

In her study, Nutta (1998) compared students' acquisition of selected English structures based on the method of instruction – computer-based instruction versus teacher-led instruction. The participants were divided into computer-based and teacher-directed groups. The results revealed that computer-based grammar instruction was as effective as, and in some cases more effective than, teacher-directed grammar instruction.

Another study examining the effect of computer-assisted instruction in teaching English grammar was conducted by Abu Naba'hl, Hussain, Omari and Shdeifat (2009). There were four experimental groups taught the passive voice via computers and four control groups taught the same item by a teacher. The results showed that computer-based instruction outperformed the traditional method.

Chenu, Gayraud, Martinie, and Tong (2007) also conducted a study examining the effectiveness of computer-assisted language learning for grammar teaching. The experimental group was given computer-based instruction on French relative clauses. The control group was taught the same target structure through identical materials by the participant teacher. The results revealed that computer-assisted instruction was slightly more effective than traditional instruction when teaching French relative clauses.

The last study to be mentioned was conducted by Torlakovic and Deugo (2004). Two groups of ESL learners were given six hours of grammar instruction in an experiment that lasted over two weeks. The control group was instructed by a teacher-driven method, whereas the treatment group was taught the item via computer-based grammar instruction. According to the results, the treatment group outperformed the control group in learning adverbs.

The effectiveness of blended learning has also been studied in comparison to the other modes of instruction (Al-Jarf, 2005; Baş & Kuzucu, 2008; Klapwijk, 2007 ; Redfield & Campbell, 2005). These studies differed in terms of their methodology, choice of participants and lengths. Al-Jarf (2005) and Baş and Kuzucu (2008) concluded that blended learning was more effective than traditional instruction. However, Klapwijk (2007) claimed that there were no significant differences between these two modes of instruction. Redfield and Campbell (2005) compared the effectiveness of blended learning with pure computer-based instruction. The results of this study revealed that computer-based instruction was more effective than the blended condition.

All the abovementioned studies (Abu Naba'hl et al., 2009; Abu Seileek & Rabab'ah, 2007; Chenu et al., 2007; Nutta, 1998; Torlakovic & Deugo, 2004) revealed that computer-based instruction was more effective than teacher-led instruction regardless of the differences in methodology, participants, materials used and the EFL contexts they referred to. The studies comparing the effectiveness of blended learning with the other modes of instruction revealed mixed results. The studies of Al-Jarf (2005) and Baş and Kuzucu (2008) indicated that blended learning was more effective than traditional instruction, while the study by Klapwijk (2007) revealed no significant difference between these modes of instruction. Redfield and Campbell (2005) compared blended learning with pure CALL and indicated that the latter was more effective. However, none of the studies compared the effectiveness of instruction by comparing computer-based, teacher-led and blended learning together. It is of significance to add the blended grammar instruction, which covers both computer-based and teacher-led instruction, into the comparison to explore the effectiveness of the type of instruction when learning grammar. The differences in the present study in terms of the proficiency levels of the participants, the setting, and the selection of advanced target grammar structures and the commercially available online program may provide different results than the abovementioned studies, which will contribute to the literature. In addition, students' attitudes towards CALL, which are vital in terms of making decisions on whether to apply computer-based instruction, should be studied.

Statement of the Problem

Numerous studies have been conducted on computer-assisted language learning, technological facilities in language teaching/learning and CALL application assessment (Bebell, et al., 2003; Beatty, 2003; Chapelle, 2001; Ducate & Arnold, 2006; Garrett, 1991; Grabe, 2004, 2009; Leech & Candlin, 1986; Smith, 2003; Wyatt, 1984). The problems of implementing CALL in language learning have also been studied (Allum, 2002; Chapelle, 2009; Garrett, 1991, 2009; Hubbard & Bradin, 2004). CALL applications in teaching language skills like reading, writing and listening have also been widely studied (Bax, 2003; Beatty, 2003; Lea et al., 2001). There are several studies, though fewer in number, which focus on grammar instruction by CALL (Garrett, 1991; 2009; Holland et al., 1995; Hubbard & Bradin, 2004). There are also several studies (Abu Naba'hl et al., 2009 ; Abu Seileek & Rabab'ah, 2007; Chenu et al., 2007; Nutta, 1998; Torlakovic & Deugo, 2004) conducted on whether computer-based instruction is as effective as teacher directed grammar instruction for teaching L2 structures. These studies highlight the fact that computer-based instruction is more effective than teacher-led instruction. In addition, there are several studies conducted to investigate the effectiveness of blended learning by comparing it with computer-based or teacher-led instruction (Al-Jarf, 2005; Baş & Kuzucu, 2008; Klapwijk, 2007; Redfield & Campbell, 2005). However, the participants in these studies were only given two types of instruction, computer-based and teacher-driven, or computer-based and blended or blended and teacher-led. No studies have presented the results through a study

comparing these modes of instruction together with the use of advanced grammar structures and the implementation of commercially available online program. Accordingly, the present study aims to fill the gap by exploring the differences in the effectiveness of computer-based, teacher-led and blended grammar instruction in a Turkish EFL context. It also aims to explore English preparatory school students' attitudes towards computer-assisted instruction, in both pure CALL and blended learning environments.

Online commercial software has been used at Yıldız Technical University School of Foreign Languages Basic English Department since 2009. Students are scheduled to use the program at previously defined hours as a complement to their main course lessons. Each level of students -elementary, pre-intermediate, intermediate and upper-intermediate- are instructed to use the program available at their levels. They are not given special training to use the commercial software. The main purpose is to revise the previously taught grammar items and complete various related drills. The students are also asked to complete reading, listening and pronunciation activities. However, the designers of the curriculum have significant problems in scheduling the content and paralleling the syllabus with the main course content. It is also stated by the course book teachers in the institution that students who are only instructed through online programs without being presented the target grammar item in the classroom have difficulties in comprehension and practice. Students have also been reported to lack willingness to use the software. There have also been major problems in program usage and technical issues regarding the software.

Accordingly, this study will explore the effectiveness of online commercial software in teaching grammar in a setting where both computer-based and blended modes of instruction are used in comparison to traditional grammar instruction. It also aims to investigate the students' attitudes towards using it. Considering computer-assisted instruction as an indispensable part of the teaching principles of Yıldız Technical University School of Foreign Languages, commercial software will be explored thoroughly and insights will be given as to the possible ways to help implement it more efficiently.

Research Questions

The study addresses the research questions as follows:

1. Are there any differences in the effectiveness of computer-based, teacher-based, and blended grammar instruction in a Turkish EFL context?
2. What are the attitudes of the preparatory class students at Yıldız Technical University towards using commercial software?

Significance of the Study

This study seeks to explore the effectiveness of commercial software in teaching grammar through pure CALL instruction and blended learning as compared to traditional instruction methods. There have been many studies exploring the use of CALL in teaching reading, writing and listening, but there have been only a few studies conducted on the effectiveness of grammar teaching through computer-based instruction in comparison to teacher-directed instruction (Abu Naba'hl et al., 2009; Abu Seileek &

Rabab'ah, 2007; Chenu et al., 2007; Nutta, 1998; Torlakovic & Deugo, 2004). However, there were no blended learning groups in these studies. The studies conducted to explore the effectiveness of blended learning also lacked the third mode of instruction in the comparison (Al-Jarf, 2005; Baş & Kuzucu, 2008; Klapwijk, 2007; Redfield & Campbell, 2005). These studies compared blended learning either with computer-based or teacher-led instruction. Thus, the present study is defined to fill the gap to explore the effectiveness of grammar instruction through CALL or traditional methods by comparing the results from three groups at tertiary level, computer-based, teacher-led and blended learning when teaching advanced grammar structures in a Turkish EFL context. It also aims to investigate the participants' attitudes towards using commercial software when learning grammar. The outcomes of the study should also be of interest to education planners, teachers and curriculum designers who make decisions about the role of online programs in grammar teaching.

At the local level, this study will offer insights into possible areas needed to redesign the CALL curriculum in parallel with main course curriculum in institutions implementing commercial software in Turkey. Since my institution, Yıldız Technical University School of Foreign Languages, has current and potential problems in implementing and assessing the items taught through CALL, it is hoped that this study will provide solutions and will find ways to compare and contrast the present software's effectiveness through pure CALL and blended learning conditions with traditional methods and choose a more complementary one in terms of grammar instruction if need be. This study, thus, may present beneficial insights into ways of teaching and learning

grammar with computers.

Conclusion

In this chapter of the study, the overview of the literature regarding CALL, its advantages and disadvantages, its types, blended methods of using CALL, students' attitudes toward CALL and its effectiveness as a mode of instruction have been presented. The statement of the problem, research questions, and the significance of the study have also been discussed. The second chapter reviews the relevant literature in more detail. The third chapter presents the methodology of the study. The fourth chapter presents the analysis of the results of the study. In the last chapter, the findings are discussed in the light of the relevant literature, and pedagogical implications, limitations of the study and suggestions for further research are presented.

CHAPTER 2: LITERATURE REVIEW

Introduction

One significant part of language learning is to acquire competence in the target language's grammatical structure, which includes a variety of theoretical constructs. Grammatical structure is a description of the word forms, the set of structural rules that govern the composition of sentences, phrases, words and other elements in any given natural language (Oxford Dictionary, 2000). Accordingly, it is an obligation to acquire grammatical knowledge and competence when learning and mastering a language. Having sufficient vocabulary knowledge in a language is not enough to use it effectively, without also being able to construct grammatical forms.

In the Turkish EFL context, grammatical competence is the major element to be tested by means of proficiency exams. Thus, both teachers and students put heavy emphasis on grammar in the process of second language acquisition. For instance, the curriculum at YTUSFL has 17 hours of grammar on a weekly schedule of 27 hours. When having trouble with student performance, teachers try several methods to find a better way to teach grammar in a more successful way. Thus, there are various forms of grammar instruction in addition to traditional teacher-led instruction, one of which is through CALL, or specially designed commercial software with online components. This chapter reviews relevant studies conducted as to the aspects, the approaches, and the importance of grammar teaching by both traditional teacher-led instruction and

specially designed commercial software. It also reviews studies regarding students' attitudes towards using CALL applications, especially towards using commercial software to learn EFL. The advantages, disadvantages and implementation challenges of computer-assisted methods in comparison to traditional methods for teaching grammar will also be reviewed.

First, aspects and approaches to grammar teaching will be delineated. Second, the significance of grammar teaching will be discussed through several relevant studies. Next, a general review of CALL in teaching language skills will be presented. In view of the theory, practice and software design principles, the advantages, disadvantages and the implementation challenges of CALL in grammar teaching will be discussed as compared to traditional methods in the fourth section. In addition, the blended learning method will be reviewed as a solution to the challenges of implementing CALL. Next, studies concerning students' attitudes towards CALL and commercial software will be outlined. Finally, studies examining the effectiveness of computer-based grammar instruction in comparison to traditional teacher-directed instruction will also be reviewed.

Aspects and Approaches to Grammar Teaching in Second Language Acquisition

Grammar teaching can be defined as the process of enabling learners to recognize the linguistic features of the target language, such as phonetics, sentence structures, and use of forms, through different methods and exercises useful to learners to use the language accurately and effectively (Dolunay, 2010). Accordingly, grammar teaching can be regarded as a supportive tool, which assists students in the

comprehension process of learning a language and developing their skills to express themselves. Thus, one can also define grammar as the body of rules supporting the basic skills of a language, such as listening, speaking, writing and reading (Dolunay, 2010). From such a viewpoint, grammar teaching targets something apart from assigning students to memorize certain sets of rules. It actually aims to enable students to understand these rules so that that they will be able to use them through skills of comprehension and expression (Dolunay, 2010).

Traditionally, grammar instruction puts emphasis on the use of correct sentence structure in the written forms of the target language (QCA, 1998, as cited in Yarrow, 2007). Accordingly, teaching methods include exercises and drills in parsing, identifying parts of speech, and clause analysis (Yarrow, 2007). Thus, grammar teaching is significant in the sense that it helps learners to comprehend the nature of language, which includes formulaic patterns to make linguistic production intelligible (Azar, 2007). Grammar is the skeleton that combines individual words, or sounds, pictures and body expressions to convey meaningful messages (Azar, 2007). Grammar is the main frame in constructing meaningful sentences.

There are several methods and approaches of teaching grammar, such as the Grammar-Translation Method, the Direct Method, the Audio-lingual Method, the Structural Approach, the Cognitive Approach, the Natural Approach, and the Communicative Approach (Savage, 2010). Savage (2010) indicated that there has been a tendency to move from structure-based explicit instruction supported by the use of receptive skills to communication-based inductive approaches with an emphasis on

productive skills. There has been a focus shift from structural analysis of the target item to a more communicative use of it. The scope and style of grammar instruction and selected materials have been varied according to the changing needs of the learners. What has remained the same is the importance given to grammar instruction.

It is considered that grammar is an integral part of the language curriculum. It is not possible to accurately write or speak in a language without the knowledge of grammar. Thus, students are taught all the features of grammar. However, in the early years of the Communicative Approach, it was thought that grammar might not be necessary for one to communicate (Harmer, 2010). Examples were given from a child's acquisition of his first language. A child could use correct grammatical structures by the age of five without being taught any grammar. So, it was argued that this would be the case for second language learners. It could be difficult for the learner to apply the taught grammatical rules since when the learner tries to produce grammatically correct sentences, which requires more focus on details than the meaningful sentence as a whole, the output may lack unity (Harmer, 1991). There has been a re-thinking about grammar teaching in recent years. It is being increasingly accepted that grammar rules are of importance to construct accurate sentences through which we convey the meaning (Widdowson, 1990). Isolated sentences, which were used for drill and practice of certain grammar structures in the Structural Approach, were replaced by providing suitable contexts to enable the learners to be aware of the essential function of grammar in communication (Richards & Rodgers, 2001). Thus, the focus is now on learners' discovering grammar rather than being instructed by a teacher. FFI is mostly used in

grammar instruction, which provides a comprehensible context for learners to understand a new language item's function and meaning. Accordingly, learners focus more on the grammatical skeleton of the sentence. In FFI, though the grammatical structure is explicitly discussed, it is the students' responsibility to find out the principles of using the item through the help of the instructor (Poole, 2005).

There are also several other approaches to grammar teaching. Grammar can be taught through explaining the rules, practicing the general use of the form, providing learners with the actual use of English in real-life-situations and the discovery method (Harmer, 1991).

Explaining the rules includes a reference material to be studied, which presents the basic rules of English grammar, which are prescriptive, and provides practice opportunities (Harmer, 1991). By practicing the general use of the form, students are not explicitly taught the rules of grammar, but they are asked to practice the structures of language. In the approach that provides learners with the actual use of English in real-life situations, the teacher is not concerned with instructing certain grammar rules, but creates opportunities for learners to communicate. Thus, students are supposed to acquire grammatical structures implicitly by engaging in the process of communication (Harmer, 1991). With the "discovery method", students are given certain structural sentences and asked to work out their functions and formulations in conveying meaning. All in all, each method has its own advantages and disadvantages. Thus, a proper mixture of all should be utilized during presentation of a certain grammar structure (Savage, 2010).

In the process of teaching grammar rules, it is widely accepted that providing the following steps is vital. These are presentation, focused practice, communicative practice and teacher feedback and correction (Harmer, 1991).

In the first step, a relevant grammar structure is selected and instructed by the teacher. Next, it is elicited according to the rule in question. For focused practice, students are given various examples and exercises related to the item. These are checked and corrected and the errors are discussed with the guidance of the teacher. Learners are led to engage in communicative activities like group discussions for the communicative practice. At this stage, they can also get peer feedback as well as teacher feedback. Although it is an integrated part of all previous stages, teacher feedback and correction ideally closes the process of introducing new grammar items. The teacher should also provide cognitive challenges to help learners to discover their own mistakes (Harmer, 1991).

When considering the current trends in grammar teaching, four principles are underlined (Harmer, 1991). The first one is “teach grammar for communication”, the aim of which is to enable learners to communicate in English without necessarily teaching them grammar. The principle adopts the idea that one can communicate without knowing that the word is a noun or an adverb, for instance. The second one, “teach grammar as discourse - not isolated sentences”, underlines the fact that one should be introduced grammatical items in continuous stretches of language not in isolated sentences. The rationale for this trend is the fact that we do not speak or write in unconnected isolated sentences. The third trend, “teach grammar in context” leads the

instructor to prepare relevant contexts for the item to be taught. For instance, we can use laboratory reports to teach the passive voice, which can enhance learning due to being meaningful. The last one, “focus on fluency first, and accuracy later”, adopts the principle that in the early stages of learning mistakes should be disregarded. We should give corrective feedback after learners gain fluency and confidence. In essence, today grammar is mostly seen as a skill to be practiced and developed rather than a body of knowledge to be studied (Savage, 2010). Knowledge of grammar could only be significant providing that it helps learners to form meaningfully correct and contextually appropriate sentences (Larsen-Freeman, 2001). The importance of teaching grammar as a skill, hence, will be discussed next.

The importance of Grammar Teaching as a Skill

Grammar to be instructed as a skill brings about three major points to be emphasized. These are “grammar as an enabling skill, grammar as motivator, and grammar as a means to self-efficacy” (Savage, 2010, p. 6).

In terms of being an enabling skill, grammar can be regarded as the key skill to help develop other language skills, such as reading, writing, speaking and listening. Without the knowledge of correct grammatical structures, one can fail to communicate, convey meaning or understand through what he writes, reads, speaks or listens (Savage, 2010). When grammar is seen as a motivator, one should refer to the attitudes of students. Learners who learn English in a foreign language environment are mostly taught grammar and think that deep knowledge in grammar would help them acquire the language (Savage, 2010). Those who learn English by informal interactions in second

language environments also state that grammar is essential for competency and accuracy (Savage, 2010). Teachers, on the other hand, would be more willing to teach grammar to those willing to learn. Grammar then becomes a motivator and a key to help both students and teachers to progress in language teaching. The more the learners understand and practice the usage of a certain structure, the more competent they become in using it in the output process of other skills. As for grammar as a means of self-efficacy, it is obvious that grammar instruction helps learners become aware of a structure and then continue to notice it in the following encounters (Fotos, 2001). Internalizing the structure through repeated exposure, students can monitor their own language use (Savage, 2010). Thus, self-efficacy can be acquired through self-correction (Savage, 2010).

Another aspect of grammar teaching is its ability to help learners to comprehend the nature of language, which includes formulaic patterns to make linguistic production intelligible (Azar, 2007). During the 1970s and 1980s, there was a sharp decline in formal grammar teaching with the rise of the Communicative Approach. In theory, this debate arose from Krashen's (1981) statement that there is a distinction between learning consciously and unconscious acquisition of language (Nassaji & Fotos, 2004). However, there have been a great number of studies that underline the importance of grammar instruction (Nassaji & Fotos, 2004). These studies (Doughty, 1991; Ellis, 2002; Fotos, 1993; Fotos & Ellis, 1991; Rutherford, 1988) put emphasis on the necessity of grammar teaching for learners to attain high levels of accuracy and proficiency. Grammar teaching plays a significant role in the process of "noticing" distinct grammatical structures in

context. As Schmidt (2001) suggests, conscious attention to form is a necessary condition for language learning and this conscious attention can be developed by grammar instruction. On the other hand, Skehan (1998) and Tomasello (1998) indicate that learners cannot process target language input for both meaning and form at the same time. Therefore, noticing target forms in input is essential for learners. However, only attending to specific forms and disregarding the meaningful whole may result in failure to process and acquire them (Nassaji & Fotos, 2004).

Another foundation underlying the importance of grammar teaching is Pienemann's (1984) Teachability Hypothesis. According to the hypothesis, it is suggested that students can learn from instruction when certain developmental sequences have been completed, in other words, if they are psycholinguistically ready for it (Nassaji & Fotos, 2004). Thus, Lightbown and Spada (2010) agree that if the learner is ready to process the grammatical input given and attain the next stage of linguistic competence, developmental stages could be influenced by instruction.

As Nassaji and Fotos (2004) suggest, learners cannot achieve accuracy and competency in certain grammatical structures in spite of substantial long-term exposure to meaningful input through insufficient teaching approaches where the emphasis is initially on meaning-focused communication rather than the grammatical forms. It is concluded that focus on grammatical forms is thus essential if learners are to develop high levels of proficiency in the target language (Nassaji & Fotos, 2004).

Finally, it goes without saying that grammar instruction has positive effects on the learning of grammar. There have been numerous laboratory and classroom-based studies and reviews on the effects of grammar instruction (Nassaji & Fotos, 2004). To reach a higher level of linguistic competence , grammar instruction is important (Nassaji & Fotos, 2004), which is highlighted in studies regarding the importance of corrective feedback (Carroll & Swain, 1993; Nassaji & Swain, 2000) and the influence of grammar instruction on the improvement of L2 structures (e.g., Cadierno, 1995; Doughty, 1991; Lightbown, 1992; Lightbown & Spada, 1990). Ellis (1995) and Larsen-Freeman and Long (1991) agree that instructed language learning has facilitative effects on both the rate and level of second language acquisition although it may not have effects on the sequence of acquisition. Norris and Ortega (2000) similarly suggest that explicit instruction in comparison to implicit instruction results in more acquisition in the process of target language learning, and its retention is longer.

CALL Applications in Teaching Language Skills

One may define Computer-Assisted Language Learning (CALL) as exploring and studying computers and computerized applications in language teaching and learning (Levy, 1997). Being interdisciplinary in nature, CALL has been used for instructional purposes across a wide range of subject areas including foreign language teaching. Computer-assisted instruction plays an important role in the development of language skills, such as reading, writing, listening and speaking, pronunciation and grammar. Offering various activities for developing various language skills, CALL provides a beneficial and motivating medium for both integrated skills and separate

skills (Gündüz, 2005).

Technically, most CALL reading instruction involves "the use of meaning technologies, such as hypertext glossaries, translations and notes on grammar, usage and culture" (Hubbard, 2010, p. 46). In addition, computers provide voice enhancement and dynamically illustrated material for both authentic and language learner texts, which is invaluable in teaching reading skills. Methodologically, Warschauer and Healey (1998) suggest three main uses of computer-assisted reading instruction, which are incidental reading, reading comprehension and text manipulation for reading purposes through CALL applications. Mostly authentic materials are used in such activities, for instance the shadow reading activities, for which before students actually read the text first silently and then orally, they listen to the text, and then follow the text with their eyes as they listen. In addition, there are various choices of sentence structure, speed-reading and cloze-reading activities designed to develop reading skills (Gündüz, 2005).

Considering writing skills, CALL applications such as word processors and spell checkers are quite helpful. Teaching guided and free writing through these technological applications is also possible. CALL tools also provide a great number of example texts, articles and essays. They can provide the sub-skills required for writing by referring to related skills like vocabulary, grammar, punctuation and reading (Duber, 2000 as cited in Gündüz, 2005).

Considering speaking skills and pronunciation, there is a selection of software that provides various contexts for learners to practice oral skills through alternative scenarios (Gündüz, 2005). As stated by Hammersmith (1998), CALL tools provide

invaluable opportunities for developing oral skills. Computers provide learners with instant feedback by commenting on their oral production and making suggestions (Gündüz, 2005).

In addition to comprehension questions as follow-up activities, listening activities on computers are also supported by dictations, whether full or partial (Hubbard, 2010). CALL presentations are unique because during the flow of the presentation, there are intentional intervals to ask leading questions (Hubbard, 2010), which encourages more focused attention and provides opportunities for learners to self-check their output. Another listening comprehension practice opportunity provided by computers is a multiple-choice or fill-in program provided by the technological option of recording the output of the learner (Gündüz, 2005).

Grammar practice is probably the earliest use of CALL. Instructional CALL materials provide a large proportion of drill activities (Wyatt, 1984). Various aspects of grammar including structural and notional/functional points can be presented (Wyatt, 1984). Computer software provides both students and teachers with an infinite number of authentic materials integrating language skills as well as providing separate activities for all language skills (Gündüz, 2005). “Matching”, “multiple choice”, “fill-in the gaps” or “complete-the-following” exercises are some of those that can be done on the computer (Blackie, 1999; Sperling, 1998). Upon completing these exercises, immediate feedback is given. Software related to vocabulary acquisition also provides countless practice opportunities, such as guessing games, do-it-yourself dictionaries or word building activities (Gündüz, 2005).

CALL applications in teaching language skills were presented in this section. The next section will review students' attitudes towards CALL.

Students' Attitudes towards CALL

When deciding whether to integrate CALL applications such as commercial software into our teaching, it is significant to be informed about the attitudes and expectations of the students towards using them. It is also important to underline the fact that CALL applications mostly emphasize learner autonomy (Toyoda, 2001). There is a positive correlation between learners' autonomy, motivation and favorable attitudes towards using computers when learning a language and their performances (Toyoda, 2001).

Accordingly, there are a great number of studies which point out that integrating computer-mediated technology into language classrooms enhances students' motivation. To begin with, Sullivan (1993) suggests that computer-mediated language classrooms stimulate learning as a group and interactions among the learners, and give rise to self-confidence. Chun (1993) also claims that CALL applications encourage students to take part in the learning process more. Students take part in suggesting a new topic, and sharing and discussing their ideas with their classmates, which motivates them. Because the role of the teacher in a computer-mediated learning environment is less centralized, students take the initiative more (Chun, 1993). Warschauer (1996) claims that the basic motivating aspects of CALL are its novelty as a medium, its individualized nature, its availability for learner control and its unprejudiced instant feedback selections. Thus, Nutta's study (1998) revealed that the participants in her study had positive attitudes

towards the computer-based instruction and expressed a desire to spend more time using it since the computer program allowed them to review the structure, to proceed only when they were able to, to record their oral productions and compare them against the model, and to receive immediate feedback.

There are other studies in the literature whose findings indicated that students' attitudes towards CALL are positive. Bulut and Abu Seileek (2011) conducted a study with 112 college students from the Department of English Language and Literature at King Saud University to determine the relationship between students' attitudes towards CALL and their achievements. The participants were given a five-point Likert scale attitude questionnaire. Beforehand, the participants were taught listening and speaking and reading via CALL applications that included software packages, electronic dictionaries, a selection of instructional software, tool and authoring programs and testing software in e-learning laboratories. The results of the questionnaire revealed that the students had quite positive general attitudes towards CALL. For specific language skills, the participants had positive attitudes towards using CALL applications for listening and writing skills.

Another study was conducted by Akbulut (2008) to explore freshmen foreign language students' attitudes towards using computers at a Turkish university. The participants of the study were 155 students from a university in Eskişehir. The participants were given a survey developed by Warschauer (1996) which was formed of three parts. In the first part, there were items about students' personal lives, demographic information and their experience in using computers. In the second part, the participants

were given 30 five-point Likert scale items about their feelings towards using CALL applications, especially a word processor. In the last part, the students were asked 14 five-point Likert scale items about their feelings towards using computers applications in their composition classes. The results of the study revealed that the participants had positive attitudes towards using computers. For instance, in terms of learning English through computers, the participants showed positive attitudes by agreeing on items *"I can learn English more independently when I use a computer.", "Using a computer gives me more chances to practice English."* and *"Communicating by e-mail is a good way to improve my English."*.

Students have also been found to have negative attitudes towards CALL. Min (1998 as cited in Chiu, 2003) conducted a study to explore the attitudes of 603 Korean adult students towards learning English, using computers in general and using computers in learning EFL. The participants were given an attitude questionnaire that was formed of 45 Likert scale items. The results suggested that a significant majority of the participants showed negative attitudes towards using computers when learning English. Chiu speculated that the negative attitudes might have arisen from the novelty of computers as a medium for the participants. Other reasons may have been the lack of training, motivation or establishing meaningful objectives to use computer-assisted instruction (Field, 2002; Toyoda, 2001; Wiebe & Kabata, 2010).

To sum, the studies in the literature have suggested that students usually have positive attitudes towards using CALL applications or computers in general when learning English. In these studies, the participants were accustomed to using computers

in general and for educative purposes as suggested by the researchers (Akbulut, 2008; Bulut & Abu Seileek, 2011; Nutta, 1998). Since computers have a positive effect on students' motivation, initiation and autonomy (Chun, 1993; Sullivan, 1993; Toyoda, 2001; Warschauer, 1996), students' positive attitudes towards CALL may affect their performances when instructed through CALL applications. Provided that learners have positive attitudes towards computer-assisted instruction, they may take more responsibilities in their learning by showing willingness to learn. Thus, it is necessary to study their attitudes towards using commercial software when learning grammar.

This section reviewed students' attitudes towards CALL. The next section will review the advantages, disadvantages and implementation challenges of CALL in instructing these language skills to form a basis to discuss its effectiveness in language teaching and learning.

The Advantages, Disadvantages and Implementation Challenges of CALL

As suggested by Levy (1997), the diversity that CALL presents is conspicuous when relevant tools are reviewed as a whole body of work. This can account for both the advantages and disadvantages of CALL applications. In essence, the changing objectives of language teaching should be taken into account in relation to how advantageous integrating computer-assisted options in the language classroom can be (Warschauer & Meskill, 2000). New methods of grammar instruction should be explored to help students attain competence into new discourse communities through providing them with opportunities to interact with each other authentically and meaningfully wherever possible (Warschauer & Meskill, 2000). Becoming a powerful tool for the process in

question, computers bring about opportunities for students to interact with others in an online environment by offering international cross-cultural discourse (Warschauer & Meskill, 2000).

From a wider scope, the advantages of CALL can be listed in relation to the principles of communicative teaching. Today, the main objective of computer-assisted applications is not practicing solely grammar structures. The vocabulary software, for instance, is more contextualized today by incorporating graphics, audio recording and playback and video (Gündüz, 2005). In terms of immediate feedback, computers are able to provide sophisticated error-checking opportunities and direct students to further practice (Gündüz, 2005). Infinite additional practice opportunities also help students gain competence in a relatively faster way than traditional text-based published materials. It should also be noted that these technological practices do not steal from teachers' in-class activity time. Students may utilize CALL applications out of regular class times. In terms of writing, CALL applications have added a great deal of value to language teaching. At the pre-writing stage, some programs facilitate generating and outlining of ideas (Gündüz, 2005). Word processors with spell checking opportunities are a new source of immediate feedback and error correction for students especially facing problems with spelling. In terms of pronunciation, CALL applications are helpful in providing opportunities for students to compare their pronunciation with the correct form of the word. Higgins (1995) suggests that computers are invaluable since they provide an environment that enables us to experiment on language.

The fun factor is another advantage of CALL applications. Games are used for teaching certain structures or skills in these applications (Gündüz, 2005).

CALL applications are advantageous due to providing supplementary practice environments with feedback. They are available for the use of a large class, presenting opportunities for interactive and cooperative work among students. They also provide a variety of resources and suitable activities for all the learning styles. Additionally, computer-assisted language instruction enables learning through exploration with large amounts of language data and real-life skill building in computer use (Warschauer & Healey, 1998).

The main advantage of CALL applications is its interactive ability (Nelson, Ward, Desch & Kaplow, 1976 as cited in Kenning & Kenning, 1983). Nelson, Ward, Desch and Kaplow (1976, as cited in Kenning & Kenning, 1983) claim that computers are unique media for education due to their ability to interact with the learner. Printed sources can enlighten the students by explaining the rules, drawing attention to generally problematic areas and presenting relevant solutions. However, printed sources cannot analyze or categorize a certain student error, and help the student to correct his mistakes also by understanding the linguistic principle.

In terms of teaching grammar, which is the main focus of the current study, the following advantages of CALL can be underlined. Tutorial CALL applications, which are designed to teach grammar with dictations, pronunciation work, listening and reading comprehension activities, and writing assignments, give corrective feedback to students' answers. In some sophisticated software, it also anticipates wrong answers

(Garrett, 2009). As suggested by Garrett (1986), most of these programs provide students with a wide selection of references to textbook explanations and mechanical drills and direct them to printed sources when necessary. A functional design of a material for grammar should provide the learner with the explanation of the grammar structure in relation to other skills or linguistic features, such as presenting connections between a particular grammar structure and relevant vocabulary, which can be supplied by CALL (Neguerela & Lantolf, 2006). In comparison to CALL tools, it may be disadvantageous to provide the learners only with textbook explanations, which are poor in presenting semantic, contextual and interactive grounds to understand the use of the form involved. CALL may provide a wider selection of methods and practices in comparison to traditional grammar teaching settings. CALL tools are also advantageous since they provide practice opportunities practically addressing individual problems and capabilities of the learners (Wyatt, 1984) with a wide selection of feedback (Garrett, 2009).

All in all, Kenning and Kenning (1983) and Gündüz (2005) suggest that CALL applications have a lot of advantages. They provide individuality by assessing the learner's reply, recording it, and pointing out mistakes. They give explanations while playing the role of a tutor directing the user to recognize the correct option. CALL tools are suitable for learning while communicating. They are able to distinguish human-made errors, and provide relevant feedback. They are user-friendly applications as they adjust input speed to different speeds of learning, and allot varied time limits for testing purposes.

However, CALL applications can also be disadvantageous. Investment of money or the expense of technological applications appears to be the first disadvantage (Gündüz, 2005; Hubbard, 2010). CALL demands expensive equipment, such as computers and commercial software. Some institutions may have problems in acquiring them or some may not get as many of them as sufficient for the number of students at the institution. Once a laboratory is installed, it may not be possible to update the computers due to financial matters. So, institutions may not reach the speed of constantly updated technological applications.

Another issue is the investment of time spent on learning to use software and finding the best way to implement it (Gündüz, 2005; Hubbard, 2010). It takes a longer time to gain competence in using technological applications and also there may not be enough experts to instruct teachers. In addition, students may have difficulties in learning how to use the software. Thus, the longer it takes to learn the usage, the later we can utilize the software.

Another disadvantage of using computers may be the fact that learners who are inexperienced with typing may lose time with searching for letters on the keyboard (Mirescu, 1997). Additionally, the lab-environment actually isolates the learner from other students, which may hinder targeted in-class communication in a language learning environment (Mirescu, 1997). Learners may work in pairs around the computer. However, they may code-switch to their L1 when studying and exchanging ideas (Mirescu, 1997). In addition, computers are sometimes inappropriate for in-class activities (Gündüz, 2005), which means computers may not address classroom

conditions, where face to face explanations are required (Gündüz, 2005). They also cannot simulate unplanned human dialogues and cannot start or direct a conversation (Gündüz, 2005). Open-ended questions cannot be answered or given feedback by computers (Gündüz, 2005). Additionally, developing computer-assisted language teaching technology is expensive due to requiring a great deal of time and effort as well as requiring excellent expertise on teaching pedagogy and computational skills (Mirescu, 1997). Finally, students also may not be accustomed to reading from a screen, which can also be tiring (Mirescu, 1997). Some of these disadvantages and challenges of implementing CALL can be diminished by the use of blended learning (Driscoll, 2002).

Blended Learning

How to implement CALL has always been an issue to be discussed (Gündüz, 2005; Hubbard, 2010). The blended learning method has been widely used as a solution. As Driscoll (2002) suggested, there are several definitions for blended learning. It is primarily defined as the integration of traditional face-to-face instruction with instructional technology (Bencheva, 2010; Driscoll, 2002; Oliver & Trigwell, 2005; Whitelock & Jelfs, 2003). Blended learning can also be explained as the combination of various pedagogical approaches to gain optimum success in education, the combination of various technological media and tools to acquire educational goals and the combination of instructional technology with tasks (Bencheva, 2010; Driscoll, 2002; Oliver & Trigwell, 2005; Whitelock & Jelfs, 2003). Blended learning is widely believed to be advantageous regardless of its diverse definitions (Schumacher, 2010).

First, blended learning promotes group work (Schumacher, 2010). It also enables the learners to individualize instruction according to their needs (Schumacher, 2010). In addition, it creates an anxiety-free environment to support student interaction (Mikulecky, 1998; Schumacher, 2010). Additionally, when combining face-to-face instruction with CALL applications, the tutor is able to select the most appropriate medium for her students and support in-class activities according to the individual needs of each learner (Motteram & Sharma, 2009). However, this advantage is sometimes criticized due to the possibility that students may choose one mode of instruction (face-to-face or CALL) and disregard the other (Motteram & Sharma, 2009).

Considering the primary definition of blended learning, it provides the best use of technology to enable the students to engage in the learning process more actively (Graham, 2006). Pedagogically, blended learning promotes a higher degree of learner independence. In other words, it stimulates learner autonomy (Stracke, 2007). Blended learning is a bridge between teacher-directed learning environments to a more learner-centered approach (Stracke, 2007). Thus, it is important to review students' attitudes towards blended learning.

Relevant studies (Al-Jarf, 2005; Sagarra & Zapata, 2008; Stracke, 2005; 2007; Wang & Wang, 2010) indicated that students have positive attitudes towards blended learning due to various reasons. First of all, independent learning styles are supported by the combination of traditional face-to-face instruction with CALL (Stracke, 2007). The variety of media used in the process is another advantage (Stracke, 2007). The fact that blended learning creates a class community and allows flexibility in terms of time and

space are other reasons for positive attitudes. Above all, blended learning includes teacher guidance and addresses different learning needs and styles. These are the most important reasons for students to develop positive attitudes towards blended learning.

Studies (Jarvis & Szymczyk, 2009; Zapata and Sagarra, 2008; Stracke, 2005) have also revealed negative student attitudes towards CALL. The rationales behind these negative attitudes have been related to poor connection between the two modes of instruction, the lack of immediate and sufficient support, limited time to complete the activities, and students' preferences for traditional conditions and rejection of the computer as a medium of instruction.

There have also been several studies conducted to explore the effectiveness of blended learning in comparison to traditional instruction or pure computer-assisted instruction (Al-Jarf, 2005; Baş & Kuzucu, 2008; Klapwijk, 2008; Redfield & Campbell, 2005).

Al-Jarf (2005) conducted a study to explore the effectiveness of blended learning with low proficiency EFL college students. The participants of the study were 238 female undergraduates randomly assigned either to the experimental group or to the control group. None of the students had prior experiences with CALL. In both groups, the students were given face-to-face instruction about the target grammar structures. The experimental group was also given online instruction. They practiced the target structures through this online program. The procedure lasted one semester. The design of the study included a pre-test and a post-test. The results of the study revealed that blended instruction was more effective than traditional instruction.

Redfield and Campbell (2005) investigated the effectiveness of blended learning in comparison to computer-based instruction. The participants of the study were 197 Japanese undergraduates from six intact classes. According to the alphabetical order of their surnames, the students were assigned to either two of the self-access pure computer-based learning condition or four of the blended (hybrid) learning conditions. The CALL component used in the study was *Side by Side Interactive.* Both groups were given one semester of instruction. The blended groups received teacher-led instruction for 90 minutes once a week and reviewed and practiced the target structures through the software for another 30 minutes. The computer-based self-access groups were only given computer-based instruction and practice for the same time allotted. The study included a pre-test and post-test. The study revealed that the self-access computer-based instruction was more effective than the blended instruction.

Klapwijk (2008) explored the effectiveness of the blended learning approach in teaching reading strategies in comparison to traditional methods. The participants of the study were 137 sixth graders in two different primary schools in South Africa. The students were randomly assigned to two experimental groups and two control groups. The participants in the latter groups were given teacher-led instruction on reading strategies and practiced the target strategies in the classroom. They also answered comprehension questions with the guidance of the teacher. The experimental groups received teacher-led instruction, but they practiced the strategies and answered comprehension questions via a computer program. The materials used were identical in both groups. The procedure lasted two days. The data were collected through a post-test.

The results of the study indicated that there was no significant difference among the groups in terms of the methods of instruction.

Baş and Kuzucu (2008) investigated the effectiveness of CALL through a blended learning environment, DynEd education program. The participants of the study were two intact classes of 60 sixth graders in an elementary school in Turkey. The students were randomly assigned to either traditional (control group) or blended learning conditions (experimental group) to learn grammar and vocabulary. The former group was given only teacher-led instruction and they practiced the target items in the classroom. The experimental group was given teacher-led instruction and they practiced the target structures through DynED. This group was previously provided specific training about the use of the program for four weeks. The procedure lasted five months. All the participants were given a pre-test and pre-attitude scale, which were also used as the post-test and the post-attitude scale at the end of the procedure. The results of the study revealed that the blended condition was more effective than the traditional learning condition.

Although the abovementioned studies differ in terms of the selection of participants, the length of the study, or methodology, the majority of them revealed that blended learning was more effective than traditional teacher-led instruction (Al-Jarf, 2005; Baş & Kuzucu, 2008). The study conducted by Klapwijk (2008) indicated that there were no significant differences between the blended learning condition and the traditional condition. Redfield and Campbell (2005) compared the effectiveness of blended learning with pure computer-based instruction, which was found to be more

effective than the blended instruction. The reasons behind the different results in the abovementioned studies may have arisen from the differences in the proficiency levels, ages and characters of the participants. Redfield and Campbell (2005) speculated that this was the major reason for the differences. The length of the procedure may have also affected the results. Accordingly, Klapwijk (2008) speculated that the lack of any difference between the two conditions might have arisen from the fact that the procedure lasted only for two one hour sessions in two days. The materials used and the participants' attitudes towards using the blended method to learn English may also have given rise to differences in the results.

Computer-based versus Teacher-directed Instruction

There have been several studies (Abu Naba'hl et al., 2009; Abu Seileek & Rabab'ah, 2007; Chenu et al., 2007; Nutta, 1998; Torlakovic & Deugo, 2004) conducted on whether computer-based instruction is as effective as teacher directed grammar instruction for teaching L2 structures. Nutta (1998) compared students' acquisition of selected English structures based on the method of instruction – computer-based instruction versus teacher-led instruction. There were 53 participants, who were students at an academic ESL institute at a major university in Florida. Matched for their native languages, the participants were enrolled randomly either in computer-based or teacher-directed sections according to the pretest scores on the structures in question. The participants were given one hour of instruction per day for seven days. The grammar point instructed in the study was verb tenses. The teacher-directed groups were instructed by five teachers with varying degrees of experience. These groups used the

Focus on Grammar textbook series (Schoenberg, 1994) and engaged in different in-class activities. The computer-based groups used ELLIS Middle Mastery and ELLIS Senior Mastery according to their proficiency levels. ELLIS was chosen for the study due to its use of natural and contextualized language, interactive features and appropriate grammar explanations and relevant activities through a wide selection of multimedia.

In experiment one, the grammar point instructed was the past tense. In experiment two, it was the conditional tense. The participants were given three tests which included a discrete-point multiple-choice test, a fill-in-the-blank test, and an open-ended test. In addition to analyzing students' performances on the tests, the researcher interviewed the participants in terms of their views of the computer program and computer-based learning. The results revealed that computer-based grammar instruction was at least as effective as, and in some cases more effective than, teacher-directed grammar instruction.

Similar to the study by Nutta (1998), Abu Seileek and Rabab'ah (2007) studied the effectiveness of computer-based grammar instruction on the acquisition of verb tenses in an EFL context. The results were taken from two experiments, one of which was based on computer-based grammar instruction and the other on teacher-driven instruction (chalk and talk). There were two deductive approaches used in instruction: the initial rule-oriented approach, which involves initial presentation of explicit rules followed by illustrative examples, and the structure-guessing approach, which involves explicit presentation of rules in response to structure-guessing exercises. Thus, the study also aimed to explore the effectiveness of the method of instruction regardless of being

computer-based.

The participants of the study were 128 male freshmen enrolled in the Remedial Grammar Course in the Department of English at King Saud University, Saudi Arabia. The multimedia language laboratory was the setting for the study. The verb tenses used in the study were simple present, simple past, present perfect, present continuous and simple future. The participants were divided into four groups, the computer-based structure-guessing instruction, computer-based initial rule-oriented instruction, teacher-driven structure-guessing instruction and teacher-driven initial rule-oriented instruction. The instructor was the same for all the groups involved. The researchers designed software for the computer-based groups using Microsoft PowerPoint and Visual Basic. The materials used were authentic and identical in all four groups and the activities were communicative and task-based. The procedure, which lasted for an academic year, included a pretest, which was also used as the post-test four weeks after the procedure.

The results of the study showed that the computer-based group had higher scores than the teacher-driven group excluding the present perfect, which was consistent with Nutta's (1998) study. The researchers concluded that both methods had an effect on the acquisition of verb tenses, but the computer-based method was more effective than the teacher-driven instructional method in terms of the acquisition of verb tenses.

Another study examining the effect of computer-assisted language learning in teaching English grammar was conducted by Abu Naba'hl, Hussain, Omari and Shdeifat (2009). This study was similar to that of Abu Seileek and Rabab'ah (2007) in terms of the length of treatment and additional purposes. This study also aimed to develop an

instructional program for teaching the passive voice and to investigate its effect on developing students' achievement in English grammar through a procedure that lasted an academic year. The study included four public schools and 212 first secondary students. The participants were assigned to eight sections randomly. There were four experimental groups taught the passive voice via computers and four control groups taught the same item by a teacher. The students were also divided according to their study fields and also according to their genders. The researchers designed an achievement test consisting of 30 multiple-choice questions used as both the pretest and the post-test. The researchers also developed software to teach the passive voice to the experimental groups, which was based on Macro-Media Flash Professional Version 6. The materials, activities and exercises used in teaching the passive voice were identical in all groups. In terms of the development and use of materials and tests administered, this study was similar to that of Abu Seileek and Rabab'ah (2007).

The results showed that computer-based instruction outperformed the traditional method, which is consistent with the studies of Nutta (1998) and Abu Seileek and Rabab'ah (2007). In terms of gender, male students were found to be more successful than female students in the study. The results also indicated that the science students outperformed the literature students.

Another study examining the effectiveness of computer-assisted language learning for grammar teaching was conducted by Chenu, Gayraud, Martinie, and Tong (2007). The aim of the study was to find whether CALL has an advantage when learning French relative clauses by intermediate non-native learners. The researchers designed a

study consisting of an experiment group instructed via computer and a control group instructed by a teacher. The control group was taught French relative clauses in a three-hour traditional class. The experimental group was taught the same item using the identical materials via computers. Before the actual procedure took place, the participants, who were 26 non-native French learners aged between 18 and 42 at Lyon University, were given a pretest. After the procedure took place, both groups were given a post-test assessing their level of improvement. The results taken from the post-test indicated that low-level participants made more progress in the computer-based instruction. The researchers concluded that the CALL condition was slightly more fruitful than traditional instruction in relation to the learning of French relative clauses. As the researchers claimed, high-level participants gained more than the low-level participants did. However, there were no significant differences between high-level students' pre-test and post-test scores, in contrast to the previous studies by Nutta (1998) and Abu Seileek and Rabab'ah (2007).

The last study to be reviewed regarding the effectiveness of computer-assisted instruction in teaching grammar was conducted by Torlakovic and Deugo (2004). The researchers investigated whether CALL systems could be used for grammar teaching. Two groups of ESL learners were exposed to six hours of grammar instruction in an experiment that lasted over two weeks. The control group was instructed by a teacher-driven method, whereas the treatment group was taught the adverbs via computer-based grammar instruction. The materials used were identical in terms of format, content, and feedback. According to the results of the immediate and delayed post-tests, the treatment

group outperformed the control group in learning adverbs on the post-tests. This study was different from the abovementioned studies because it also explored the effectiveness of computer-based and teacher-led instruction in terms of retention. The relevant results of the study revealed no significant difference in retention between the groups.

All the abovementioned studies (Abu Seileek & Rabab'ah, 2007; Abu Naba'hl et al., 2009; Chenu et al., 2007; Nutta, 1998; Torlakovic & Deugo, 2004) had two different groups of instruction. They compared the results of the treatment groups instructed via computers to those of the control groups instructed via teachers. All included pre-tests and immediate post-tests except the study by Torlakovic and Deugo (2004), which also included a delayed post-test. There were differences in terms of the length of the studies, the target grammar structures taught, the materials and software used in instruction, and the participant profiles, proficiency levels and ages. Regardless of these differences, the results of all these studies revealed that computer-based instruction was more effective than teacher-directed instruction. However, the participants were only divided into two groups of instruction, which were computer-based and teacher-driven. No groups were given blended grammar instruction, which is provided by both software and a teacher. Exploring the effectiveness of the computer-based instruction and the teacher-led instruction in comparison to blended learning instruction may also provide valuable results. As Hubbard (2010) and Gündüz (2005) suggest, it is significant to find the best way to integrate CALL applications into our current educational system. The use of blended learning in order to integrate CALL with traditional instruction has been regarded as a solution. In this way, the results from blended instruction may provide

valuable insights. However, to the knowledge of the researcher, there has been no study conducted to compare the effectiveness of grammar instruction in a setting where three instruction types, which are the computer-based, teacher-led and blended, are explored.

Considering the selection of the target grammar structures to be taught in the studies, none of the above is at the advanced level. In addition, none of the studies in question implements a commercially available online program. The selection of CALL tools in the abovementioned studies vary from the use of Power Point presentations, to DynED, which is a commercial program requiring installment but not available online, to specially developed programs. In addition, the participants of the studies reviewed were mostly secondary school students or freshmen in different EFL contexts. There is also a need to conduct a study with English preparatory school students, whose results may differ from those in the literature, since they only focus on learning English throughout the preparatory year. The differences in the selection of target grammar structures taught and the commercially available online program may also present different results and contribute to the literature. Finally, the setting of the studies also varies. The abovementioned studies were conducted in language institutions, primary or secondary schools and universities all around the world including Turkey. However, none of the studies was conducted in an English Preparatory School in a Turkish university. Thus, this study will present differences also in terms of the selection of its setting.

Conclusion

This chapter discussed the aspects, approaches, and the importance of grammar teaching, CALL applications in instructing skills and its advantages, disadvantages and implementation challenges, the blended learning method and students' attitudes towards using CALL applications. The effectiveness of CALL in teaching grammar was also presented in comparison to traditional grammar instruction. This comparison, which forms the basis of the study, will further be studied in the coming chapters.

CHAPTER III: METHODOLOGY

Introduction

This study was designed to explore the effectiveness of grammar instruction through commercial software (CS) or traditional methods by comparing computer-based, teacher-led and blended grammar instruction. The study addresses the following research questions:

1. Are there any differences in the effectiveness of computer-based, teacher-based, and blended grammar instruction in a Turkish EFL context?
2. What are the attitudes of the preparatory class students at Yıldız Technical University towards using commercial software?

This chapter presents the methodological procedures regarding the study. To begin with, the participants and the setting of the study are delineated in detail. Then, the instruments utilized in the study, the data collection procedures and the analysis of the data collected are described.

Setting

The study was conducted at Yıldız Technical University, School of Foreign Languages (YTUSFL), İstanbul, Turkey in the spring semester of the 2010-2011 academic year. The institution consists of two departments in the School of Foreign Languages. The first one is the Department of Basic English, which provides compulsory English education for preparatory class students. The second one is the

Department of Modern Languages, which offers compulsory and elective English courses at the advanced level to students who are studying in their departments. YTUSFL conducts a proficiency test at the beginning of each academic year in order to determine which students will be enrolled in preparatory school and which will directly start their undergraduate education at their departments. Students have to score at least 60% in order to be exempted from preparatory class English education. The students who present a sufficient score on international English proficiency tests such as TOEFL and IELTS are also exempted from preparatory class. Thirty percent of the education at YTU is in English. Thus, although students are exempted from preparatory school, they have to register for compulsory advanced English courses while studying in their own departments. Those students that are enrolled in preparatory class are given a placement test. According to the results of this test, students are placed in elementary, pre-intermediate or intermediate classes. The weekly class hours vary according to their level. Elementary students are given 27, pre-intermediate students 23, and intermediate students 20 hours of classes per week. The preparatory program includes four mandatory courses only, which are the main course, reading, writing, and listening and speaking. The only difference among levels is the main course hours. The elementary students have 17 hours of main course per week, the pre-intermediate students have 13 hours per week and the intermediate students have 10 hours per week. For all the levels, reading and writing courses are given four hours per week and the listening and speaking course is given two hours per week. The preparatory school has a two-semester program and the students enrolled are expected to reach the upper-intermediate level of English at the

end of the year.

The assessment system of the Department of Basic English includes four mid-terms, one mid-year examination, one final examination, in-class assignments and individual student portfolios. All the pre-intermediate and intermediate students who have a cumulative grade average of 80% in the first semester are given a chance to be exempted from preparatory education provided that they get a previously defined score in the mid-year examination. Those who continue their education in the preparatory school are given the final examination at the end of the academic year. These students are expected to score at least 50% in the exam and have a cumulative grade of average of 60%. If they fail, they have to repeat the preparatory school for another academic year. If they fail in their repeat year, they are not allowed to continue their education at YTU and are transferred to other universities whose language of education is 100% Turkish. After their compulsory English education, students are given compulsory advanced English courses like Advanced English Reading and Writing, Advanced English Reading and Speaking, and Business English courses, offered by the Department of Modern Languages.

Participants

The participants of the study included 42 upper-intermediate level preparatory class students from three intact classes at YTUSFL and an instructor from the institution. The participant teacher was responsible for teaching the selected grammar items for the teacher-based and blended learning groups. All three classes are taught the main course by the participant teacher. She has seven years of experience in teaching EFL in the

institution. She has been teaching the main course in all the proficiency levels for seven years as well as teaching reading and writing. She has a bachelor's degree in TEFL and apart from teaching, she has experience in curriculum and material development and computer-assisted language instruction. This particular teacher was selected as the participant teacher because of her experience in grammar teaching and computer-assisted instruction.

Considering the students, the selected level of proficiency was upper-intermediate since the non-curricular grammar items selected are at this level. The students in these three intact classes were chosen as participants because they were being taught by the participant teacher. Each class of students was randomly assigned to one of the following grammar instruction groups: the computer-based, the teacher-based and the blended learning groups. The course selected for the study was the main course, which includes grammar instruction, since the groups were given varied grammar instruction in the treatment. The names of the participants were kept anonymous. They were given participant numbers to ensure confidentiality. The characteristics of the student participants are shown in Table 1.

The Group	**Academic Level**	**Proficiency Level**	**Number of Students**	**Gender**	
				Female	**Male**
Computer-based	Tertiary Class 1	Upper-intermediate	16	8	8
Teacher-based	Tertiary Class 2	Upper-intermediate	13	5	8
Blended	Tertiary Class 3	Upper-intermediate	13	3	10
		TOTAL	42	16	26

Table 1- Characteristics of the student participants

Materials and Instruments

Materials

The materials used in the study were developed by the researcher herself. They include handouts for three different non-curricular grammar items to be taught during the study. These were participle reduction, inversion in conditional sentences and subjunctive noun clauses. The contents of the handouts are parallel to the content presented by the commercial software (see appendices A and B for sample MPO handouts) used in the study. These handouts included grammatical explanations, examples and practice exercises (see appendices C, D, E, F, G and H for grammar handouts). In the blended handouts, there were fewer practice exercises since the students in this group would also practice the target structures through the commercial software.

The Commercial Software: Macmillan Practice Online

The CS selected for this study is Macmillan Practice Online (MPO) (http://www.macmillanpracticeonline.com/). MPO works as a resource database that presents online courses, a supplementary practice environment, and relevant activities in general and/or for the textbooks published by Macmillan. The type of MPO used in the study can be accessed under the title of "exam practice, academic and general English courses". The reason why this particular software was chosen is that both the researcher and the participant teacher are accustomed to its content and use. MPO was used as a complementary resource at YTUSFL in the previous academic year. The software is an internet-based tutorial program called supplementary practice environment, which

contains materials for all the skills. The program was developed in accordance with the Common European Framework, including all proficiency levels. It is unit-based and each unit consists of a grammar structure and a selection among contextual listening, vocabulary, reading, writing and pronunciation activities and exam preparation exercises (see appendices I and J for sample units and exercises). It enables students to monitor their progress, and gives immediate feedback. MPO also allows teachers to check the progress of the students and monitor their progress. The distributor of MPO in Turkey provided the user IDs and passwords for the study. The participant teacher and each student in the computer-based group and the blended group were provided with a password to log into the system.

The instruments

The instruments utilized in this study consisted of three tests, the pre-test, immediate post-tests and delayed post-test, and the student questionnaire, which will be presented in separate sections.

Tests

The tests utilized for this study were a pre-test, immediate post-tests and a delayed post-test on the selected non-curricular upper-intermediate grammar structures. All the items in the tests were taken from a question pool prepared by the researcher and randomly assigned to tests (pre, post and delayed post) by an online number generator. Distractors were used in the tests except the delayed post-test to prevent students from focusing more attention on the target items than they ordinarily do. All the questions in the pool were checked for accuracy and parallel level of difficulty by three language

instructors in YTUSFL.

The pretest was formed of 50 questions, 30 fill-in-the-blanks and 20 sentence-rewriting questions. There were 30 questions regarding the grammar items to be instructed. Twenty questions were used as distractors. Figure 1 displays the design of the pre-test (see appendix K for the pre-test).

Pre-Test	***Question Types***	
	Fill-in the-blanks	**Sentence Rewriting**
Participle Reduction	Questions No: 1-5	Questions No: 26-30
Conditional Inversion	Questions No: 6-10	Questions No: 31-35
Subjunctive Noun Clause	Questions No: 11-15	Questions No: 36-40
*Present Perfect Tense	Questions No: 16-20	Questions No: 41-45
*Future Tenses	Questions No: 21-25	Questions No: 46-50

*The distracters

Figure 1 - The design of the pre-test

When scoring the test, the marking criterion was strict. One point was scored for each correct item. Distractors were not scored.

Three immediate post-tests were developed, one for each target structure (see appendices L, M and N for the immediate post-tests). Each immediate post-test was composed of 10 target items and 10 distractors, 20 questions total. Figure 2displays the design of the immediate post-tests.

Immediate Post Tests	***Question Types***	
	Fill-in the-blanks	**Sentence Rewriting**
Participle Reduction	Questions No: 1-5	Questions No: 11-15
* Time Clauses	Questions No: 6-10	Questions No: 16-20
Conditional Inversion	Questions No: 1-5	Questions No: 11-15
* Passive Voice	Questions No: 6-10	Questions No: 16-20
Subjunctive	Questions No: 1-5	Questions No: 11-15
*If Clauses	Questions No: 6-10	Questions No: 16-20

*The distracters

Figure 2 - The design of the immediate post-tests

Each immediate-post test was strictly marked, in the same way as the pre-test. Distractors were not scored.

Only one delayed post-test was given. There were three grammar items tested through the delayed post-test, which was composed of 30 questions on the target structures. There were no distractors (see appendix O for the delayed post-test). Figure 3 displays the design of the immediate post-tests.

Delayed Post Test	***Question Types***	
	Fill-in the-blanks	**Sentence Rewriting**
Participle Reduction	Questions No: 1-6	Questions No: 16-20
Conditional Inversion	Questions No: 6-10	Questions No: 21-25
Subjunctive Noun Clause	Questions No: 11-15	Questions No: 26-30

Figure 3 - The design of the delayed post-test

All the tests were reviewed by a group of experienced language teachers in the Master of Arts Program in TEFL at Bilkent University. The respondents were asked to state any unclear questions. Necessary changes were made accordingly to eliminate any problems.

Students' Questionnaire

Data were collected in this study also by using a students' attitude questionnaire because it is easy to apply, and takes a relatively shorter time to provide a lot of information and data to be processed from a large number of participants (Dörnyei, 2003). The students' questionnaire was designed to elicit information about the participant students' attitudes towards computers, using computers for educative purposes in general and using the commercial software to learn grammar (see

appendices P and R for the students' attitude questionnaire in English and in Turkish). The content of the questionnaire was consistent with the survey developed by Warschauer (1996), which was designed to gather information on students' personal lives, demographic information and their experience in using computers, their general attitudes towards using CALL applications and using them to learn a language skill or skills. The questionnaire in the present study consisted of 30 four point Likert-scale items because this type of questionnaires is beneficial and effective in collecting data as regards attitudes and opinions on specific subjects (Dörnyei, 2003). The first part of the questionnaire was constructed to collect data concerning students' frequency and aims of using computers, which can presumably affect their attitudes. The second part consisted of questions about the participants' overall opinions about using computers in general and for educative purposes, which may be different from their attitudes towards the CS. The third part was designed to gather data as to their attitudes and opinions towards using commercial software when learning grammar, which answers the second research question. Figure 4 displays the content of the questionnaire.

Sections	***Section 1***	***Section 2***	***Section 3***
Question Types	Frequency and aims of using computers	Overall opinions towards using computers	Attitudes towards using commercial software to learn grammar
Number of Questions	2	14	14
TOTAL		30	

Figure 4 - The content and number of questions in the questionnaire

All the items in the questionnaire were written by the researcher. By means of the questionnaire, the study investigated the reason why, to what extent and how frequently

students use computers, how effective they think computers and CS are as educative tools (especially when learning grammar) and their tendency to employ computers and CS when learning a language (especially grammar), as compared to traditional learning conditions.

The items in the questionnaire were first written in English by the researcher. Therefore, they were translated into Turkish by the researcher before being administered. A back-translation procedure was also provided by another bilingual instructor of English from YTUSFL. The translator was not given the original version of the questionnaire. The original, translated and back-translated versions were compared in order to eliminate any differences.

In order to be checked in terms of validity and reliability, the questionnaire was piloted with 20 previous year's preparatory students who were familiar with the commercial software (MPO). The pilot study was conducted at YTUSFL. The respondents were asked to identify any unclear parts or questions in the questionnaire. No changes were found to be necessary after the piloting.

Data Collection Procedure

After the research questions were determined, the researcher asked for written permission from the head of YTUSFL in order to conduct the study. The instruments utilized were designed in the first week of February, 2011. The piloting was done during the second week of February, 2011. The necessary changes were made in order to eliminate any problems in the instruments following the piloting procedures and questionnaire translations.

The instruction types used in the study were the computer-based, teacher-based, and blended grammar instruction. Three target grammar structures were chosen to be taught to all three groups. The items selected were non-curricular in order to prevent any lack of opportunity for the other students at the institution since they would take the proficiency exam at the end of the academic year. These were participle reduction, subjunctive noun clauses and inversion in conditional sentences.

The computer-based instruction group was presented with and practiced the grammar items only via the commercial software, which was Macmillan Practice Online. The teacher-based instruction group was presented with and practiced the items in the classroom by the participant teacher through the Direct Method explicitly. The blended learning group was presented with each item briefly by the participant teacher explicitly through the Direct Method in the classroom for 45 minutes and completed the procedure by practicing in the laboratory for another 45 minutes. All the groups had three 90-minute-lessons, each devoted to a selected single grammar item.

The participants were given the post-tests immediately after the instruction of each grammar item was completed. Thus, there were three post-tests, one on the use of participle reduction, one on inversion in conditional sentences and one on subjunctive noun clauses. The time allotted for each post-test was 20 minutes.

The participants were given the delayed post-tests two weeks after the last immediate post-test was administered. The participants were not previously informed about this test. The time allotted for the delayed post-test was 30 minutes.

The participant teacher administered all the tests in the classroom for the teacher-

led and the blended group. The computer-based group was given these tests in the laboratory by the participant teacher.

Finally, the participant teacher distributed the questionnaire a week after the procedure was completed in the actual classrooms of the participant students during their regular class hours with the participant teacher.

Data Analysis

The data in this study were gathered through the pre-test, immediate post-tests, the delayed post-test and the student questionnaire. After the procedure ended, the data were entered into the Statistical Package for Social Sciences (SPSS) program. The analysis of the data was conducted quantitatively. The results of the post-tests revealed how much the participants learned about the target structures instructed via the computer-based, teacher-based and blended learning instruction. The results of the delayed post-tests illuminated the participants' grammar gains over time. The data gathered were tested to determine whether they were normally distributed. The questionnaire items were checked in terms of reliability. Frequencies, medians and percentages were computed for each item. ANOVAs and Mann-Whitneys were used to determine if there were any differences in the participants' performances, immediate grammar gains, gains over time, and attitudes among the groups.

Conclusion

This chapter on methodology presented the general information regarding the purpose of the study, the research questions addressed, the setting, the participants, the instruments, the data collection procedure and the data analysis. The following chapter

will present the data analysis and the related findings.

CHAPTER IV: DATA ANALYSIS

Introduction

This study investigated the effectiveness of grammar instruction via commercial software (CS), blended learning, or traditional methods by comparing the performance of teacher-led, computer-based and blended learning groups on tests of grammar learning. In addition, the study explored the participants' attitudes towards using computers in general and using CS when learning grammar.

This study aimed at answering the research questions below:

1. Are there any differences in the effectiveness of computer-based, teacher-based, and blended grammar instruction in a Turkish EFL context?
2. What are the attitudes of the preparatory class students at Yıldız Technical University towards using commercial software?

Overview of the Study

The study was conducted with 42 upper-intermediate level preparatory class students and one participant teacher at YTUSFL Basic English Department. These participants were randomly selected as three intact classes. These three intact classes were also randomly assigned to three different instruction groups: teacher-led, computer-based and blended learning.

The treatments lasted for three consecutive weeks. All the learning groups were given treatment through three 90-minute-classes, each devoted to a single non-curricular grammar structure selected. The teacher-led group and the blended group were taught by

the participant teacher in the classroom through traditional methods. The computer-based group was taken to the language laboratory and given instruction via a CS system called Macmillan Practice Online. The blended group was taken to the language laboratory only to practice and review the target structures on the computer using the same CS system.

The participants were given a pre-test, three immediate-post tests and a delayed post-test. In addition to tests, the participants from the computer-based and the blended groups were given a students' attitude questionnaire. All the data analyzed in this study were gathered from the above-mentioned tests and the students' questionnaire.

This chapter of the study comprises the design of the research and the quantitative data analyses as regards the study. Considering the fact that the design of the research predetermines the type of analyses and the statistical tests to be employed (Hatch & Lazaraton, 1991), the research design of the study will be delineated first. The research design comprises a single within subject variable (grammar tests) with three levels (pre, post and delayed post) and a single between subjects variable (grammar instruction) with three levels again (teacher-led, computer-based and the blended grammar instruction). Figure 5 displays the research design of the study.

Between Group Factor (Instruction Type)	**Within Group Factor**		
	Grammar Gain		**Grammar Gain over Time**
	Pre-test	**Immediate Post-test**	**Delayed Post-test**
Teacher-led Learning Group: Teacher instruction and guided practice through traditional methods	Teacher-led Group	Teacher-led Group	Teacher-led Group
Computer-based Learning Group: Computer instruction and computer-led practice	Computer-based Group	Computer-based Group	Computer-based Group
Blended Learning Group: Teacher instruction through traditional methods and computer-led practice	Blended Group	Blended Group	Blended Group

Figure 5 - Research design of the study

Analysis of the Tests

The data, which were collected through two different types of instrument, namely the tests (pre, immediate post and delayed post-tests) and the questionnaire, were analyzed quantitatively. All the data gathered from the test results were analyzed through the Social Package for the Social Sciences (SPSS) version 16.0. Firstly, the tests were scored by the researcher. Secondly, the medians and interquartile ranges for each test were calculated since the data were not normally distributed. The results were compared among the groups in order to find if there was a significant difference among the participants' performances on the pre-test, immediate post-tests and the delayed post-

test. Immediate grammar gain and gain over time scores were also calculated and compared among the groups.

Additionally, the quantitative data gathered from the students' attitude questionnaire were also analyzed. Here the procedures for the data analyses were composed of both within subject and between subject factors with two different instruction types: the computer-based and the blended. Before analyzing the data, scale reliabilities were computed for each of the items in the questionnaire. To analyze the data gathered from the questionnaires, means, medians and frequencies were computed and analyzed to see whether there was a significant difference between the two groups' attitudes.

In the following parts of the data analysis chapter, the quantitative data analyses will be described through tables and results in six sub-sections: (1) the pre-test data results, (2) the immediate post-test data results, (3) the comparison of gain scores among groups, (4) the delayed post-test data results, (5) the comparison of gain scores over time among groups, and (6) the questionnaire data results.

The Results of the Pre-Tests

The pre-test was given to participants to determine their knowledge of the target grammar items. It was administered a week before the actual treatment began. The pre-test consisted of 50 questions, 30 target items and 20 distractors. Forty-two participants took the pre-test, 13 of whom were in the teacher-led group, 16 of whom were in the computer group and 13 of whom were in the blended group. First, tests of normality were utilized to see if the data were normally distributed. Kolmogorov-Smirnov and

Shapiro-Wilk tests showed the data to be not normally distributed, so non-parametric statistical methods were used when comparing the scores of two groups. However, ANOVA has been found to be robust to violations of assumptions of normality (Field, 2005, p. 324). Thus, when comparing the scores of three groups, one way ANOVAs were performed in the analysis. Descriptive statistics for the pre-test results were computed, including the calculations for medians and interquartile ranges. Table 7 shows the results of the pre-test.

Pre-Test Results on Participle Reduction			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	13	.00	.50
Computer-Based Group	16	2.00	3.0
Blended Group	13	4.00	2.5
(Raw score, 10 possible)			
Pre-Test Results on Conditional Inversion			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	13	.00	1.0
Computer-Based Group	16	.00	.75
Blended Group	13	1.00	0
(Raw score, 10 possible)			
Pre-Test Results on Subjunctive Noun Clause			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	13	1.00	1.0
Computer-Based Group	16	.00	1.0
Blended Group	13	1.00	1.0
(Raw score, 30 possible)			

Table 2 - Pre-test results

The overall results suggest that there is some limited knowledge of the target items before the treatments start. The highest knowledge was of participle reduction, in the blended group. The results suggest that there are differences among the groups.

According to the results of the pre-test, the blended group appears to have the highest scores. The teacher-led group seems to have the lowest scores.

In order to determine if there is a significant difference among the results of the three learning conditions, a one-way analysis of variance (ANOVA) was performed. The results of homogeneity of variance test are significant for the pre-test results on participle reduction. Thus, ANOVA results cannot be used for this particular structure. The results of Welch's robust reveals that there is a significant effect of group on the pre-test results regarding participle reduction ($F(2,39) = 38.896$, $p =. 000$, $r =.71$) with a large effect size. The ANOVA results reveal that there is also a significant difference in terms of conditional inversion ($F(2,39) = 8.972$, $p = .001$, $r = .43$) with a medium effect size. However, there is no significant effect of group on the pre-test results as to subjunctive noun clauses ($F(2,39) = 1.455$, $p = .246$, $r = .19$).

To determine where the significant differences lay, post hoc comparisons with Gabriel's procedure were done. The results indicate that all the groups performed significantly differently on participle reduction. The computer-based ($p =. 001$) and blended groups ($p =. 000$) outperformed the traditional group on participle reduction. When the computer-based and the blended groups were compared, the latter had significantly higher performances ($p =. 002$). In terms of conditional inversion, the blended group outperformed the teacher-led and the computer-based groups ($p =. 001$) ($p =. 017$). There is no significant difference between the teacher-led group and the computer-based group for this structure. The participants had some limited knowledge on the target items, but the blended group had the highest medians on all the target items

tested in the pre-test.

To sum, the performances of groups on the pre-test were first tested in terms of the effect of group by one-way ANOVA test, which showed that the groups performed significantly differently on participle reduction and conditional inversion. However, there is no significant difference among the groups in terms of subjunctive noun clauses. The blended group outperformed the other groups on the structures where significant differences lay. Figure 6 displays the summary.

Participle reduction	***Inversion***	***Subjunctive noun clauses***
B > C > T The blended group outperformed the computer-based group, which did better than the teacher-led group.	**B > T = C** The blended group outperformed the teacher-led group, whose performance did not differ from the computer-based group.	**B = T = C** The results reveal no difference among the groups, which suggest that they showed equal performances.

Figure 6 - A summary of the pre-test results

Immediate Post-Test Results

The participants in each group were given an immediate post-test after each treatment. There were three target structures, which means there were three immediate post-tests administered. After the tests were scored, descriptive statistics for the post-test results were computed, which included the calculations for medians and interquartile ranges. Table 3 displays the results of the immediate post-tests.

Immediate Post-Test Results on Participle Reduction			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	7	7.00	3.00
Computer-Based Group	6	8.00	2.75
Blended Group	12	10.00	1.00
(Raw score, 10 possible)			
Immediate Post-Test Results on Conditional Inversion			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	9	8.00	2.75
Computer-Based Group	9	2.00	5.50
Blended Group	3	6.00	4.00
(Raw score, 10 possible)			
Immediate Post-Test Results on Subjunctive Noun Clause			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	12	7.00	1.75
Computer-Based Group	11	1.00	2.00
Blended Group	10	8.50	1.50
(Raw score, 10 possible)			

Table 3 - Immediate post-test results

In terms of participle reduction, the results suggest that the blended group outperformed the other groups. The least successful group appears to be the teacher-based group. Considering inversion, the medians suggest that the teacher-led group outperformed the other groups. The least successful group on conditional inversion appears to be the computer-based group. For subjunctive noun clauses, the medians suggest that the blended group outperformed the other groups. The least successful group appears to be the computer-based group.

Bearing in mind that there were differences among the scores of the groups in the pre-test, no comparisons were made for the results of the immediate post-tests. Instead, gain scores were analyzed on the grounds that it would present a more solid basis for determining where the significant differences lay.

The Comparison of Gain Scores among Groups

The gain scores for each target structure were computed by subtracting the pre-test scores from the related immediate post-test scores. The results of the participants who did not take the immediate post-test on any of the items were excluded from analysis. After the calculation of the gain scores, descriptive statistics were computed. Table 4 displays the results.

Participle Reduction Gains*			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	7	7.00	4.00
Computer-Based Group	6	5.50	5.25
Blended Group	12	5.00	2.00
(Raw score, 10 possible)			
Conditional Inversion Gains*			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	9	8.00	2.00
Computer-Based Group	9	2.00	5.50
Blended Group	3	6.00	4.00
(Raw score, 10 possible)			
Subjunctive Noun Clause Gains*			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	12	6.00	1.75
Computer-Based Group	11	.00	2.00
Blended Group	10	7.50	3.25
(Raw score, 10 possible)			

*The gain scores were calculated by subtracting each participant's pre-test scores from their immediate post-test scores.

Table 4 - Gain scores on target structures

The table reveals that the teacher-led group had the highest medians on participle reduction. For conditional inversion, the teacher-led group appears to have the highest gain scores. Considering subjunctive gains, the medians of the teacher-led group and the blended group appear to be very close to each other. However, when the medians at issue are compared to that of the computer-based group, it is clear that the teacher-led and the blended group outperformed the computer-based group.

In order to determine whether there is an effect of group on the gain scores, a one-way ANOVA test was performed. The results of homogeneity of variance test are significant for subjunctive gain scores. Thus, ANOVA results cannot be used for this

particular structure. The results of Welch's robust reveals that there is a significant effect of group on these results regarding subjunctive noun clauses ($F(2,30) = 82.140$, $p = .000$, $r = .87$) with a large effect size. The results suggest that there is also a significant effect of group on conditional inversion ($F(2,18) = 10.183$, $p = .001$, $r = .59$) with a large effect size. However, there is no effect of group on participle reduction gains ($F(2,22) = .004$, $p = 1.000$, $r = .001$).

To determine where significant differences lay, post hoc comparisons with Hochberg's GT2 and Gabriel's procedure were done. Considering inversion, the teacher-led group outperformed the computer-based group ($p = .001$). The blended groups' gain scores did not significantly differ from the computer-based group ($p = .195$), perhaps due to a very low number of participants, although the former groups' mean values are higher. There is also no significant difference between the teacher-led group and the blended group ($p = .511$). In terms of subjunctive noun clauses, no significant differences were detected ($p = .188$) between the blended group and the teacher-led group. The teacher-led group did significantly better than the computer-based group ($p = .000$). The blended group significantly outperformed the computer-based group on subjunctive gains ($p = .000$).

To sum, the gain scores were first tested to see whether there is an effect of group on the results. The results of the one-way ANOVA indicated that there is a significant effect of group on the gain scores. When the gain scores from the groups were compared with each other, the teacher-led group outperformed the other groups regarding conditional inversion. Considering subjunctive noun clauses, the blended

group and the teacher-led group appeared to have the highest scores. There is no significant difference in terms of participle reduction. Figure 7 summarizes the findings.

Participle reduction	***Inversion***	***Subjunctive noun clauses***
T = C = B	**T > B = C**	**T = B > C**
There is no significant difference among the groups.	The teacher-led outperformed the blended group, whose scores were not significantly different than the computer-based.	The teacher-led group and the blended group had no difference in gain scores. These two groups outperformed the computer-based group.

Figure 7 - A summary of immediate post-test gains

Delayed Post-Tests

The delayed post-test was administered two weeks after the treatments ended. It was composed of all the target structures taught. The results of those who did not take the relevant immediate post-test were not taken into consideration during the analysis. Only one participant from the blended group took both the immediate post-test on conditional inversion and the delayed post-test. Thus, the blended group was excluded from this part of the analysis on conditional inversions. After scoring the tests, descriptive statistics were calculated. Table 5 displays the results.

Delayed Post-Test Results on Participle Reduction			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	6	7.50	1.75
Computer-Based Group	5	2.00	2.00
Blended Group (Raw score, 10 possible)	10	7.00	4.00
Delayed Post-Test Results on Conditional Inversion			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	6	7.00	5.50
Computer-Based Group	6	4.50	3.50
Blended Group (Raw score, 10 possible)	1	No calculations were made.	
Delayed Post-Test Results on Subjunctive Noun Clause			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	7	5.00	4.00
Computer-Based Group	8	1.00	1.75
Blended Group (Raw score, 30 possible)	8	4.00	6.50

Table 5 - Delayed post-test results

The results show that the teacher-led group appears to have the highest scores in the delayed post-test. However, no comparisons were made to determine significant differences among the groups on the grounds that there were differences among the groups in the pre-test and immediate post-test scores. Instead, gain scores over time were calculated and analyzed to see where the significant differences lay.

The Comparison of Gain Scores over Time

In order to calculate the gain scores of the participants over time, their scores on the pre-test were subtracted from those on the delayed post-test. However, only the scores of those who took both the pre-test and the relevant delayed post-test were calculated. Following the computation of gain scores over time, descriptive statistics were calculated. Table 6 below shows the results.

Gain Scores over Time on Participle Reduction (Raw score, -10 possible)			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	6	7.50	2.25
Computer-Based Group	5	.00	-.50
Blended Group	10	3.50	2.00
Gain Scores over Time on Conditional Inversion (Raw score, -10 possible)			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	6	6.50	6.00
Computer-Based Group	6	4.50	2.75
Blended Group	11	7.00	5.00
Gain Scores over Time on Subjunctive Noun Clause (Raw score, -10 possible)			
Group	Number of Participants	Median	Interquartile Range
Teacher-Led Group	8	5.00	2.50
Computer-Based Group	9	.00	.50
Blended Group	11	3.00	7.00

Table 6 – Gain scores over time

The medians indicate that the teacher-led group appears to have the highest gain scores over time on participle reduction. Considering conditional inversion, the blended group appears to have the highest scores. In terms of subjunctive noun clauses, the scores of the teacher-led group appear to be the highest.

To determine if there is a significant effect of group on the gain scores over time of the groups on participle reduction, conditional inversion and subjunctive noun clauses, a one-way ANOVA was used. The results reveal a significant effect of group on participle reduction ($F(2,18) = 13.086$, $p = .000$, $r = .65$) with a large effect size. The results of homogeneity of variance test are significant for the subjunctive results. Thus, ANOVA results cannot be used for this particular structure. The results of Welch's robust reveals that there is a significant effect of group on the pre-test results regarding subjunctive noun clauses ($F(2,25) = 17.393$, $p = .000$, $r = .64$) with a large effect size. No

difference is seen among the groups in terms of conditional inversion ($F(2,20) = .554$, $p = .624$, $r = .16$).

Post hoc comparisons with Hochberg's GT2 and Gabriel's procedure were done to see where the significant differences lay. In terms of participle reduction, the results reveal that the teacher-led group outperformed the computer-based group ($p = .000$) and the blended group ($p = .010$). The blended group, when compared to the computer-based group, revealed no significantly different results ($p = .077$). In terms of subjunctive noun clauses, there is no significant difference between the teacher-led and blended groups ($p = .957$). The computer-based group was outperformed by the teacher-led group ($p = .006$) and the blended group ($p = .009$).

All in all, the one way ANOVA results reveal that there is a significant effect of group on participle reduction and subjunctive noun clauses. When the conditional inversion gain scores over time of the groups were compared with each other, no significant difference was seen. The blended group and the computer-based group were outperformed by the teacher-led group on participle reduction. The teacher-led group, whose scores did not differ from the blended group, outperformed the computer-based group on subjunctive noun clauses. Figure 8 summarizes all the test results.

Tests/Structures	***Participle reduction***	***Inversion***	***Subjunctive***
Pre-test	B > T > C	B > T = C	B = T = C
Gain scores	T = C = B	T > B = C	T = B > C
Gain over time	T > B = C	T = B = C	T = B > C

Figure 8 - A summary of all the test results

To sum, there are significant differences among the groups in terms of the pre-test results, gain scores and the scores of gain over time. The blended group indicated higher knowledge on reduction and inversion before the treatment started. Considering gain scores, which highlight to what extent the participants learned about the target items, the teacher-led group outperformed the others significantly on inversion. The blended group and the teacher-led group learned more than the computer-based group about the subjunctive. In terms of the gain scores over time, the teacher-led group's scores were the highest for participle reduction, which suggests that they learned more about participle reduction over time. For inversion, there was no difference among the groups. Considering subjunctive noun clauses, the teacher-led group and the blended group, whose scores did not differ from each other, outperformed the computer-based group. When overall performances of the groups on gain and gain over time scores were compared, the first research question of the study can be answered that teacher-based grammar instruction appears to be slightly more effective than computer-based and blended grammar instruction as regards how much the students learn about the target structures.

The Data from the Students' Questionnaire

The students' questionnaire was designed to gather information on students' opinions and attitudes towards using computers in general and using CS when learning grammar. Thus, only the participants in the computer-based and blended group were given the questionnaire. There were 18 participants from the computer-based group and 14 from the blended group, a total of 32 participants answering the questionnaire. The first part

of the questionnaire was formed of questions measuring the frequency and purpose of using computers. The second part was composed of questions as to general opinions and attitudes towards using computers. The third part was made up of questions as to opinions and attitudes about using a CS to learn grammar. There were 38 items, some of which were expected to be answered negatively. Thus, these items were reversed when calculating reliability and overall means for the relevant sections (Q17, 23, 32, 34, 38). Prior to analyzing the questionnaire, the items were tested for reliability. Cronbach's alpha coefficient was found to be .873 for the second part and .925 for the third part of the questionnaire. These results reveal that the items in the students' questionnaire are reliable.

The data gathered from the questionnaire were analyzed through the Statistical Package for Social Sciences (SPSS) Version 16.0 according to non-parametric statistical methods because the results of Kolmogorov-Smirnov and Shapiro-Wilk tests indicated the data to be not normally distributed. Descriptive statistics such as medians, means, frequencies and percentages were then computed. In the first section of the questionnaire, there were 10 questions. All the questions were selected-response type regarding how frequently the participants used computers in their daily lives. There were four options included in this question: 1= once a week, 2= once-twice a week, 3=three-four times a week, 4= five or more times a week. Frequencies and percentages were computed for each item. Table 7 displays the results for the first item "*How frequently do you use computers in your daily life?*".

Q1: How frequently do you use computers in your daily life?	*Question Items*	*F*	*%*
Computer-Based Group & Blended Group	Once a week	0	0
	Once-twice a week	0	0
	3-4 times a week	5	15.6
	5 or more times a week	27	84.4
	Total	32	100

F= Frequencies, %= Percentage

Table 7 - Frequencies and percentages of use of computers in daily life

The results reveal that the majority of the participants (84.4%) use computers in their daily lives 5 or more times a week, which suggests that the participants are highly accustomed to using computers and thus the treatment, which includes the use of computers, should not influence them negatively, as suggested by Bork (1985) and Levin and Gordon (1989). The researcher thus expects to see positive student attitudes towards using computers in general.

Items 2, 3, 4, 5, 6, 7, 8, and 9 were formed of nine multiple-response items to be selected. This question was designed to investigate students' aims for using computers and how frequently they are engaged in these activities via computers (0= *never*, 1= *rarely*, 2= *sometimes*, 3= *usually*, 4= *always*). Table 8 shows the results.

Q2: How frequently do you use computers for the following activities?	***N***	**Never** ***%***	**Rarely** ***%***	**Sometimes** ***%***	**Usually** ***%***	**Always** ***%***	**TOTAL** ***%***
Mailing	32	0	12.5	21.5	37.5	28.1	100
Gaming	32	12.5	31.5	25.0	12.5	18.8	100
Chatting	32	3.1	6.2	25.0	40.6	25.0	100
Social Networking	32	6.2	15.6	9.4	34.4	34.4	100
Surfing the Internet	32	0	6.2	18.8	40.6	34.4	100
Entertainment	32	3.1	0	28.1	40.6	28.1	100
Homework	32	15.6	46.9	21.9	15.6	0	100
Research	32	3.1	21.9	31.2	34.4	9.4	100
Online Shopping	32	53.1	25.0	9.4	3.1	9.4	100

N =b Number, *%* = Percentage
Table 8 - Frequencies and percentages of aims of using computers

The results indicate that the participants use computers mostly for communicative purposes including mailing (65.6%), social networking (68.8%) and chatting (65.6%) by mostly selecting *usually* and *always*. The results also indicate that a majority of participants also use computers for entertainment (68.7%) and surfing the internet (75.0%).

The reason for the majority of the students' using computers *rarely* or *sometimes* for homework may depend on the participants' inexperience in using computers for these aims. The assignment variety at YTUSFL mostly depends on paper-pen activities and does not require the use of a computer, which is another significant factor in the low frequencies. In terms of researching, on the other hand, the participants mostly selected *sometimes* and *usually* (65.7%), which highlights the fact that they have an interest in

computer-based research on daily issues. As a result, the researcher assumes that the participants have positive attitudes towards using computers in general but may have mixed attitudes towards using computers for educative purposes in general.

The second part of the questionnaire consists of 14 Likert-scale items aiming to gather data regarding students' general attitudes towards using computers in general and for educative purposes. The options were within a range of "1= strongly disagree, 2= disagree, 3= agree and 4=strongly agree". The Cronbach's alpha coefficient was found to be .873 for this section of the questionnaire. Table 9 depicts the frequencies and percentages for these questions.

Question		SD	D	A	SA	T	*Mn*	*SD*
	N	*%*	*%*	*%*	*%*	*%*		
Q11: I like using computers.	32	0	6.2	59.4	34.4	100	3.28	.581
Q12: Computer literacy makes me more efficient in my life.	32	3.1	18.8	46.9	31.2	100	3.06	.801
Q13: Computer literacy makes me more efficient in my educational life.	32	21.5	37.5	31.2	9.4	100	2.28	.924
Q14: Computer literacy helps complete tasks easily.	32	12.5	15.6	46.5	25.0	100	2.94	.914
Q15: Computer literacy helps complete homework easily.	32	9.4	15.6	46.5	28.1	100	2.84	.954
Q16: Computers are educative (learning tools).	32	12.5	46.9	31.2	9.4	100	2.62	.833
Q17*: Computers are only for entertainment.	32	31.2	46.9	6.2	15.6	100	2.06	1.014
Q18: Computers are helpful in learning languages.	31	15.6	12.5	50.0	18.8	96.9	2.74	.965
Q19: I have positive attitudes towards using computers in learning languages.	31	12.5	28.1	40.6	15.6	96.9	2.61	.919
Q20: I like using computers for educative purposes.	31	18.8	28.1	46.9	3.1	96.9	2.61	.919
Q21: I like doing homework by means of computers.	31	28.1	28.1	37.5	3.1	96.9	2.35	.839
Q22: Computers support learning.	31	12.5	25.0	46.9	12.5	96.9	2.16	.898
Q23*: Computers are not educative tools.	32	31.2	46.9	6.2	12.5	100	2.00	.966
Q24: I need training to use computers for learning.	32	25.0	28.1	28.1	12.5	100	2.30	1.022
						Overall Attitude	2.560	.896

SD=Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree, *T = Total*, *Mn* = Mean, *SD* = Standard Deviation, CB=Computer-based, BL=Blended learning *Items were reversed when calculating reliability and overall attitudes. Note: One participant did not answer the items on this part of the questionnaire.

Table 9 - Frequencies and percentages of general attitudes towards using computers in general and for educative purposes,

To calculate an overall mean attitude, average means were computed for each participant. The mean values range from 1.14 minimum to 3.69 maximum, which indicates quite mixed attitudes towards using computers in general and for educative purposes. The overall mean attitude for this part of the questionnaire is 2.560, which suggests that the participants are neutral towards using computers in general and for educative purposes. An overall mean attitude based on groups was also calculated. The average attitude mean for the blended group is 2.340, which suggests slightly negative attitudes. The computer-based group's attitude mean is 2.777, which reveals that they appear to have slightly positive attitudes. All in all, the overall mean suggests that the participants are neutral towards using computers in general and for educative purposes.

The majority of the participants answered items 11 *"I like using computers."* and 12 *"Computer literacy makes me more efficient in my life."* by agreeing or strongly agreeing. In terms of using computers for educative purposes in general, the majority of the participants again either agreed or strongly agreed with items 14 *"Computer literacy helps complete tasks easily."*, 15 *"Computer literacy helps complete homework easily.",* 18 *"Computers are helpful in learning languages."* and 19 *"I have positive attitudes towards using computers in learning languages."* and 22 *"Computers support learning.".* The participants have agreed that computers facilitate task completion and language learning. However, the participants answered items 13 *"Computer literacy makes me more efficient in my educational life."*, 16 *"Computers are educative* (*learning tools)."*, with more than 55% disagreeing or strongly disagreeing, which indicates that the participants have mixed attitudes towards using computers for

educative purposes and only some of them can benefit from computers in their studies. For items 17 *"Computers are only for entertainment."* and 23 *"Computers are not educative tools.",* the majority of the participants either disagreed or strongly disagreed, which suggests that the students do not regard computers as only a means for fun, but they also accept that they are educative. Considering items 20 *"I like using computers for educative purposes."*, and 21 *"I like doing homework by means of computers.",* the answers suggest mixed attitudes, with half of the participants agreeing and half disagreeing.

The third part of the questionnaire is formed of 14 Likert-scale items aiming to gather data regarding students' attitudes towards using CS when learning languages, especially grammar. The options were within a range of "1= strongly disagree, 2= disagree, 3= agree and 4=strongly agree". The internal consistency for this part was first checked for reliability. The Cronbach's alpha coefficient was found to be .925. Then, statistical tests for normal distribution were performed. The data were found to be not normally distributed. Table 10 depicts the frequencies and percentages for these questions.

Question		N	SD %	D %	A %	SA %	T %	*Mdn*	*IQR*
Q25: CS is beneficial for learning English.	CB	17	38.9	22.2	33.3	0	99.6	2.00	2
	BL	14	7.1	50.0	42.9	0		2.00	2
Q26: CS is beneficial for learning grammar instruction.	CB	17	33.3	11.1	44.4	5.6	99.6	3.00	3
	BL	14	7.1	64.3	28.6	0		2.00	2
Q27: CS is beneficial for practicing grammar.	CB	17	27.8	16.7	50.0	0	99.6	3.00	2
	BL	14	7.1	42.9	50.0	0		2.50	2
Q28: CS is beneficial for improving grammar.	CB	17	27.8	16.7	50.0	0	99.6	3.00	2
	BL	14	64.3	35.7	0	0		2.00	1
Q29: I learn grammar through commercial software.	CB	18	33.3	11.1	50.0	5.6	99.6	3.00	2
	BL	13	14.3	42.9	35.7	7.1		2.00	3
Q30: I prefer CS to classroom teaching.	CB	18	38.9	33.3	27.8	0	99.6	2.00	2
	BL	13	57.1	28.6	7.1	0		1.00	2
Q31: I like using CS in studying English grammar.	CB	18	33.3	38.9	27.8	0	99.6	2.00	2
	BL	13	28.6	50.0	14.	0		2.00	2
Q32*: I prefer classroom teaching to CS.	CB	18	11.2	11.1	50.0	27.8	99.6	3.00	3
	BL	13	0	35.7	28.6	28.6		3.00	3
Q33: Commercial software is a good teacher.	CB	18	27.8	38.9	33.3	0	99.6	2.00	2
	BL	13	28.6	50.0	14.3	0		2.00	2
Q34*: I need a teacher to help me when using CS.	CB	18	5.6	22.2	38.9	33.3	99.6	2.00	3
	BL	13	21.4	50.0	21.4	0		3.00	2
Q35: I need training for using CS.	CB	18	22.2	22.2	27.8	27.8	99.6	3.00	3
	BL	13	21.4	21.3	42.9	7.1		3.00	3
Q36: CS helps me understand my mistakes.	CB	18	33.3	27.8	38.9	0	99.6	2.00	2
	BL	13	7.1	42.9	42.9	0		2.00	2
Q37: I feel more comfortable studying with CS than studying in the class.	CB	18	33.3	27.8	22.2	16.7	99.6	2.00	3
	BL	13	21.4	50.0	21.4	0		2.00	2
Q38: Reversed item: I feel more comfortable when studying in class.	CB	18	5.6	22.2	44.4	27.8	99.6	2.00	3
	BL	13	0	4.3	64.3	4.3		2.00	2
							Overall Median for CB	2.428	2
							Overall Median for BL	2.178	2

SD=Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree, *T = Total, Mdn* = Median, *IQR*: Interquartile Range, CB=Computer-based, BL=Blended learning
*Items were reversed when calculating reliability and overall attitudes.
Note: One participant did not answer the items on this part of the questionnaire.
Table 10 - Frequencies and percentages of general attitudes towards using CS to learn grammar
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The overall average attitude medians indicate that the majority of the participants in both groups appear to have negative attitudes towards using CS for learning grammar. When the overall medians from the groups are considered, the computer-based group (*Mdn* = 2.428) and the blended group (*Mdn* = 2.178) appear to have disagreed that CS is beneficial for learning grammar, which reveals that both groups have negative attitudes towards the CS. Mann-Whitney tests were performed on the overall attitude medians of the two groups to determine if there is a significant difference between their attitudes. The results of the test reveal that there is not a significant difference in the attitudes of the computer-based and the blended group towards using CS to learn grammar (*U* = 125.000, p = .219, *r* = .00).

Considering each item individually, the majority of the participants in both groups disagreed or strongly disagreed on items 25 *"CS is beneficial for learning English."*, 30 *"I prefer CS to classroom teaching.",* 31 *"I like using CS in studying English grammar."*, 33 *"Commercial software is a good teacher."* and 37 *"I feel more comfortable studying with CS than studying in the class."*, which suggests that they have negative attitudes towards CS.

The participants in both groups agreed or strongly agreed on items 32 *"I prefer classroom teaching to CS."* and 38 "*I feel more comfortable when studying in class"*, which indicates that they have positive attitudes towards classroom teaching but negative attitudes towards the CS. Both groups agreed or strongly agreed on item 35 *"I need training for using CS."*, which also suggests that they find CS too complicated to work with while learning grammar.

For items 27 *"CS is beneficial for practicing grammar."* and 29 *"I learn grammar through commercial software."*, the participant responses in both groups reveal that they have mixed attitudes, with nearly each half of the students either agreeing or disagreeing in both groups. The positive responses from the blended group may have been caused by the fact that they only practiced the structures through the CS. They appear to believe that CS is beneficial for "practicing" grammar because of their experience in the treatment. Similarly, the positive responses from the computer-based group may arise from the same reason.

For items 26, 28, 29 and 34, the groups indicated opposite attitudes. The computer-based group (*Mdn* for 26 = 3.00) agreed that "*CS is beneficial for learning grammar instruction."*. However, the blended group (*Mdn* for 26 = 2.00) disagreed on the item. It is possible that this difference is caused by the difference in the treatment that the blended group was given. This group was instructed by the participant teacher. Thus, they may relate their learning of the structures to the teacher. The computer-based group, on the other hand, was only instructed by the CS and they may have realized that they had learned about the structures. For item 28 *"CS is beneficial for improving grammar."*, the computer-based group (*Mdn* for 28 = 3.00) appears to have positive attitudes, while the blended group have negative attitudes (*Mdn* for 28 = 2.00). In terms of item 29 *"I learn grammar through commercial software."*, the blended group disagreed (*Mdn* for 29 = 2.00). However, the computer-based group agreed to the same item (*Mdn* for 29 = 3.00), which suggests positive attitudes. For item 34 *"I need a teacher to help me when using CS."* the blended group agreed, while the computer-based

group disagreed on the statement. The researcher assumes that these differences in the attitudes are due to the differences in the treatment. It is possible that the computer-based group was able to learn something on the target structures and they justified this experience by agreeing that CS is beneficial. However, the blended group was instructed by a teacher. Thus, it is possible that the blended group grounded their learning on the existence of the participant teacher, which highlights their negative attitudes towards CS being beneficial. For item 36, the computer-based group agreed that CS helps them understand their mistakes since they did not receive any guidance from the teacher, yet still realized their mistakes through the software. However, the blended group revealed slightly less positive attitudes since nearly half of the students disagreed by relating their error-correction to the presence of the participant teacher. When the participants were asked whether they needed training for using CS, the computer-based group revealed mixed attitudes because half of the students were able to use the CS without special training, while half of them were not. However, the blended group agreed that they needed training for using the CS.

To answer the second research question of the present study, these results indicated that the computer-based group and the blended group have negative attitudes towards using CS to learn grammar. However, the former group (overall *Mdn* = 2.428) was found to have slightly less negative attitudes than the latter group (overall *Mdn* = 2.178).

Conclusion

In this chapter, the data gathered quantitatively from the results of the pre-test,

the immediate post-tests, the delayed post-test and students' attitude questionnaire towards using computers in general, for educative purposes and using CS in learning grammar were presented.

Overall, the pre-test results indicated significant differences among the groups' current knowledge on the target structures. Before the treatment started, the blended group appeared to have higher knowledge of participle reduction and inversion. In terms of gain scores, the teacher-led group showed a better performance than the computer-based group and the blended group on conditional inversion. There were no differences among the groups in terms of participle gains. The blended group's and the teacher-led group's gain scores were equal in terms of subjunctive noun clauses. Considering the gain scores over time, there were significant differences among the groups. The teacher-led group's gain scores over time were higher than those of the other groups on participle reduction. For subjunctive noun clauses, the blended group and the teacher-led group had equal performances and both outperformed the computer-based group. No difference was seen among the gain scores over time on conditional inversion. Accordingly, when the performances of the groups were compared in terms of gain scores and gain scores over time, the teacher-led group's results indicated that they learned more than other groups. Teacher-led instruction was found to be slightly more effective than computer-based and blended instruction.

The questionnaire results as to students' attitude on using computers in general and using CS to learn grammar revealed indicated mixed attitudes. The computer-based group revealed slightly positive attitudes (*Mn* = 2.777) towards using computers in

general and for educative purposes. However, in terms of using CS to learn grammar, their attitudes were slightly negative. The blended group revealed negative attitudes both towards using computers in general and for educative purposes (*Mn*= 2.340) and using CS to learn grammar. Finally, there was no significant difference between the computer-based group and the blended group as to their attitudes towards using CS to learn grammar (p = .219).

The following chapter will be addressed to answering the research questions, discussing the findings of the study in comparison to the findings in the literature and presenting further implications illuminated by the findings and limitations of the study.

CHAPTER V: CONCLUSION

Introduction

This study explored the effectiveness of grammar instruction via commercial software (CS) by comparing computer-based, blended and teacher-led instruction types. Students' attitudes towards using commercial software were also investigated in this study.

The study was conducted with 42 participant students and one participant teacher at Yıldız Technical University School of Foreign Languages (YTUSFL), in İstanbul, Turkey. Data were collected via tests and a students' attitude questionnaire. The participants were given a pre-test, three immediate post-tests and a delayed post-test. The pre-test was aimed to gather information on students' knowledge of the target grammar structures before the treatment. The immediate post-tests, each devoted to a single target structure, were administered to explore students' achievements after the treatment. The delayed-post test was given to measure students' gains over time in terms of the target grammar items. The students' attitude questionnaire consisted of three parts. The first part was designed to gather information on students' frequency and aims of using computers. The second part was prepared to learn about students' attitudes about using computers in general and for educative purposes. The last part was designed to gather information about their attitudes' towards using CS, especially when learning grammar. All the data were analyzed quantitatively.

This chapter of the study includes the general results, findings, and the discussion of these findings in relation to literature. Next, the pedagogical implications will be discussed. Finally, the limitations of the study will be explained and suggestions for further research will be made.

General Results and Discussion

This section will provide answers to the research questions of the study in the light of the relevant literature.

Research Question 1: The differences in the effectiveness of computer-based, teacher-based, and blended grammar instruction in a Turkish EFL context

The data gathered from the pre-test, immediate post-tests and delayed post-test were utilized to answer the first research question. These data provided information as regards the participants' prior knowledge of the target grammar structures, their performances after the treatment, their achievements and their gains over time.

In terms of their performances and achievements, the gain scores of the three groups were compared statistically and significant differences were found. The results indicated that in terms of conditional inversion, the teacher-led group outperformed the other groups. The gain scores of the blended group and the teacher-led group were not significantly different in terms of subjunctive noun clauses, and they both outperformed the computer-based group. There was no significant difference among the groups in terms of participle reduction.

Accordingly, in terms of performances and achievements, teacher-led instruction was found to be slightly more effective than computer-based and blended instruction. This may have been caused by the participants' being more accustomed to teacher-led instruction than blended and computer-based instruction, which are innovative at YTUSFL. The reason that the blended group did better than the computer-based instruction group may also be explained by the fact that they received teacher-led instruction. However, they were given only computer-based practice options to review the target grammar structures and cover relevant activities, which may explain the reason for this group's being outperformed by the teacher-led group. The results of the current study contradicts the findings in the literature (Al-Jarf, 2005 & Baş & Kuzucu, 2008), which suggested that blended learning was more effective than traditional instruction. The nature of the blended condition in the present study included teacher-led instruction and computer-based supplementation. The blended group reviewed the target structures and practiced them via Macmillan Practice Online. It should be noted that they were not given any specific training about the use of the software. They had the assistance and guidance of the teacher whenever they needed. However, they were not provided with group discussions, an interactive learning environment, or tasks designed for the individual learning styles or needs of the participants, which are frequent features in blended learning (Graham, 2006).

Thus, this difference between the results of the abovementioned studies and the current study may have arisen from students' choosing one mode of instruction, disregarding the complementary instruction and developing negative attitudes towards

the blended method (Motteram & Sharma, 2009). In the present study, the preferred mode of instruction may have been the teacher-led instruction for the participants in the blended group. The study by Redfield and Campbell (2005) revealed that the computer-based instruction was more effective than blended learning. To the researchers, this difference arose from the difference in the participants. Those in the self-access group were observed to be more diligent and more focused on the tasks. However, the students in the hybrid group were observed to be distracted during the procedure as they talked with their classmates in their L1 or lost time surfing the Internet or chatting. Accordingly, they did not pay as much attention to the activities as the self-access group did.

The study by Klapwijk (2008) revealed that there were no differences between the blended group and the teacher-led group. The researcher claimed that this result arose from the length of the study. The groups were exposed to different modes of instruction only for two sessions of one hour in two days. Also, the researcher stated that the participants lacked computer literacy and even had difficulty with using a mouse. In the present study, it was not possible to observe the students during the treatment. The result that the computer-based group was the least successful may also have risen from the fact that the students in this group lost time chatting or surfing the Internet because the participant teacher could not always monitor each participant. Those students may not have focused on the activities as much as the other participants, similar to the case in Redfield and Campbell's study (2006). Though the participants in the present study were computer-literate, unlike those in Klapwijk's study (2008), the length of the study was

relatively shorter than that of Al-Jarf (2005), Baş and Kuzucu (2008), and Redfield and Campbell (2006), as was also the case in the study by Klapwijk. Presumably, longer exposure to computers during treatment may present better results (Langford & Reeves, 1998; Tanner & Landon, 2009).

In addition, in contrast to the findings of the present study, the results of the study conducted by Nutta (1998) revealed that computer-based instruction was as effective as the traditional teacher-led instruction. Abu Seileek and Rabab'ah (2007) also claimed that computer-based instruction was more effective than teacher-led instruction. Similarly, the results of the study conducted by Abu Naba'hl et al. (2009) revealed that the computer-based group outperformed the traditional group. Torlakovic and Deugo (2004) and Chenu et al. (2007) also presented similar results, which indicated that computer-based instruction was more effective. The difference between the results of the present study and the results of those in the literature may arise from differences in the participants' proficiency levels, their experience in using computers for learning grammar, the frequency of being taught by computers in the treatment, or the difference in the levels of difficulty of the target grammar structures taught. The participants in the present study are upper-intermediate preparatory class students. However, those in the abovementioned studies, except Nutta's (1998), were lower level students. The treatment in most of the abovementioned studies lasted longer than the current study, ranging from seven hours to one academic year. Although no information in relation to the participants' acquaintance with computer-assisted instruction was given, the participants were exposed to computer-based instruction for a longer time. In the present study, it

was only three sessions of 90 minutes. In addition, the target grammar structures in the abovementioned studies were verb tenses, passive voice and relative clauses, which are quite frequently repeated in the curriculum. However, the target grammar items in the current study were non-curricular advanced grammar items that the students were taught for the first time.

These differences may also have been caused by the selection of the CS. Macmillan Practice Online (MPO) has a curriculum based on the Common European Framework. The version the participants used in the study was actually suitable to those in a lower-advanced level, which was demanding for the participants in the present study. However, it was felt that MPO was the best choice of software in terms of YTUSFL's curriculum and methods of grammar instruction, to which the participants were accustomed. Furthermore, the program's layout is quite complicated when compared to some other software. All in all, the difference in the level of difficulty of the CS and its complex layout may have been problematic for the current participants.

Considering students' grammar gains over time, the results of the data gathered from the delayed-post test indicated that the teacher-led group had significantly higher scores on participle reduction than the computer-based group and the blended group, whose scores did not significantly differ from each other. In terms of conditional inversion, no difference was seen among the groups. The computer-based group was outperformed by the teacher-led and blended groups, whose scores were not different, on subjunctive noun clauses. Accordingly, teacher-led instruction appeared to be slightly more effective than the other modes of instruction in terms of students' grammar gains

over time. In contrast, the results of the study by Torlakovic and Deugo (2004) revealed no significant difference between the teacher-led and computer-based groups in terms of retention.

The reason that teacher-led instruction was effective in terms of grammar gains over time may arise from the fact that students are accustomed to teacher-led instruction in YTUSFL. As Norris and Ortega (2000) suggested, explicit instruction results in more gains, which was the type of instruction in all three learning conditions in the study. However, the participant teacher provided more explanations to the students in the teacher-led group while reviewing and practicing the target items. In comparison to the teacher-led group, the blended group may have been expected to have similar gain scores over time. The mode of instruction that these two groups received were the same. However, the blended group reviewed and practiced the target structures via the CS, which might have been the reason for this slight difference. Also, the participants in this group may not have put as much effort as the participants in the teacher-led group.

Research Question 2: Students' Attitudes towards Using CS in Learning Grammar

The participant students in the computer-based and the blended groups were given an attitude questionnaire. The data gathered from the questionnaire revealed results concerning the students' frequency and aim of using computers, their attitudes towards using computers in general and for educative purposes and towards using CS to learn grammar.

The results from the first part of the questionnaire indicated that eighty-one

percent of the participants use computers five or more times a week. Their major aims to use computers are for communication (including social networking and chatting). This finding revealed that the participants are quite accustomed to using computers in their daily lives.

The findings related to the data from the second part of the questionnaire indicated that the participants have mixed attitudes towards using computers in general and for educative purposes. They agreed that they like using computers and that computer literacy helps them become more efficient in their lives. They slightly agreed that computers are helpful in learning languages. However, they showed negative attitudes towards computers being supportive in the learning process or computers helping them to become more efficient in their educational lives. These mixed attitudes may have arisen from the fact that these students had not been given special training to use computers for educative purposes, and thus they may have had problems when using them. It is also important to remember that these students are mostly taught by teachers, and the educational system at YTUSFL does not include the frequent use of computers. In contrast to the findings of this study, the relevant studies in the literature suggest that students have positive attitudes. For instance, Akbulut (2008) claimed that students have positive attitudes towards using computers by mostly agreeing on the item *"Using a computer gives me more chances to practice English."*. There are some possible reasons for these differences. In Akbulut's study (2008), the students were given computer-based instruction for a variety of skills except grammar. They were also given achievement tests. The participants had high scores on these achievement tests after the treatment.

Though no significant correlation was detected between the participants' scores and their attitudes, the difference between the treatment in the study and the one they experienced in their actual classrooms may have had an effect on their positive attitudes. Also, the difference in skills addressed in the treatment may have affected their attitudes. Similarly, the results of the study conducted by Bulut and Abu Seileek (2011) revealed that students have positive attitudes towards using computers when learning English. The researchers related this positive outcome to students' having computers at home, which was regarded as a source of motivation to use computers when learning English. The difference in the findings of the present study and the findings in the literature may also arise from the differences in the participants' experience and frequency of using computers for educative purposes, or the differences in a more computer-mediated educational system to which the participants are accustomed, about which the abovementioned studies do not give any information.

Considering the last part of the questionnaire, which was designed to answer the second research question, the participants revealed negative attitudes towards using CS to learn grammar. The computer-based group had slightly more positive attitudes than the blended group. The former group agreed that CS is beneficial for improving grammar and that they learn grammar through CS. However, the blended group disagreed on these items. Both groups agreed that they need training to use the CS and they prefer classroom teaching to CS. Warschauer (1996) claims that the basic motivating aspects of CALL are its novelty as a medium, its individualized nature, its availability for learner control, and its unprejudiced instant feedback system. However,

these aspects may have been negative features for the participants in the study. Since they did not receive any training to use the CS, its novelty may have been problematic. The unprejudiced feedback option may have not been useful for the students who lack training. In addition, the commercial software's individualized nature and its availability for learner control, as suggested by Benson (2001), may also have not been appropriate for the participants in the study, who presumably lack autonomy over their learning (Sert, 2006). As Toyoda (2001) suggested, technology related factors could only be effective on the learners' developing autonomy provided that they have positive attitudes towards CALL tools useful in learning languages. Similarly, the more experience learners have with using technology, the more positive effects technology has on learners' autonomy (Toyoda, 2001). In the setting of the present study (YTUSFL), students are provided with very limited computer-based instruction, which may hinder developing positive attitudes. Similarly, the results of the study conducted by Min (1998, as cited in Chiu) revealed that the participants, who were not accustomed to computer-assisted language instruction, had negative attitudes towards using computers when learning languages.

The participants' negative attitudes towards using CS to learn grammar may also have been caused by their lacking an objective for using it. As suggested by Field (2002), if students agree that their teachers' goals of using CALL tools are beneficial for their learning, they give more importance to computer-assisted instruction. Thus, the learners should be informed about the pedagogical objectives for using CALL (Wiebe and Kabata, 2010). However, in the current study, the students were not informed about

such objectives, since there was none in terms of their preparatory school education. The grammar structures taught were non-curricular, which meant that these structures would not be tested in the proficiency exam. In addition, computer-assisted instruction is only a minor part of their education and is limited to voluntary individual practice. Computer-assisted language instruction should be based on the development, achievement and production of the target language, which requires a meaningful correlation between the use of CALL and the curriculum of the institution (Field, 2002). Otherwise, the learners may think that CALL is only the development of Information and Communication Technology (Field, 2002).

When the attitudes of the groups were compared with each other, the computer-based group revealed slightly more positive attitudes towards using CS to learn grammar. The differences in the attitudes may depend on the differences in the treatment. The reason for the computer-based group's positive attitudes may be explained by the fact that these students worked out all the target structures individually through the CS and were able to answer relevant questions on the tests. Since students react to learning processes positively or negatively through their experiences based on social and psychological factors (Schumann, 1978), the computer-based group developed positive attitudes. However, the blended group received only teacher-led instruction when learning the target structures. They were not psychologically convinced that they learned through the CS (Schumann, 1978). The blended group grounded their learning on the existence of the participant teacher, which may explain their negative attitudes towards CS being beneficial to learn grammar (Motteram & Sharma, 2009).

The findings concerning the negative attitudes from the blended group are also consistent with the findings of the studies by Stracke (2005), Sagarra and Zapata (2008) and Jarvis and Szymczyk (2009). As suggested by Schumann (1978), the social factors, which can be the students' lack of relevant training and experience in using the CS and teachers' lack of presenting real objectives to use it, may explain the participants' negative attitudes regardless of the type of instruction given.

To sum, the study revealed that computer-based instruction was as effective as the teacher-led instruction in terms of retaining the learned grammar structures. Teacher-led instruction was found to be slightly more effective in terms of students' achievements, which contradicted the literature. The reasons for this contradiction could arise from the participants' proficiency level, their limited experience with computer-assisted instruction, the target grammar structures taught in the study or the selection of the CS. In terms of attitudes, the study revealed that the participants had mixed attitudes towards using computers for educative purposes in general and negative attitudes towards using CS to learn grammar, which mostly contradicts the literature. The differences in the results may have arisen from the novelty of computers as a medium for the participants, the lack of training and lack of experience with computer-assisted instruction. When compared in terms of their attitudes towards using CS to learn grammar, the differences between the blended group and the computer-based group may have arisen from the differences in the treatment. The psychological factors caused by experiencing learning through the CS or through the existence of a teacher may have affected the groups to develop different attitudes (Schumann, 1978). Thus, the computer-

based group's attitudes were slightly more positive than the blended group.

Pedagogical Implications

The study revealed that teacher-led instruction was slightly more effective in terms of grammar instruction. However, the students in the computer-based group agreed that they learn grammar through CS and CS is beneficial to improve grammar, which suggests that teacher-led instruction should continue to be the primary way of teaching, but may be supported by computer-assisted instruction provided that the disadvantages and challenges of CALL can be diminished. The results of the study indicated that computer-based instruction was the least effective mode of instruction when compared to teacher-led and blended instruction in terms of immediate grammar gains and gains over time. Thus, it is assumed that further research is needed to properly implement and integrate CALL tools into the current educational system in a setting which promotes individual study and learner autonomy.

Accordingly, blended learning may be used as a solution to the challenges of integrating CALL with traditional instruction (Driscoll, 2002). However, the following issues and challenges of blended learning should also be taken into account. "The role of live interaction", "the role of learner choice and self-regulation", the selection of "models for support and training", "finding balance between innovation and production", "cultural adaptation" and "dealing with the digital divide" may be listed as the fundamental areas in need of further research (Graham, 2006, p. 15). After these issues have been enlightened, the stakeholders or those in charge of designing the curriculum may decide whether to use blended learning or what type of blended learning

to use. There are various levels to implement blended learning, which are “activity-level”, “course-level”, “program-level” and “institutional-level” (Graham, 2006, p. 11). An appropriate selection among these levels may provide the best implementation according to the needs and objectives of the students, teachers and the institution.

In terms of students’ attitudes, the participants indicated negative attitudes towards using CS to learn grammar. Thus, students should be provided with relevant training to use the software effectively. In addition, the computer-assisted instruction should be gradually integrated. Such negative attitudes should be eliminated by providing students with real objectives, motivating and persuading them that CALL tools are also useful in terms of gaining autonomy in their own learning (Toyoda, 2001). Another important issue here is to find the most suitable software or application, which requires meticulous study and effective decisions on behalf of the institution, the instructors and the students. It is important to make a decision between developing a curriculum that can be supported by the content of the software or choosing the software which best meets the needs of the stakeholders and the requirements of the curriculum. Accordingly, as Gündüz (2005) and Hubbard (2010) indicated, the way to implement a CALL application and integrate it into our system of education is a sensitive issue and may sometimes become a disadvantage, which may result in negative attitudes towards using it. Students who are not convinced that there is a meaningful relation between the use of computer-assisted instruction and the general curriculum may develop negative attitudes and may be demotivated to use computers. Thus, those in charge of selecting, adapting and integrating the CS at YTUSFL should put more effort to minimize such

disadvantages.

Limitations of the Study

There are a number of limitations of the study. First, the number of participants in the study is quite low. Some of the students did not attend some of the treatment classes or they did not take some of the tests given. Thus, the number of the participants changed for each target grammar structure. If there had been a constant and a larger number of participants taking the treatment and the tests, the results might have been more homogeneous and generalizable.

The proficiency level of the participants was also limited to upper-intermediate. The results would have been more generalizable if all the proficiency levels had been included in the study. The literature points out that CALL is sometimes more beneficial for lower level students' instruction (Chenu et al., 2007).

There was one group of students assigned to each instruction type and there was only one participant teacher. These were other limitations of the study since it was not possible to compare at least two groups of students receiving the same type of instruction. It was also not possible to compare the differences between at least two identical instruction groups taught by different teachers. The results might have been more stable and generalizable if at least two groups receiving the same instruction type from a different participant teacher had been compared.

The time allotted for the study was another limitation. The treatment lasted five weeks. There were only three weeks for varied grammar instruction. The target grammar structures were advanced and demanding. If there had been a chance to repeat the

treatment at least once by first presenting and then revising the target structures, the results might have been more apparent and generalizable.

The target grammar structures selected was also a limitation. Since it was crucial to eliminate any lack of opportunity for the other students in the institution, the target grammar structures were selected from among the non-curricular advanced structures, which would not be tested in the proficiency exam. The difficulty level of these target items is quite high, which was a demanding issue for the participants. If it had been possible to select a variety of structures at different difficulty levels, the results might have been different and more generalizable. Thus, the results should only be considered in the light of this limited number of grammar structures.

The items on the tests and the scoring policy are also other limitations of the study. All the tests were composed of semi-selected response (fill-in-the-blanks) and constructed response (sentence rewriting questions) items, which test production. The use of multiple-choice items, which test recognition, may have affected the results. The students might have been demonstrating some degree of knowledge of the target structure. In addition, if partial marking had been used, the participants would have received credit for partial knowledge of the structures, resulting in higher scores for some students. These changes in the tests and scoring procedures might have produced different results in the study.

The nature of blended learning used in the present study is another limitation. The participants in the blended group were provided with teacher-led instruction and computer-based review and practice opportunities. The blended condition lacked some

important elements of blended learning, which are interactive activities, group discussions, or tasks designed according to the individual needs and learning styles of each participant (Graham, 2006; Mikulecky, 1998; Schumacher, 2010 and Stracke, 2007). If the nature of the blended condition had been diversified with these positive elements, the results from the blended group might have been different. Also, the attitudes of this group may have been more positive towards using CS to learn grammar.

The setting of the study is another limitation. It should be kept in mind that this study was conducted with 42 upper-intermediate level preparatory class students at YTUSFL. The institution is a technical university, where the medium of education is 30% in English. Thus, the students' attitudes and efforts towards learning English may be affected by their limited need to use English in their studies. The results might have been more generalizable if the data had been gathered from different students in different institutions in Turkey.

The last limitation of the study is about gathering information on the students' attitudes only through a questionnaire, which lacks open-ended questions. This type of question is helpful to gather information as to overall attitudes apart from selected responses. The participants were also not interviewed in terms of their attitudes. They might have revealed different opinions or feelings towards using computers to learn grammar if they had been interviewed.

Suggestions for Further Research

A number of areas can be suggested for further research in the light of the findings of the study. To begin with, it could be replicated with a larger number of participants at different institutions. This replication could be varied in terms of the levels of the participants, the length of the study, the selection of the CS or the target grammar structures.

Secondly, different commercial software could be compared with each other in terms of effectiveness in language instruction. Teacher-led instruction could only be used in the control group. This study could also explore the question of for which skill the CS is more effective.

Since there is no current curriculum for teaching through computers in Turkey, a needs analysis could be conducted. Thus, significant criteria for the selection, implementation and integration of the CS could be determined in terms of institutions, teachers and students. Relevant training needs could also be explored.

In terms of attitudes towards using CS, studies also concerning teachers' attitudes could be conducted. The method of exploring attitudes could be diversified by adding interviews, open-ended questionnaire items, or other qualitative analysis methods.

Conclusion

The findings of the study revealed the teacher-led instruction appeared to be slightly more effective than the computer-based and blended instruction in terms of students' performances and achievements. The students' attitudes towards using CS to

learn grammar were found to be negative and not significantly different when the instruction type changed from computer-based to blended instruction. However, computer-assisted language learning tools provide valuable opportunities for self-study, which is a good way of promoting learner autonomy (Ducate & Arnold, 2006). Bearing the advantages of CALL applications and current CS technology in mind, teachers, administrators and program developers should explore solutions to promote computer assisted language learning and develop better ways to integrate these applications into language education through further research.

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APPENDIX A: SAMPLE MPO TEACHING MATERIAL (SUBJUNCTIVE NOUN CLAUSES)

Form

1 The subjunctive is a special type of present tense. It has no *-s* in the third person singular and the same form is used in both present and past sentences:

It is essential that the president go to the meeting.

The judge recommended that the gang go to prison for several years.

2 The verb *be* has a single subjunctive form *be* for all persons: *I be, you be*, etc.:

It is important that you be present at the trial.

The director suggested that all staff be given a pay rise.

3 The use of *I/he/she/it were* after *if* and *I wish* is also a kind of subjunctive:

If I were you, I'd call the doctor.

I wish I were ten years younger.

4 In negative subjunctives, we do not use *do*. We put *not* before the subjunctive form:

They thought it vital that we not travel abroad due to the threat of terrorism.

Use

The subjunctive can be used:

1 in *that* - clauses in formal English after verbs or adjectives that show that something is important or desirable.

Common verbs that use this structure:

demand, desire, insist, prefer, recommend, require, request, suggest;

Common adjectives that use this structure:

important, essential, vital

We recommend that he stay in hospital for at least a month.

2 in 'contrary to fact' statements with *wish* and *as if/as though*:

I wish I were a poet. (I'm not a poet.)

She acts as though she were the boss. (She isn't the boss.)

3 in some fixed phrases:

God save the Queen!

4 In less formal English, *should* + infinitive can be used, or ordinary present and past tenses.

They suggested that we should leave at once.

They suggested that we left at once.

Remember!

The subjunctive is used mainly in formal English. You may also find examples in older works of literature.

Learning tip

Does the subjunctive exist in your language? If so, is it used in the same ways as in English?

APPENDIX B: SAMPLE MPO TEACHING MATERIAL (PARTICIPLE REDUCTION)

In academic writing, we often want to include a lot of information together in one sentence. To do this, we find ways to express ideas more concisely (using fewer words). In long, complex sentences, we often have a main clause and a participle clause. A participle clause contains a verb which doesn't indicate a tense and it often doesn't have a subject.

Adding extra information

In academic writing, we often use a participle clause to give extra information in the same way as a relative clause.

Present participle clauses are used to replace an active verb (below: *the families live*):

Living *in overcrowded conditions without clean water, the families have become desperate*. (present participle clause)

The families, **who live** *in overcrowded conditions without clean water, have become desperate*. (relative clause)

Past participle clauses are used to replace a passive verb (below: *the survey was conducted, the results were gained*):

The findings are based on a survey **conducted** *in 2006*. (past participle clause)

The findings are based on a survey **which was conducted** *in 2006*. (relative clause)

The results **gained** *from this study appear to be in agreement with those previously cited*. (past participle clause)

The results **which were gained** *from this study appear to be in agreement with those previously cited*. (relative clause)

Reasons, results and conditions

A participle clause can describe the reason for the event in the main clause. Again notice that the present participle replaces an active verb (*they were*) and the past participle replaces a passive verb (*they have been rejected*).

Being *illiterate, they had to pay someone to write the applications for them*.

Because they were illiterate, *they had to pay someone to write the applications for them*.

Rejected *by their families, they are forced to fend for themselves*.

Because they have been rejected *by their families, they have to fend for themselves*.

A method or means of doing something is often introduced using *by* + present participle:

By providing *funding directly to schools, these brands raise their profile with young people*.

A participle clause can describe the result of the event or state in the main clause:

Several large firms have gone bankrupt, **leaving** *many workers unemployed*.

The trees overhang the river, **thus providing** *shade for birds and animals*.

Or a condition:

Used *carefully, this technique can be applied to a number of contexts*.

If it is used *carefully, this technique can be applied to a number of contexts*.

Time phrases

A past participle clause is often used to mention something that has already happened or has been completed.

As shown/stated above, *numbers have declined sharply in recent years*. (= As I have shown/stated ...)

Once completed, *the questionnaires were returned anonymously*. (= Once they had been completed)

A present participle clause can describe something that is happening at more or less the same time as the main clause.

Entering *the store, customers are greeted by staff handing out free samples*. (= As they enter ...)

In academic writing, we also use *on/upon* + present participle (*On entering the store,*) to describe things which happen at the same time:

On joining *the World Health Organization, Dr. Heymann worked with the AIDS program*.

Present participles are also used after a number of time prepositions:

Protective gloves must be worn **while handling** *samples*.

In discussing *this issue, it is appropriate to establish some basic terminology*.

Before examining *individual studies, I first consider two behavioural models*.

After collecting *data from 45 patients, the results were compared*.

Remember!

The past participle form of a verb (as used in participle clauses) is not always the same as the past simple form: *shown, known, written, gone, run,* etc.

Learning tip

If you are not sure whether to use a present or a past participle in a participle clause, imagine the full form of the clause:

- if it contains an active verb, you probably need a present participle (-*ing*)

- if it has a passive verb form, you probably need a past participle (-*ed*)

APPENDIX C: TEACHING MATERIAL 1 (PARTICIPLE REDUCTION)

REDUCING ADVERB CLAUSES

- We can reduce adverb clauses of time containing the words before, after, while, when and as. To do this, the SUBJECT of the main clause and the adverb clause must be the SAME. These reduced clauses are also called participle clauses.
- If there are no tense differences between the verb of the main clause and the adverb clause, we reduce the adverb clause with **VERB + -ING**

Examples:

While we **are hiking**, we **admire** the scenery around us.
Reduced: (While) hiking, we admire the scenery around us.

While we **hiked/were hiking**, we **admired** the scenery around us.

Reduced: (While) hiking, we admired the scenery around us.

When they **talk** on the phone, they **take** notes.

Reduced: (When) talking on the phone, they take notes.

As they **learned** the truth, they **sued** the company.

Reduced: Learning the truth, they sued the company.

- If the adverb clause has a different verb tense than the main clause (see the examples below) we reduce the clause with **HAVING +V3**

Examples:

After they **had discussed** the tax policy, they **left** the room.
Reduced: (After) having discussed the tax policy, they left the room.

When he **has finished** the report, he **submits/will submit** it.
Reduced: (When) having finished the report, he will submit it.

NOTE: When reducing the clauses with WHEN, WHILE, and AFTER, we can either omit these adverbs or use them before the participle.

i.e.
After he sold his house, he moved to Paris.
After selling his house, he moved to Paris.
OR
Selling his house, he moved to Paris.

- If the adverb clause has a passive verb without a tense difference, we reduce it with V3.

Examples:
When she was asked about that night, she panicked.
Reduced: (When) asked about that night, she panicked.
After the essays are submitted, they will be reviewed.
Reduced: (After) submitted, the essays will be reviewed.

CLAUSES	ACTIVE	PASSIVE
No tense difference in the main clause or adverb clause	Verb + ing	V3
Time difference in the adverb clause	Having + V3	

Reduce the following adverb clauses

1. When he graduated from high school, he attended a college in New York.

2. While he attends classes at university, he works part-time.

3. After they had got married, they moved to the suburbs.

4. Before he became an architect, he worked as an engineer.

5. When she has planned the trip, she will buy the tickets.

REDUCING RELATIVE CLAUSES

- We can delete relative pronouns in relative clauses with auxiliary “be” in progressive or passive constructions. Both the relative pronoun and “be” are deleted.

  Examples:

  The conference **room which is situated** at the end of the hall is closed.
  Reduced: The conference **room situated** at the end of the hall is closed.

  The **letters that are written** by the secretary will be sent today.
  Reduced: The **letters written** by the secretary will be sent today.

  The **students who are good at Geography** will attend the contest.
  Reduced: The **students good at Geography** will attend the contest.

  We dismissed **the manager who was responsible for** accountancy.
  Reduced: We dismissed the manager responsible for accountancy.

  The **guests who are staying** with us this week are my husband’s relatives.
  Reduced: The **guests staying** with us this week are my husband’s relatives.

  NOTE THAT WE CAN ALSO REDUCE RELATIVE CLAUSES WITH VERBS IN SIMPLE PRESENT IF THEY PRESENT A CONTINUOUS ACTION. WE USE **V+ING** IN REDUCTION AND DELETE THE RELATIVE PRONOUN:

  The **birds which live** in cold climates do not migrate
  Reduced: The **birds living** in cold climates do not migrate.

  The **file which contains** information about your case is confidential.
  Reduced: The file containing information about your case is confidential.

- In relative clauses with the verb of possession have/has (either in affirmative or negative states), we can delete the relative pronoun and **replace have/has** with **without if the verb is negative and with if the verb is affirmative.**

  Examples

  The **workers who do not have identification** are asked to leave
  Reduced: The **workers without identification** are asked to leave.

They look for **a house which has a garden**.
Reduced: They look for **<u>a house with a garden</u>**.

Reduce the following relative clauses

1. They will look for other candidates who are graduated from Law School.

2. The substance which was added into the mixture should be homogeneous.

3. The species which live in the Arctic Sea are about to extinct.

4. Those who do not have a proper visa will not be allowed to enter the country.

5. She works on a special case which is related to the president's assassination.

APPENDIX D: TEACHING MATERIAL 1 FOR THE BLENDED GROUP

(PARTICIPLE REDUCTION)

REDUCING ADVERB CLAUSES

- We can reduce adverb clauses of time containing the words before, after, while, when and as. To do this, the SUBJECT of the main clause and the adverb clause must be the SAME. These reduced clauses are also called participle clauses.
- If there are no tense differences between the verb of the main clause and the adverb clause, we reduce the adverb clause with **VERB + -ING**

Examples:

While we **are hiking**, we **admire** the scenery around us.
Reduced: (While) hiking, we admire the scenery around us.

While we **hiked/were hiking**, we **admired** the scenery around us.

Reduced: (While) hiking, we admired the scenery around us.

When they **talk** on the phone, they **take** notes.

Reduced: (When) talking on the phone, they take notes.

As they **learned** the truth, they **sued** the company.

Reduced: Learning the truth, they sued the company.

- If the adverb clause has a different verb tense than the main clause (see the examples below) we reduce the clause with **HAVING +V3**

Examples:

After they **had discussed** the tax policy, they **left** the room.
Reduced: (After) having discussed the tax policy, they left the room.

When he **has finished** the report, he **submits/will submit** it.

Reduced: (When) having finished the report, he will submit it.

NOTE: When reducing the clauses with WHEN, WHILE, and AFTER, we can either omit these adverbs or use them before the participle.

i.e.
After he sold his house, he moved to Paris.
After selling his house, he moved to Paris.
OR
Selling his house, he moved to Paris.

- If the adverb clause has a passive verb without a tense difference, we reduce it with V3.

Examples:
When she was asked about that night, she panicked.
Reduced: (When) asked about that night, she panicked.
After the essays are submitted, they will be reviewed.
Reduced: (After) submitted, the essays will be reviewed.

CLAUSES	ACTIVE	PASSIVE
No tense difference in the main clause or adverb clause	Verb + ing	V3
Time difference in the adverb clause	Having + V3	

REDUCING RELATIVE CLAUSES

- We can delete relative pronouns in relative clauses with auxiliary "be" in progressive or passive constructions. Both the relative pronoun and "be" are deleted.

Examples:

The conference **room which is situated** at the end of the hall is closed.
Reduced: The conference **room situated** at the end of the hall is closed.

The **letters that are written** by the secretary will be sent today.
Reduced: The **letters written** by the secretary will be sent today.

The **students who are good at Geography** will attend the contest.

Reduced: The **students good at Geography** will attend the contest.

We dismissed **the manager who was responsible for** accountancy.
Reduced: We dismissed the manager responsible for accountancy.

The **guests who are staying** with us this week are my husband's relatives.
Reduced: The **guests staying** with us this week are my husband's relatives.

NOTE THAT WE CAN ALSO REDUCE RELATIVE CLAUSES WITH VERBS IN SIMPLE PRESENT IF THEY PRESENT A CONTINUOUS ACTION. WE USE **V+ING** IN REDUCTION AND DELETE THE RELATIVE PRONOUN:

The **birds which live** in cold climates do not migrate
Reduced: The **birds living** in cold climates do not migrate.

The **file which contains** information about your case is confidential.
Reduced: The file containing information about your case is confidential.

- In relative clauses with the verb of possession have/has (either in affirmative or negative states), we can delete the relative pronoun and **replace have/has** with **without if the verb is negative and with if the verb is affirmative.**

Examples

The **workers who do not have identification** are asked to leave
Reduced: The **workers without identification** are asked to leave.

They look for **a house which has a garden**.
Reduced: They look for **a house with a garden**.

Reduce the following relative clauses

6. They will look for other candidates who are graduated from Law School.

7. The substance which was added into the mixture should be homogeneous.

8. The species which live in the Arctic Sea are about to extinct.

APPENDIX E: TEACHING MATERIAL 2 (CONDITIONAL INVERSION)

INVERSION IN CONDITIONAL SENTENCES

- In formal English, conditional sentences can be formed by inversion of subject and auxiliary. Also, **if** is removed.

Examples:

Present real (SHOULD + SUBJECT + V1)

If they call us, we can invite them to the party.

Should they call us, we can invite them to the party.

If you are busy, postpone our meeting.

Should you be busy, postpone our meeting.

She can improve her French **if she goes to France**.

She can improve her French **should she go to France**.

NOTE: IF THE VERB OF THE CONDITIONAL IS **PASSIVE**, WE USE **SHOULD+SUBJECT+ BE V3**

If the document is signed, it can be sent.

Should the document be signed, it can be sent.

Present Unreal (WERE+SUBJECT+TO V1 or NOUN/ADJ etc.)

If I were you, I would not leave her.

Were I you, I would not leave her.

If the manager promoted David, he would earn 1000 dollars more.

Were the manager to promote David, he would earn 1000 dollars more.

NOTE: IF THE VERB OF THE CONDITIONAL TYPE II IS **PASSIVE**, WE USE **WERE+SUBJECT+ TO BE V3**

If the car was stolen, the insurance company would pay for it.

Were the car to be stolen, the insurance company would pay for it.

Past Unreal (HAD+SUBJECT+V3)

If you had told me, I would have helped you.

Had you told me, I would have helped you.

If I had been late again, I would have been fired.

Had I been late again, I would have been fired.

NOTE: IF THE CONDITIONAL TO BE INVERTED IS IN NEGATIVE FORM, YOU SHOULD USE "NOT" BEFORE THE ACTUAL VERB: **AUX+SUBJECT+NOT+VERB**

If she does not find the address, she will let us know.

Should she not find the address, she will let us know.

If I were not a doctor, I would be an architect.

Were I not a doctor, I would be an architect.

If they did not live in the city, they would have problems with transportation.

Were they not to live in the city, they would have problems with transportation.

If they had not taken the test, they would not have applied for college.

Had they not taken the test, they would not have applied for college.

Exercises:

Rewrite the if clauses so that they are the most formal

1. If I were a millionaire, I would not work anymore.

2. They would have been more successful if they had studied more.

3. If she visits us today, we can ask her about the wedding.

4. They cannot apply for a visa if they do not have a passport.

5. The country would be in a better condition if she/it were not at war.

APPENDIX F: TEACHING MATERIAL 2 FOR THE BLENDED GROUP

(CONDITIONAL INVERSION)

INVERSION IN CONDITIONAL SENTENCES

- In formal English, conditional sentences can be formed by inversion of subject and auxiliary. Also, **if** is removed.

Examples:

Present real (SHOULD + SUBJECT + V1)

If they call us, we can invite them to the party.

Should they call us, we can invite them to the party.

If you are busy, postpone our meeting.

Should you be busy, postpone our meeting.

She can improve her French **if she goes to France**.

She can improve her French **should she go to France**.

NOTE: IF THE VERB OF THE CONDITIONAL IS **PASSIVE**, WE USE **SHOULD+SUBJECT+ BE V3**

If the document is signed, it can be sent.

Should the document be signed, it can be sent.

Present Unreal (WERE+SUBJECT+TO V1 or NOUN/ADJ etc.)

If I were you, I would not leave her.

Were I you, I would not leave her.

If the manager promoted David, he would earn 1000 dollars more.

Were the manager to promote David, he would earn 1000 dollars more.

NOTE: IF THE VERB OF THE CONDITIONAL TYPE II IS **PASSIVE**, WE USE **WERE+SUBJECT+ TO BE V3**

If the car was stolen, the insurance company would pay for it.

Were the car to be stolen, the insurance company would pay for it.

Past Unreal (HAD+SUBJECT+V3)

If you had told me, I would have helped you.

Had you told me, I would have helped you.

If I had been late again, I would have been fired.

Had I been late again, I would have been fired.

NOTE: IF THE CONDITIONAL TO BE INVERTED IS IN NEGATIVE FORM, YOU SHOULD USE "NOT" BEFORE THE ACTUAL VERB: **AUX+SUBJECT+NOT+VERB**

If she does not find the address, she will let us know.

Should she not find the address, she will let us know.

If I were not a doctor, I would be an architect.

Were I not a doctor, I would be an architect.

If they did not live in the city, they would have problems with transportation.

Were they not to live in the city, they would have problems with transportation.

If they had not taken the test, they would not have applied for college.

Had they not taken the test, they would not have applied for college.

Exercises:

Rewrite the if clauses so that they are the most formal

6. If I were a millionaire, I would not work anymore.

7. They would have been more successful if they had studied more.

8. If she visits us today, we can ask her about the wedding.

APPENDIX G: TEACHING MATERIAL 3 (SUBJUNCTIVE NOUN CLAUSES)

SUBJUNCTIVE NOUN CLAUSES

- The simple form of a verb is called a subjunctive verb. Sentences constructed with subjunctive verbs generally emphasize necessity, advice, suggestion, urgency, or importance. That is why, when we complete a verb of advice, suggestion, urgency, importance, necessity, command or request with a subjunctive noun clause regardless of the tense of the main clause. It has no –s in the third person singular.

THE AFFIRMATIVE FORM: THAT+SUBJECT+ (SHOULD) +V1

The doctor **suggests** that she (should) stay in bed for a week.

The committee **insists** that all members (should) vote.

THE NEGATIVE FORM: THAT+ SUBJECT+ (SHOULD) +NOT+V1

The professor **advised** that I (should) not experiment on teenagers.

The participants **request** that the researcher (should) not reveal their names.

THE PASSIVE FORM: THAT+SUBJECT+ (SHOULD) +BE+V3

The media **suggested** that the public (should) be informed about the new policies.

The technician **recommends** that the computer (should) be scanned for viruses.

Common verbs and expressions followed by the subjunctive in a noun clause:

advise, ask, demand, insist, propose, recommend, request, require, suggest + that + noun clause

It is + that + noun clause

essential, imperative, important, critical, necessary, vital

It is essential that this medicine (should) be taken before meals.

It was important that the Ottomans (should) sign a treaty with Prussians.

NOTE: THE NOUN FORMS OF THE VERBS REQUIRING SUBJUNCTIVE NOUN CLAUSES MAY ALSO TAKE A THAT CLAUSE WITH A SUBJUNCTIVE VERB. Some of these nouns are advice, command, decision, demand, order, recommendation, requirement, request, and suggestion.

His advice that she (should) be set free was unwise.

She did not listen to his request that she (should) be more patient.

Combine or rewrite the sentences so that it is the most formal

1. The judge required: "All the jurors will be here before 9 a.m."

2. Her father demanded this. They have to be back by 12:00.

3. It is important. The company needs to dispatch the goods tomorrow.

4. It is necessary. All the employees to be hired must be bilingual.

5. It was suggested by the director. He must resign.

APPENDIX H: TEACHING MATERIAL 3 FOR THE BLENDED GROUP

(SUBJUNCTIVE NOUN CLAUSES)

SUBJUNCTIVE NOUN CLAUSES

- The simple form of a verb is called a subjunctive verb. Sentences constructed with subjunctive verbs generally emphasize necessity, advice, suggestion, urgency, or importance. That is why, when we complete a verb of advice, suggestion, urgency, importance, necessity, command or request with a subjunctive noun clause regardless of the tense of the main clause. It has no –s in the third person singular.

THE AFFIRMATIVE FORM: THAT+SUBJECT+ (SHOULD) +V1

The doctor **suggests** that she (should) stay in bed for a week.

The committee **insists** that all members (should) vote.

THE NEGATIVE FORM: THAT+ SUBJECT+ (SHOULD) +NOT+V1

The professor **advised** that I (should) not experiment on teenagers.

The participants **request** that the researcher (should) not reveal their names.

THE PASSIVE FORM: THAT+SUBJECT+ (SHOULD) +BE+V3

The media **suggested** that the public (should) be informed about the new policies.

The technician **recommends** that the computer (should) be scanned for viruses.

Common verbs and expressions followed by the subjunctive in a noun clause:

advise, ask, demand, insist, propose, recommend, request, require, suggest + that + noun clause

It is + that + noun clause

essential, imperative, important, critical, necessary, vital

It is essential that this medicine (should) be taken before meals.

It was important that the Ottomans (should) sign a treaty with Prussians.

NOTE: THE NOUN FORMS OF THE VERBS REQUIRING SUBJUNCTIVE NOUN CLAUSES MAY ALSO TAKE A THAT CLAUSE WITH A SUBJUNCTIVE VERB. Some of these nouns are advice, command, decision, demand, order, recommendation, requirement, request, and suggestion.

His advice that she (should) be set free was unwise.

She did not listen to his request that she (should) be more patient.

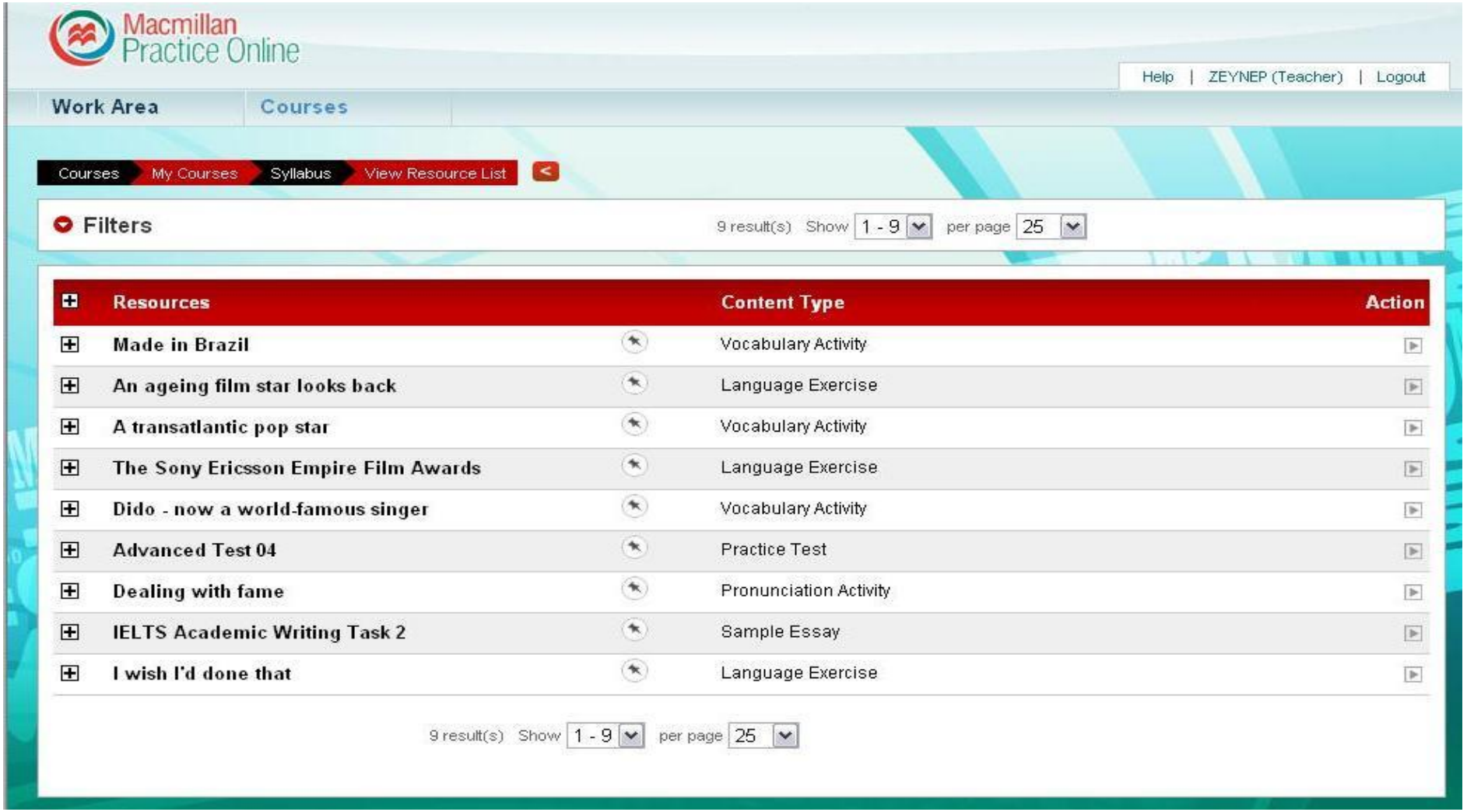
Combine or rewrite the sentences so that it is the most formal

6. The judge required: "All the jurors will be here before 9 a.m."

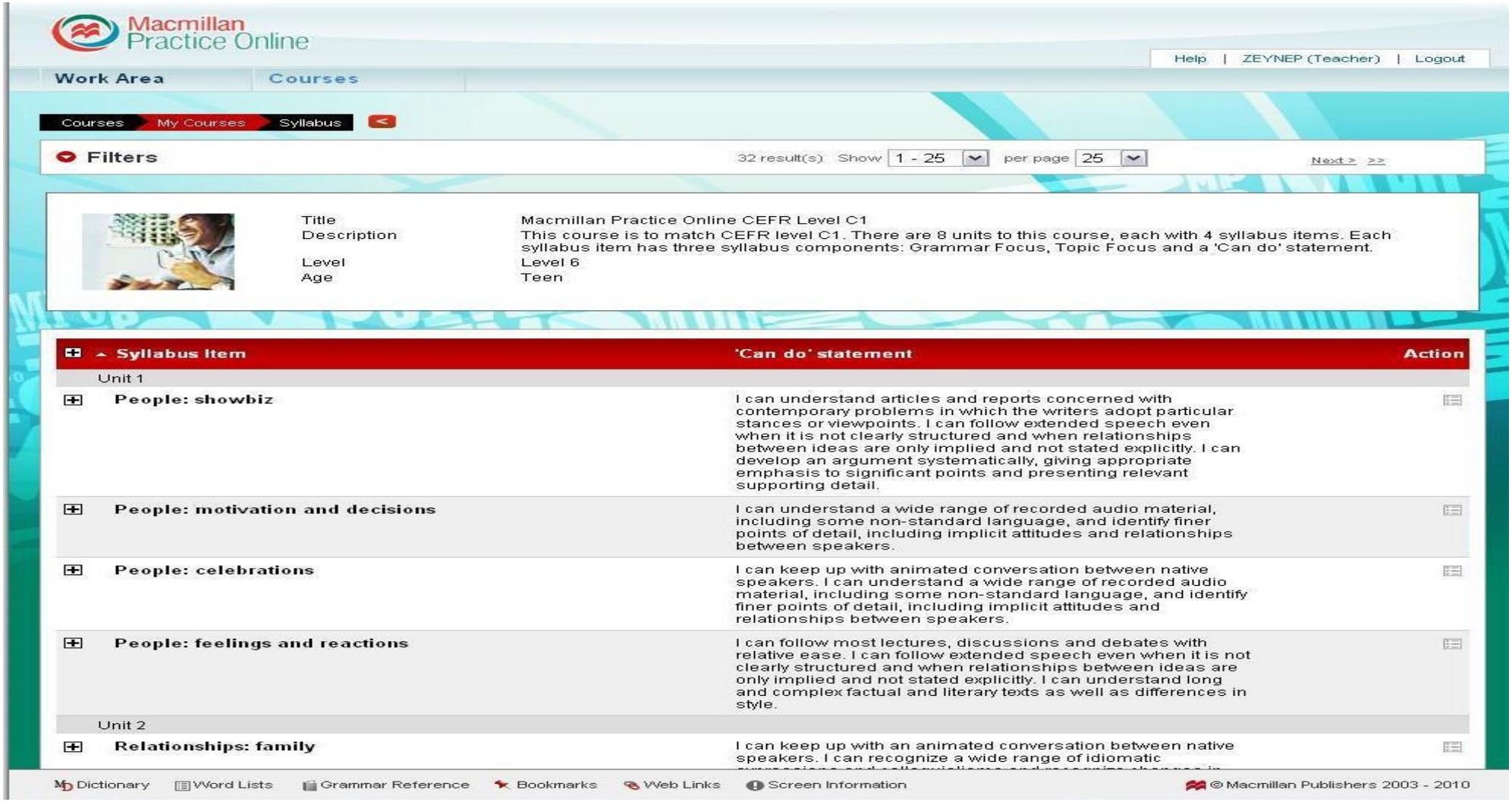
7. Her father demanded this. They have to be back by 12:00.

8. It is important. The company needs to dispatch the goods tomorrow.

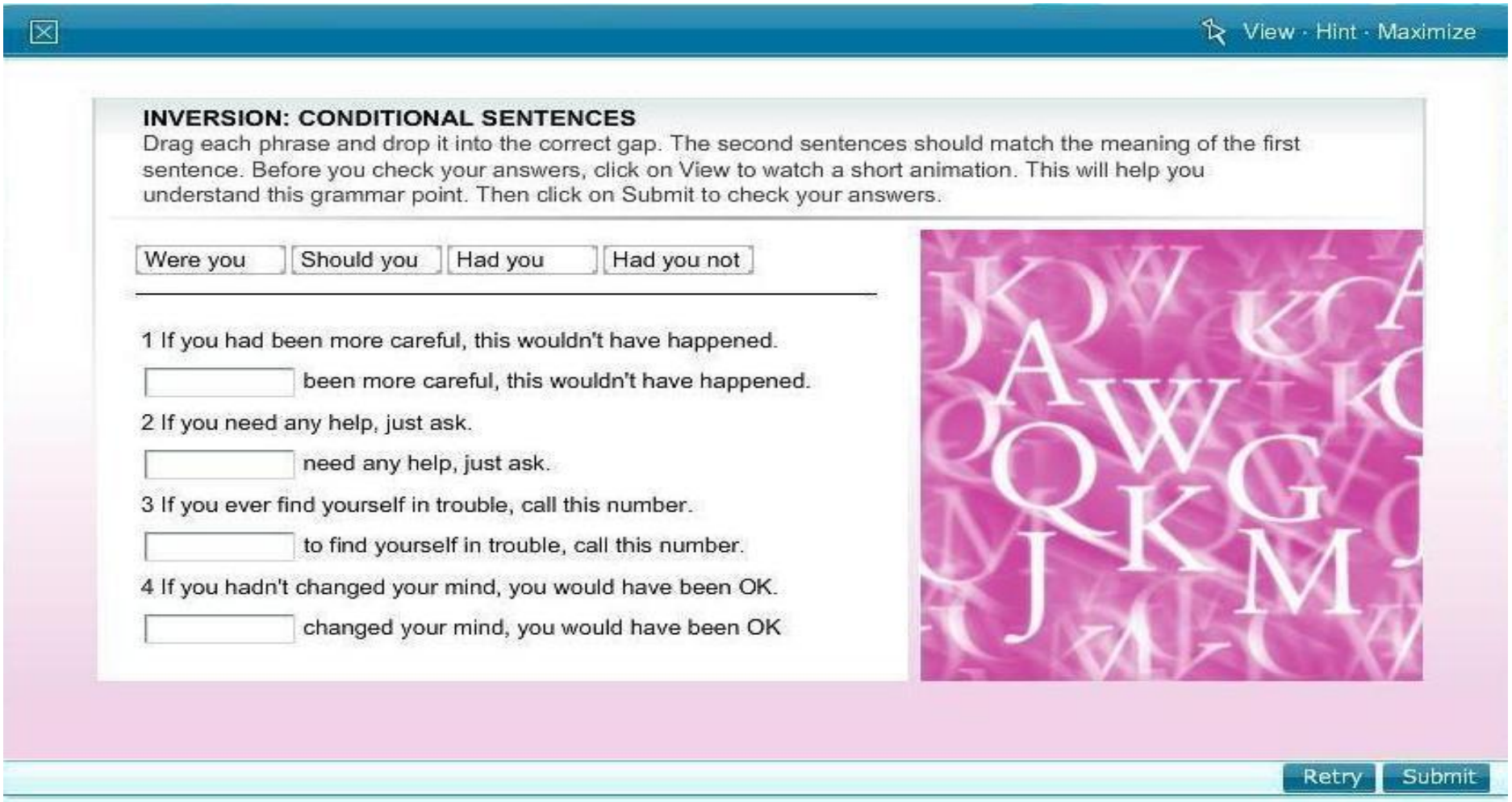
APPENDIX I: MACMILLAN PRACTICE ONLINE SAMPLE UNIT SCREENSHOTS



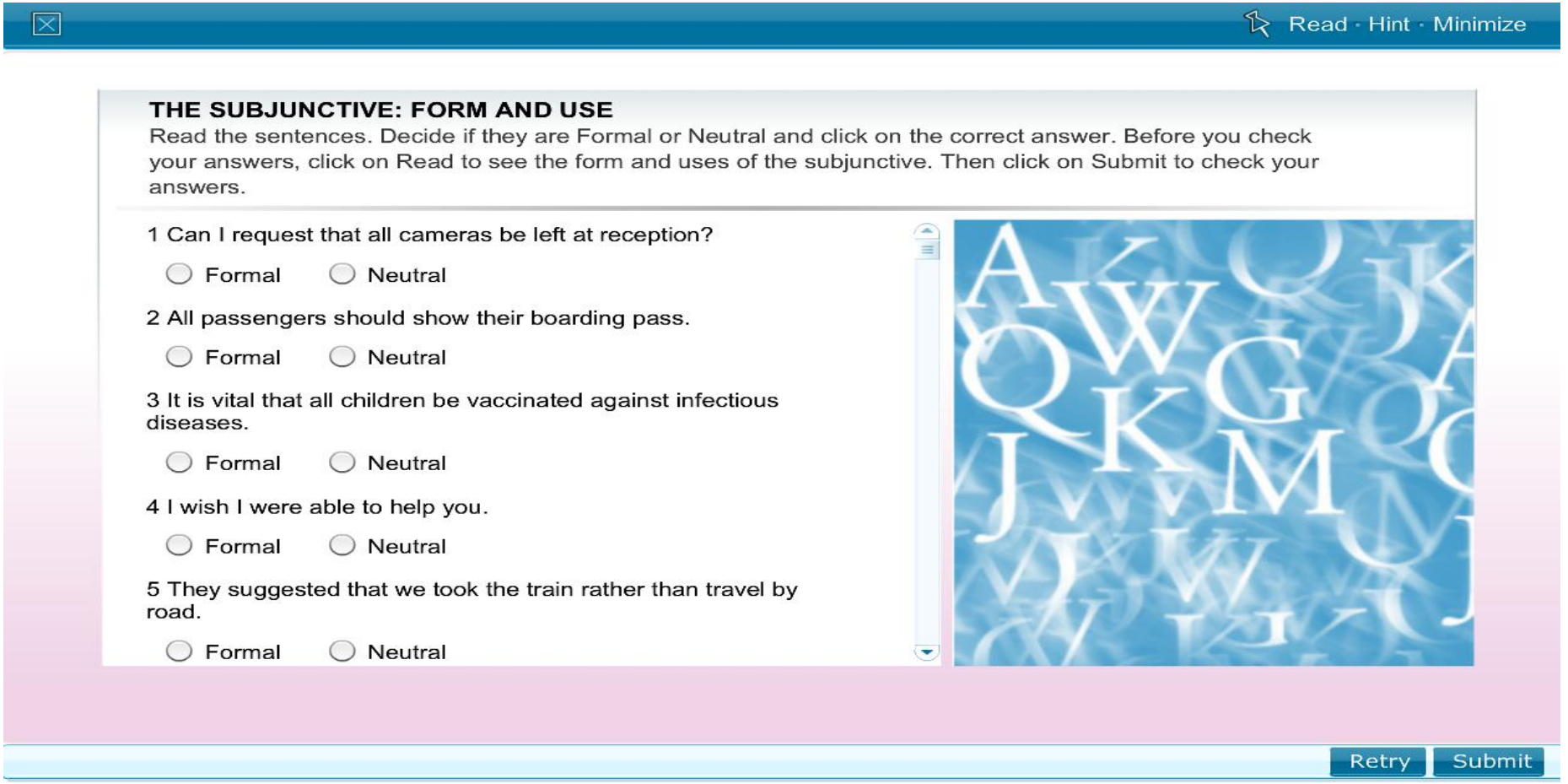
APPENDIX I: MACMILLAN PRACTICE ONLINE SAMPLE UNIT SCREENSHOTS



APPENDIX J: MACMILLAN PRACTICE ONLINE SAMPLE EXERCISES SCREENSHOTS



APPENDIX J: MACMILLAN PRACTICE ONLINE SAMPLE EXERCISES SCREENSHOTS



APPENDIX K: THE PRE-TEST

Date: _____

Name:

Surname:

Group:

A. Fill in the blanks by using the correct form of the verbs in brackets (be careful with the active/passive use)

1. _____ (walk) carefully, the private eye searched the room.
2. _____ (know) the truth, the detectives investigated the suspect.
3. The forms _____ (write) up to now will be reviewed by the officers.
4. Before _____ (change) the procedure, the researcher reevaluated the results.
5. After _____ (take) the pills for a long time, the patients were prescribed some homeopathic medicine.
6. Had she _____ (be) qualified enough, she would have been selected.
7. Were you _____ (have) the money, would you buy a Ferrari.
8. Were I _____ (live) in Europe, I would not need to take a visa when travelling to France.
9. The publisher would have accepted the author's offer, had he _____ (nominate) for a literary prize.
10. Were I _____ (earn) more money, I would not look for another job.
11. It is vital that children _____ (sleep) 12 hours a day.
12. The judge recommended that the accused _____ (release).
13. The donors requested that their names _____(keep) secret.
14. She recommends that the attorney _____ (be) here tomorrow.
15. The president insisted that the meeting _____ (begin) on time.

16. The authorities _____ (not/announce) the results of the elections yet.

17. It is known that the committee _____ (already/sign) the agreement.

18. None of the students _____ (take) an exam up to now.

19. There _____ (be) many improvements in engineering recently.

20. They _____ (work) for IBM since they resigned from Apple Inc.

21. According to the weather forecast, it _____ (rain) in Berlin tomorrow.

22. On the 5th of July they _____ (attend) an international conference.

23. I believe I _____ (become) a good surgeon in future.

24. We _____ (sign) the contract on the 15th of May.

25. I promise I _____ (not tell) anyone.

Reduce the relative or adverbial clauses in the sentence

26. After Joe had met the new neighbors, he invited them to his party.

27. As it is shown in the graphics, there has been a sharp decline in drug use recently.

28. After I collect the data, I will compare the results statistically.

29. The researcher made a lot of references to the essay which was published by Marx.

30. As the judge was hearing the witnesses, he was taking some notes.

Rewrite the if clause so that it is the most formal

31. If the documents are printed, please contact my secretary.

32. If the critics favored the movie, I would see it immediately.

33. You can apply for that vacancy if you want.

34. The minister would have resigned if the media published the secret diaries.

35. If the Berlin Wall had not been deconstructed, Russia would have remained a communist state.

Combine or Rewrite the sentences so that it is the most formal

36. The reliability of the formula should be questioned. It is vital.

37. The officer demanded: “The goods need to be inspected by the Customs”.

38. The president of the committee suggested: “The members need to discuss the details at once”.

39. His mother insisted: “The house will be sold”.

40. It is important. The scientists need to develop a new vaccination.

Rewrite the sentences using the form/verb in the parentheses

41. She went to the grocery and has not returned yet. (GONE)

42. It started to snow five hours ago. (FOR)

43. In 1999 and 2000 she visited Paris. (HAS)

44. She started writing the essay and is still working on it. (YET)

45. They had a fight. They do not see each other. (SINCE)

46. Their vacation is planned. (GOING TO)

47. I believe I may find a job soon. (WILL)

48. He responded to our invitation to the meeting positively (GOING TO ATTEND)

49. It is not sure but he may find a new formula. (WILL)

50. There are too many boxes to carry. I can help if you want. (SHALL/?).

APPENDIX L: IMMEDIATE POST TEST ON PARTICIPLE REDUCTION

Date: _____

Name:

Surname:

Group:

A. Fill in the blanks by using the correct form of the verbs in brackets (be careful with the active/passive use)

26. _____ (hear) the sad news, the patient's family rushed into the hospital.

27. The meteorologist warned the citizens _____ (live) in the vicinity about a sudden storm.

28. The birds _____ (live) in mild climates migrate in winter.

29. The customs officer will inspect the goods _____ (dispatch) recently.

30. Mammals _____ (hibernate) more than 3 months will be monitored for the experiment.

31. Before we started to work on details, we _____ (analyze) the circumstances for a long time.

32. While they were talking about the war in Lebanon, they _____ (listen) to the news.

33. When I find his address, I _____ (send) it to you.

34. Until they _____ (arrange) a meeting, we won't discuss the details.

35. They will leave the country as soon as they _____ (get) their passports.

Reduce the relative or adverbial clauses in the sentence

11. The secretary retyped the document which was checked by the director.

12. The needles which are used in hospitals must be sterile.

13. After she had learned the truth about the contract, she sued the company.

14. Do you know the woman who is wearing a strange necklace?

15. She bought expensive dresses which were designed by Tom Ford.

Rewrite the sentences using the form/verb in the parentheses

16. First read the instructions, then you can start doing the test. (AFTER)

17. First mix the ingredients, and then bake the mixture for 45 minutes. (BEFORE)

18. He is running, at the same time he is listening to his favorite playlist on his IPOD. (WHILE).

19. He reported the results. Later on, he found a mistake. (AFTER)

20. He died suddenly. His will was found. (WHEN)

APPENDIX M: IMMEDIATE POST TEST ON CONDITIONAL INVERSION

Date: _____

Name:

Surname:

Group:

A. Fill in the blanks by using the correct form of the verbs in brackets (be careful with the active/passive use)

1. Were the findings _____ (show) any difference, the experiment would be repeated.
2. The firm will dispatch the goods should the payment _____ (do).
3. Should he _____ (be) here on time, he will see the director.
4. Had Einstein _____ (not/be) Jewish, he would not have fled to the USA.
5. Use inverted sentences should you _____ (want) your essay to be more formal.
6. Gunpowder _____ (invent) in China in the 9th century.
7. This omelet _____ (make) of three eggs and some cheese.
8. The official letters _____ (sign) by the principal.
9. Istanbul _____ (conquer) by Mehmet the Conqueror in 1453.
10. Additional taxes _____ (not include) in the price.

Rewrite the if clause so that it is the most formal

11. If he had slept well, he would not have had that accident.

12. The consulate will give you a visa if you need one.

13. They would have nominated you for the award if you had published your book a year ago.

14. The itinerary will be rearranged if the prime minister spends more than 2 days in Germany.

15. If a student got into a fight, he or she was suspended for a few days.

Rewrite the sentences using the passive voice.

16. Columbus discovered America in 1492.

17. They gave an Oscar to Natalie Portman.

18. Einstein developed the Theory of Relativity.

19. Lee Harvey Oswald assassinated J.F. Kennedy.

20. The statistician will analyze the data.

APPENDIX N: IMMEDIATE POST TEST ON SUBJUNCTIVE NOUN CLAUSES

Date: _____

Name:

Surname:

Group:

A. Fill in the blanks by using the correct form of the verbs in brackets (be careful with the active/passive use)

1. My advisor suggested that I _____ (rewrite) the final chapter.
2. It is claimed that the members of the committee _____ (select) by the prime minister himself.
3. It is demanded that your mother _____ (be) present at the parents' meeting.
4. The judge demanded that all the jurors _____ (select) randomly.
5. The interviewee requested that his name _____ (not reveal) to media.
6. If I _____ (be) you, I would stop smoking immediately.
7. _____ you apply for New York University if you are granted the scholarship?
8. If I _____ (have) a million dollars, I would buy an island.
9. They _____ (resign) if they had accepted a bribe.
10. Call me if you _____ (find) Peter.

Combine or Rewrite the sentences so that it is the most formal

11. We had to renew our passports. It was demanded by the immigration office.
12. Koalas should be protected. Do you think it is important?
13. The candidate is supposed to have a master's degree. The human resources manager prefers this.

14. The general commanded: “The soldiers will be sent to the northern front”.

15. The instructor recommended this. The students have to follow the instructions.

Rewrite the sentences using the conditionals (If)

16. He will not take his A levels, so he cannot apply for a university this year.

17. He doesn’t know French, so he needs a translator.

18. They did not finish college. They could not find a good job.

19. She may catch the train, so she can be here on time.

20. She can be available on Monday, so we can visit her.

APPENDIX O: THE DELAYED-POST TEST

Date: _____

Name:

Surname:

Group:

A. Fill in the blanks by using the correct form of the verbs in brackets (be careful with the active/passive use)

36. The names of the nominees _____ (write) on the list are not correct.

37. The subjects _____ (participate) in the experiment were chosen randomly.

38. Why don't we change the menu _____ (prepare) by our former chef?

39. Please use the forms _____ (print) by our officer.

40. The bride opened the gift box _____ (wrap) with a red paper first.

41. The test will consist of two sections should the students _____ (cover) all the units.

42. Had the driver _____ (not drink) that much, there would not have been an accident.

43. Should they _____ (see) the president this week, they will discuss the new bill of law.

44. Were the rector _____ (give) a speech now, we would attend the opening ceremony.

45. He would have been granted a scholarship had he _____ (have) three reference letters.

46. It is obligatory that income taxes _____ (pay) not later than June.

47. It is suggested by the authorities that all citizens _____ (be) prepared for the coming storm.

48. It is essential that the scientist _____ (announce) the results of the study.

49. United Nations requires that the authorities _____ (visit) the refugee camps not later than July.

50. The suggestion that the manager _____ (dismiss) was met with resistance.

Reduce the relative or adverbial clauses in the sentence

16. As he was calling 911, he tried not to panic.

17. The film which was directed by David Lynch was given an Oscar for Best Picture.

18. The officer who is responsible for inspection should not have a prior criminal record.

19. When the manager signed the contract, he made the fiscal arrangements.

20. He looks for a store which sells mobile phones.

Rewrite the if clause so that it is the most formal

21. They would have saved some money if they had known about the debt.

22. Turkey would have already been a member of the European Union if she had taken part in World War II.

23. If the congress approves the law, all the prisoners will be released.

24. Microsoft will develop a more secure operating system if the current ones have security problems.

25. If the murderer had admitted his crime, he would not have been sentenced to the death penalty.

Combine or Rewrite the sentences so that it is the most formal

26. The doctor recommended: “You have to stay in bed for a week.

27. He needs to be operated on immediately. The surgeon requires it.

28. It is essential. All the witnesses need to be interrogated again.

29. The cabinet suggested: “The opposing party should attend the voting”.

30. The journalist suggested this. The president needs to reconsider the new taxation policy.

APPENDIX P: STUDENTS' QUESTIONNAIRE IN ENGLISH

STUDENTS' QUESTIONNAIRE

This questionnaire was designed to provide information on Yıldız Technical University School of Foreign Languages Basic English Department's students' conscious attitudes towards commercial software and how it is used in the classroom.

Name:

Class:

Study group:

Sex: [ ] Female [ ] Male

SECTION 1: GENERAL ATTITUDES

This section of the questionnaire aims at investigating your general attitudes regarding your experiences with using computers. Please put a tick (√) to the option that best describes you.

1. How often do you use computers in your daily life?

_____ once a week _____ 1-2 times a week _____ 3-4 times a week _____ 5 or more times a week

2. How often do you use computers for the following activities? Please put a tick (√) to the option that best describes you.

[ ] 0 never [ ] 1 rarely [ ] 2 sometimes [ ] 3 usually [ ] 4 always

mailing	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
gaming	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
chatting	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
social networking	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
surfing the Internet	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
entertainment	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
homework	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
research	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
online shopping	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
other (please specify):					
_____	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4

3. For the items below please circle the alternative that best indicates your opinion.

1. strongly disagree 2. disagree 3. agree 4. strongly agree

a. I like using computers	1	2	3	4
b. Computer literacy makes me more efficient in my life.	1	2	3	4
c. Computer literacy makes me more efficient at school.	1	2	3	4
d. Computer literacy helps complete tasks easily.	1	2	3	4
e. Computer literacy helps complete homework easily.	1	2	3	4
f. Computers are educative (learning tools).	1	2	3	4
g. Computers are only for entertainment.	1	2	3	4
h. Computers are helpful in learning languages.	1	2	3	4
i. I have positive attitudes towards using computers in learning languages.	1	2	3	4
j. I like using computers for educative purposes.	1	2	3	4
k. I like doing homework by means of computers.	1	2	3	4
l. Computers support learning.	1	2	3	4
m. Computers are not learning tools.	1	2	3	4
n. I need training to use computers for learning English.	1	2	3	4

SECTION 2: ATTITUDES TOWARDS USING COMMERCIAL SOFTWARE AT YILDIZ TECHNICAL UNIVERSITY FOR GRAMMAR INSTRUCTION

This section provides information on Yıldız Technical University School of Foreign Languages Basic English Department's students' conscious attitudes towards using commercial software for grammar instruction. Please circle the alternative that best describes your opinion.

1. strongly disagree 2. disagree 3. agree 4. strongly agree

a. Commercial software is beneficial for learning English.	1	2	3	4
b. Commercial software is beneficial for grammar instruction.	1	2	3	4
c. Commercial software is beneficial for practicing grammar.	1	2	3	4
d. Commercial software is beneficial for improving grammar.	1	2	3	4
e. I can learn grammar through commercial software.	1	2	3	4
f. I prefer commercial software to classroom teaching.	1	2	3	4
g. I like using commercial software in studying English grammar.	1	2	3	4
h. I prefer classroom teaching to commercial software.	1	2	3	4
i. Commercial software is a good teacher.	1	2	3	4
j. I need a teacher to help me when using commercial software.	1	2	3	4
k. I need training for using commercial software.	1	2	3	4
l. Commercial software helps me understand my mistakes.	1	2	3	4
m. I feel more comfortable studying with commercial software than studying in the class.	1	2	3	4
n. I feel more comfortable when studying in the class.	1	2	3	4

APPENDIX R: STUDENTS' QUESTIONNAIRE IN TURKISH

ÖĞRENCİ ANKETİ

Bu anket Yıldız Teknik Üniversitesi Yabancı Diller Yüksekokulu Temel İngilizce Bölümü öğrencilerinin ticari yazılımlar ve bunların ders içi kullanımına yönelik bilinçli tutumlarına ilişkin bilgi sağlamak için hazırlanmıştır.

Adı - Soyadı:

Sınıf:

Çalışma Gurubu:

Cinsiyet: [ ] Kadın [ ] Erkek

BÖLÜM 1: GENEL TUTUMLAR

Anketin bu bölümü bilgisayar kullanımınıza ilişkin genel tavırlarınız hakkında bilgi edinmeyi amaçlamaktadır. Lütfen sizi en iyi anlatan seçeneğe (√) işareti koyunuz.

4. Günlük hayatınızda bilgisayarı ne sıklıkla kullanırsınız?

_____ haftada bir _____ haftada 1-2 defa _____ haftada 3-4 defa _____ haftada 5 defa veya daha çok

5. Aşağıdaki aktiviteler için bilgisayarı ne sıklıkla kullanırsınız? Lütfen sizi en iyi anlatan seçeneğe (√) işareti koyunuz.

[ ] 0 asla	[ ] 1 nadiren	[ ] 2 bazen	[ ] 3 genellikle	[ ] 4 her zaman
e-posta	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
oyun	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
sohbet	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
sosyal ağlar	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
İnternet'te dolaşmak	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
eğlence	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
ödev	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
araştırma	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
online alışveriş	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4
diğer (lütfen belirtiniz):				
_____	[ ] 0	[ ] 1	[ ] 2	[ ] 3	[ ] 4

6. Aşağıdaki ifadeler için lütfen size en yakın olan seçeneği daire içine alınız.

1. kesinlikle katılmıyorum 2. katılmıyorum 3. katılıyorum 4. kesinlikle katılıyorum

a. Bilgisayar kullanmayı severim.	1	2	3	4
b. Bilgisayar kullanabilmek beni yaşamımda daha etkin kılar.	1	2	3	4
c. Bilgisayar kullanabilmek beni okulda daha etkin kılar.	1	2	3	4
d. Bilgisayar kullanabilmek görevlerimi kolaylıkla tamamlamamı sağlar.	1	2	3	4
e. Bilgisayar kullanabilmek ödevlerimi kolaylıkla yapmamı sağlar.	1	2	3	4
f. Bilgisayarlar eğitseldir (öğrenme araçlarıdır).	1	2	3	4
g. Bilgisayarlar sadece eğlence içindir.	1	2	3	4
h. Bilgisayarlar dil öğreniminde faydalıdır.	1	2	3	4
i. Bilgisayarları dil öğrenmede kullanmakla ilgili tutumum olumlu.	1	2	3	4
j. Bilgisayarları eğitsel amaçlar için kullanmaktan hoşlanırım.	1	2	3	4
k. Bilgisayarlarla ödev yapmayı seviyorum.	1	2	3	4
l. Bilgisayarlar öğrenmeyi destekler.	1	2	3	4
m. Bilgisayarlar eğitsel araçlar değildir.	1	2	3	4
n. Bilgisayarları İngilizce öğrenmek için kullanırken eğitime ihtiyaç duyarım.	1	2	3	4

BÖLÜM 2: YILDIZ TEKNİK ÜNİVERSİTESİ YDYO'nda TİCARİ YAZILIMLARI İNGİLİZCE DİLBİLİSİ ÖĞRETİMİNDE KULLANMAYA YÖNELİK TUTUMLAR

Bu anket Yıldız Teknik Üniversitesi Yabancı Diller Yüksekokulu Temel İngilizce Bölümü öğrencilerinin ticari yazılımlara ve bunların İngilizce dilbilgisi öğretimde kullanımına yönelik bilinçli tutumlarına ilişkin bilgi sağlamak için hazırlanmıştır.

1. kesinlikle katılmıyorum 2. katılmıyorum 3. katılıyorum 4. kesinlikle katılıyorum

a. Ticari yazılımlar İngilizce öğrenmede yararlıdır.	1	2	3	4
b. Ticari yazılımlar İngilizce dilbilgisi öğretmede yararlıdır.	1	2	3	4
c. Ticari yazılımlar İngilizce dilbilgisi alıştırmaları açısından yararlıdır.	1	2	3	4
d. Ticari yazılımlar İngilizce dilbilgisini geliştirmede yararlıdır.	1	2	3	4
e. Ticari yazılımlar vasıtasıyla İngilizce dilbilgisi öğrenebilirim.	1	2	3	4
f. Ticari yazılımları sınıf içi eğitime tercih ederim.	1	2	3	4
g. İngilizce dilbilgisi çalışırken ticari yazılımları kullanmayı seviyorum.	1	2	3	4
h. Sınıf içi eğitimi ticari yazılımlara tercih ederim.	1	2	3	4
i. Ticari yazılımlar iyi öğretmenlerdir.	1	2	3	4
j. Ticari yazılımları kullanırken bir öğretmene ihtiyaç duyarım.	1	2	3	4
k.Ticari yazılımları kullanmak için eğitime ihtiyaç duyarım.	1	2	3	4
l. Ticari yazılımlar hatalarımı anlamamda bana yardımcı olur.	1	2	3	4
m. Ticari yazılımlarla çalışırken kendimi sınıfta olduğumdan daha rahat hissederim.	1	2	3	4
n. Sınıfta çalışırken kendimi daha rahat hissederim.	1	2	3	4

KATILIMINIZ İÇİN TEŞEKKÜRLER.

Öğr. Gör. Zeynep Erşin