ENHANCED COLLABORATION IN FOREIGN LANGUAGE EDUCATION:

USE OF WIKIS IN COLLABORATIVE WRITING PROJECTS

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Thesis Abstract

Zeliha Aydın, “Enhanced Collaboration in Foreign Language Education:

Use of Wikis in Collaborative Writing Projects”

This thesis investigates the use of wikis in foreign language education and students’ attitudes toward the integration of wiki-based collaborative writing activities into their foreign language learning process.

The effects of three different task types: (a) argumentative, (b) informative, (c) problem-solving on the number of peer/self corrections and meaning/form related changes were examined based on and adapted from Kessler’s (2009) and Kessler and Bikowski’s (2010) taxonomies.

34 upper-intermediate EFL students who studied at the preparatory school of a private university participated in collaborative writing tasks in groups of four for five weeks using Wikispaces. In the argumentative task, they were asked to write an argumentative essay. In the informative task, they were asked to choose a city from Turkey and prepare a visitor’s guide for the city they had chosen. In the problem-solving task, they were asked to offer advice on problems taken from the Dear Abby website. Students formed new groups for each task. After they completed the tasks, a questionnaire adapted from Lee (2010) and Hazari, North, and Moreland (2009) was conducted with them to explore their overall experience with the integration of wiki-based collaborative writing tasks into their foreign language learning process. In addition, a focus-group interview with six randomly chosen students was carried out.

After the completion of the tasks, all the wiki pages the students created, the results of the questionnaires and the focus-group interview were analyzed. Descriptive statistics and Chi-square tests were used to analyze the quantitative data. The results revealed that the argumentative task promoted more peer corrections than the informative and problem-solving tasks. In addition, the informative task yielded more self corrections than the argumentative and problem-solving tasks. Moreover, use of wiki-based collaborative writing tasks led to accurate use of the grammatical structures 94% of the time. The results of the study also suggested that the students paid more attention to meaning rather than form regardless of the task type. Finally, the students stated that they had positive experiences using wikis in foreign language writing and they believed that their writing performance had improved.

Tez Özeti
Zeliha Aydın, "Yabancı Dil Öğretiminde Arttirilmis İşbirliği:

İşbirlikçi Yazma Projelerinde Wikilerin Kullanımı"

Bu tez, yabancı dil öğretiminde wikilerin kullanımını ve öğrencilerin wiki üzerinden bir grupla beraber yazı yazma aktivitelerinin yabancı dil öğrenme sürecine eklenmesine yönelik tutumlarını araştırmayı amaçlamaktadır.

Kessler'in (2009) ve Kessler ve Bikowski'nin (2010) sınıflandırmaları adapte edilerek üç farklı görev türü: (a) tartışma, (b) bilgilendirme ve (c) problem çözme'nin arkadaş/ bireysel düzeltme ve anlamsal/ yapısal değişiklerin sayısı üzerindeki etkisi incelenmiştir.

İşbirlikçi yazma görevlerine, özel bir üniversitenin hazırlık sınıfında okuyan ileri-orta seviyede İngilizce öğrenen 34 öğrenci, beş hafta boyunca dört kişilik gruplar halinde Wikispaces web sitesi üzerinde çalışarak katılmıştır. Tartışma görevinde öğrencilerden verilen bir konuyu tartışacakları bir kompozisyon yazmaları istenmiştir. Bilgilendirme görevinde öğrencilerden Türkiye'den bir şehir seçip o şehir için ziyaretçi rehberi hazırlamaları beklenmiştir. Problem çözme görevinde Dear Abby sitesinden alınan problemlerin çözümü için tavsiyede bulunmaları istenmiştir. Öğrenciler her görevde yeni gruplarla çalışmıştır. Görevlerin tamamlanmasından sonra öğrencilerin wiki bazlı işbirlikçi yazı yazma görevlerinin yabancı dil öğrenme süreçlerine eklenmesiyle ilgili deneyimlerini araştırmak amacıyla, Lee (2010) ve Hazari North ve Moreland (2009)'dan adapte edilen bir anket uygulanmıştır. Bunun yanında, rasgele seçilen altı öğrenci ile bir grup röportajı yapılmıştır.

Bütün görevler tamamlandıktan sonra öğrenciler tarafından oluşturulan bütün wiki sayfaları, anket sonuçları ve grup röportajı analiz edilmiştir. Veriler, tanımlayıcı istatistik ve Ki-Kare testi kullanılarak incelenmiştir. Araştırma sonuçları tartışma görevinde öğrencilerin arkadaşlarının hatalarını diğer görevlerdekinden daha çok düzelttiklerini ortaya çıkarmıştır. Bunun yanı sıra, bilgilendirme görevinde öğrenciler, diğer görevlere göre kendi hatalarını daha çok düzeltmiştir. Ayrıca wiki bazlı işbirlikçi yazma görevlerinin kullanımı, dilbilgisi yapılarının %94 oranında doğru kullanılmasını sağlamıştır. Araştırma sonuçları, öğrencilerin görev türüne bağlı olmaksızın, anlama dilbilgisinden daha çok önem verdiğini göstermiştir.Son olarak, öğrenciler yabancı dil öğretiminde wiki kullanımıyla ilgili olumlu deneyimleri olduğunu ve yazı yazma becerilerinin geliştiğine inandıklarını belirtmiştir.

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To my family

CONTENTS

CHAPTER 1

INTRODUCTION

Teaching writing in a foreign language is a challenging experience that language teachers go through. Researchers and language teachers have developed various approaches and sought effective techniques to enable learners to become competent writers in a foreign language. The role of collaboration and integration of technology in foreign language writing have received a considerable amount of attention. The development of social tools such as wikis and blogs offer new ways of teaching foreign language writing by allowing easier collaboration, authoring, information sharing and knowledge building.

Several theories have been developed since ESL/EFL (English as a Second Language / English as a Foreign Language) writing started to be acknowledged as a distinctive area of scholarship in the 1980s. Earlier theories that attempted to offer an understanding of teaching foreign language writing focused on structures. In those approaches, writing is viewed as a product; learning to write in a foreign language requires linguistic knowledge, and vocabulary choices, syntactic patterns, and cohesive devices are the essential building blocks of the texts. The accurate use of the lexical and grammatical forms is the indicator of good writing while the meaning is overlooked. Structural approaches have some drawbacks such as preventing students from developing their writing skills and misleading them when they have to write in different contexts, as they are encouraged to use formulaic expressions and formal patterns presented as short fragments. The accurate use of formal structures can not be the only indication of good writing since students are expected to write appropriately in different contexts. Therefore, language teachers not only include

formal elements in the writing instruction but also ensure that students use those structures appropriately for specific purposes in different contexts (Hyland, 2003).

The process approach to writing instruction emerged as a reaction against the emphasis on error correction and formulaic patterns of organization (Clark, 2003, p.7). In addition to being concerned with discovering how writers produce texts, developing a model of the writing process, and helping writers find a process that would enable them to write more effectively and continue to improve as writers (Clark, 2003), it emphasizes the process of writing and focuses on the writer as an independent producer of the text (Hyland, 2003).

After the growing interest in individual writing processes, in the mid-1980s social constructivist approaches to composition emphasized the role of community in shaping discourse and understanding the expectations of the community. This perspective views writing as socially constructed because it both reflects and shapes thinking as it is believed that all writers are mentally influenced by "inner speech" (Vygotsky, 1978) that develops in response to a particular culture's concept of language and thought. Clark claims that the social constructivist theory is associated with collaborative learning. As Bonk and King (1998) argue, if learning is a sociocultural dialogic activity, then instruction should provide opportunities for embedding learning in authentic tasks leading to participation in a community of practice. This is possible through collaborative learning. In addition, Hyland (2003) states that peer collaboration is one of the main techniques used in the process approach. "Collaborative learning implies a decentering of the writing class, a balancing of authority between students and teacher, so that students can participate in their own learning through peer editing and writing groups." (Clark, 2003, p.16).

Multiple-drafting and revising are other essential components of the process approach to writing instruction. Bamberg (2003) defines revision as a primary means of developing, elaborating, and shaping the intended meaning of a text, and as a process which is concerned with issues of audience, purpose, content, organization, and style (p.108). She argues that although researchers hoped that more meaning-related revisions would be made by writers owing to the development of computers and word processing programs, research results on the issue vary. In addition, she claims that although there are some positive results, the effect of computers on composing is still questionable. She also argues that writing instruction has been concerned about expanding students' understanding of revision to include developing and shaping meaning, finding ways to intervene during the composition process, and teaching students to revise at the rhetorical level. Online collaboration tools offer some opportunities for language teachers and learners to achieve the goals stated above by providing environments for the collective production of texts, which promote and encourage meaning-related revision. They also increase audience awareness by enabling immediate online publishing. Furthermore, they help teachers to monitor and intervene in the writing process by allowing them to simultaneously observe collaborative activities in different groups.

Audience awareness is another crucial issue which needs to be considered by writing teachers. Clark (2003) asserts that students think that they are writing only for their teacher and they are unaware of how audience affects writing in terms of style, organization, purpose, form or genre. In addition, the traditional school setting does not involve a real reader-writer relationship since students write for the teacher and in order to prove that they have understood the assignment in the way the teacher expects. However, most college writing assignments aim to encourage learners to

develop audience awareness and fulfill the different expectations of audiences from various contexts. Clark argues that peer feedback is the most helpful method to help students gain an awareness of audience and that computer supported collaborative writing assignments are useful in helping students understand how others may react to their writing.

Wikis, as asynchronous online collaborative tools, offer new opportunities for language teachers to combine all the essential parts of writing instruction stated above and extend the scope of writing activities by providing writing practice beyond the language learning classroom. Godwin-Jones (2003) states that wikis are intensely collaborative tools that provide an open-editing system in which anyone can edit any page using a simple set of formatting commands. He also argues that a wiki page can work well with users who are serious about collaborating and eager to follow the group conventions and practices. A wiki-type site might be an ideal platform for a "community of practice" which is a means of achieving collective applied learning to expand knowledge and improve practice in a specific area. Apart from facilitating collaboration and encouraging students to revise as much as they want, wikis also provide real audiences for learners since anyone can access the wiki pages anytime and collaborators need to read one another's contributions to be able to complete the task. Finally, teachers can easily follow the process of writing since the wiki provides a detailed account of who changed what and when.

The present study aims to explore the process of composing by focusing on the activities the writers carry out while they are producing a text in wiki-based collaborative writing tasks. The research questions of the study include:

1. In a wiki-based collaborative writing project, what is the role of task type in the number of peer-corrections and self-corrections?

2. How accurate will the participants be in making these peer and self corrections?

3. What is the role of task type in the number of form-related changes and meaning-related changes?

4. How do the students describe their overall experience with the integration of a wiki-based writing project in their foreign language learning process?

As suggested by many researchers, the process approach has become the dominant approach in foreign language teaching because it has become clear that it improves students' writing performance significantly (Brufee, 1999; Schultz, 2000; Noel & Robert, 2004; Storch, 2005; Hernandez, Hoeksema, Kelm, Jefferies, Lawrence, Lee and Miller, 2008). The present study adopts the process approach as the students are encouraged to make as many revisions as they can before submitting their final version of the task. In addition, Schultz (2000) argues that textbooks which are based on the process approach strongly advocate the use of computers in the writing programs and there is a need for thorough investigation of the effects of computers on writing skills. In this study, participants were asked to work through wikis to complete three different writing tasks working in groups of four and were informed that they were going to be graded both individually and as a group. The study is also based on the social constructivist approach since the participants are asked to collaborate in groups, and the social production of a text in a foreign language by the members of a community who share the same native language is investigated. Moreover, as the collaborative learning approach asserts, the participants in the study are responsible for their own learning through peer editing and working in groups without any teacher intervention. In conclusion, the study contributes to the existing literature by investigating the ways to enhance collaboration in foreign language

learning classrooms with the use of wiki-based collaborative writing environments and by presenting the effects of different task types on the student writers' revisions together with their perceptions on the integration of such an alternative technique into their foreign language learning process.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

This chapter is designed to provide general information on collaborative learning. The link between collaborative learning and social constructivist theory will be explained. Then, the effects of collaborative tasks on learning will be presented together with the distinction between collaborative and cooperative learning. In the next part, collaborative writing and its effects on learning will be introduced. The role of audience awareness and peer review in teaching writing will also be discussed. Finally, information on learning with technology, computer supported collaborative learning, Web 2.0 and wikis will be provided together with the presentation of previous research on using wikis in foreign language education.

Collaborative Learning

Dillenbourg (1999) broadly defines collaborative learning as "a *situation* in which *two or more* people *learn* or attempt to learn something *together"* (p.1). He goes on to describe the elements of the definition and explains that 'two or more' can be defined as a pair, a small group, a class, a community and even a society. In addition, 'learn something' may be defined as follow a course, study course material or perform learning activities such as problem solving. Finally, 'together' may be defined as different kinds of interaction such as face-to-face or computer-mediated, synchronous or asynchronous, frequent in time or not, whether it is a truly joint effort or whether the work is shared systematically (pp.1-2).

Certain conditions promote collaboration. According to Dillenbourg, collaboration is better promoted between people who have a similar status rather

than between a teacher and a student or between a boss and an employee. He argues that a situation is ‘collaborative’ if peers are more or less at the same level and can perform the same actions; if they have a common goal and they work together. In addition, he lists interactivity, synchronicity, and negotiability as the criteria to define ‘collaborative’ interactions. He asserts that interactivity is not defined by the frequency of the interactions but by the extent to which these interactions affect the cognitive processes of the peers. He also argues that doing something together implies synchronous communication. He claims that negotiability can be observed in non-hierarchical dialogues. To illustrate, negotiation is more collaborative than giving instructions since partners will argue for their viewpoints, justify, negotiate, and attempt to convince one another rather than imposing their views on others. Hence, the structure of collaborative dialogue is expected to be more complex.

In collaborative learning, instruction is learner-centered and knowledge is defined as a social construct assisted by peer interaction, evaluation and cooperation. Thus, the role of the teacher shifts from ‘knowledge transmitter’ to ‘facilitator’. Moreover, collaborative learning designs are more effective for online learning than individual engagement in online posted materials as they increase motivation (Tinto, Goodsell-Love & Russo, 1993; Shallert & Reed, 2003), perception of skill development (Lee, 2010) and solution satisfaction (Noel & Robert, 2004). However, software structures can only promote the desired behaviour -collaborative interaction-, not produce it. The instructor must shape, model and encourage the desired behaviour and the students must be able and willing to participate regularly (Hiltz, 1998).

Smith and MacGregor (1992) argue that ‘collaborative learning’ is an umbrella term which covers any joint effort by students, or students and teachers

together. In addition, most collaborative activities focus on exploration and the application of the course material by the students rather than the teacher's presentation or explanation of it. Collaborative learning involves the active participation of the class, working as pairs or small groups, and the group activity is driven by questions, problems or the challenge to create something. In the field of collaborative learning, learning is assumed to be an active and constructive process. Students' active engagement with the new information, skills or ideas in a purposeful way is a must for learning to occur. The acts of intellectual processing, constructing meaning or creating something new are essential for learning. Another assumption collaborative learning holds is that learning depends on rich contexts. Students are immersed in demanding tasks or questions which encourage them to practice and develop higher order reasoning and problem-solving skills. Furthermore, learners are assumed to be diverse since they come from different backgrounds with their unique learning styles and experiences. Learning is also considered to be inherently social in collaborative learning approaches. That is, students work together for a common goal which, in turn, results in better understanding and creations of new understandings. Finally, learning is considered to have affective and subjective dimensions. While carrying out collaborative tasks, students learn how to express their own argumentations and listen to the others' point of view. This intense social interaction creates bonds between learners and between learners and teachers. Furthermore, students realize that "they are not just recipients of truths from textbooks or faculty members, but responsible creators of their own knowledge and meanings – a change that is essential to life-long learning and true intellectual development" (Smith and MacGregor, 1992, p.13).

Smith and MacGregor (1992) state that collaborative tasks can take many forms such as writing a research report or preparing a presentation and positive interdependence between students, an outcome to which everyone contributes, and a sense of commitment and responsibility to the group's preparation, process and product are essential to collaborative activities (p.53). Furthermore, in collaborative classrooms, the student's role changes from listener, observer and note-taker to active problem-solver, contributor and discussant; from low or moderate expectations of preparation for class to high ones; from a private presence in the classroom to a public one; from an attendance dictated by personal choice to that having to do with community expectation; from responsibilities related to learning independently to learning inter-dependently; and from seeing teachers as the only source and authority of knowledge to seeing oneself and peers as additional sources of authority of knowledge. Thus, resistance from some students is inevitable since those changes bring along many risks.

Computers have been used to promote collaborative learning. Wang (2007) lists online negotiation skills, the direct link between collaborative tasks and assessment, the structure of online discussions such as the nature and types of discussion topics, the size of the group, and the differences between process and product oriented collaborative tasks as some factors affecting student participation, interaction and collaboration (p.19). He examined the factors promoting sustained student participation in computer-mediated discussions and students' attitudes toward process and product oriented interactive and collaborative learning. A total of 60 students participated in the study. The results of the study suggest that the main factors that contribute to the sustained interactive learning are the structure of discussions with carefully prepared discussion questions, small groups with fixed

group members for interactive learning activities, the direct link between participation and assessment, and the strictly imposed deadlines for each forum (p.29). Moreover, students are more motivated in process oriented collaborative tasks.

Dillenbourg argues that ‘collaborative learning’ describes a situation in which some interactions that promote learning are expected to occur even though there is no certainty that they will occur. Thus, he asserts that teachers should be concerned about making sure that some types of interactions occur, and lists some possible ways to increase the probability of the occurrence of those interactions. The first way he suggests is setting up the initial conditions. The questions teachers should ask when they are initiating a collaborative task include the optimal group size, criteria in the selection of group members, whether or not putting males and females in the same group, whether or not to have group members who have the same viewpoint, the same general level of development, the same amount of knowledge with respect to the task at hand in the same group, putting them face-to-face or side-by-side, and which tasks are suitable for collaborative processes and which are not. Secondly, he advises ensuring collaboration by assigning some roles to the participants such as asking them to play a specific role in an argumentation, even if the expressed viewpoint is not their personal viewpoint at the beginning, giving different visual viewpoints to participants, or controlling data access in such a way that group members have access to different data. Another suggestion Dillenbourg makes to promote collaborative interactions in order to enhance learning is to impose some interaction rules such as asking everybody in the group to give their personal opinions. Finally, he argues that teachers should monitor and regulate the interaction as the teachers’ role is defined as ‘facilitator’ instead of ‘tutor’. He asserts that the

aim is not to provide the right answer or to say which group members are right, but to perform a minimal pedagogical intervention (e.g. to provide some hint) in order to redirect the group work in a productive direction or to monitor which members are left out of the interaction. He notes that in the context of computer supported collaborative learning, the external regulator needs specific tools for monitoring the interactions that occur in different places and/or at different times.

Collaborative Learning and Social Constructivist Theory

Oxford (1997) states that collaborative learning is related to social constructivist theory. Underlying assumptions in collaborative learning can be explained by Dewey's (1916) pragmatic/instrumentalist approach. According to Dewey, the individual learns by being part of the surrounding community and the world as a whole rather than learning in isolation. In addition, Dewey believed that ideas are meaningful only if they are part of an acceptable theory, instrumentally useful for creating positive action, constructed by participants in society, and related to the guideposts or reference points provided by society. In addition, Vygotsky (1978, 1986) argued that ideas are socially constructed through communication with others. An individual's cognitive system cannot be separated from social life. He also viewed teachers as facilitators or guides and providers of assistance in the classrooms. He introduced the zone of proximal development (ZPD) which he defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p.86). ZPD is linked to scaffolding which is described as cognitive support given to learners to help them solve tasks that they would not be able to solve on their own (Wood, Bruner, & Ross, 1976). Scaffolding is encouraged

in collaborative learning as learners are engaged in shared activities to learn something together.

Social constructivists emphasize the learning process in activity-based situations with meaningful purposes rather than the completion of projects. The student becomes acculturated, enculturated or reacculturated through classroom activities and through the modeling and coaching of the teacher and many others (Brufee, 1993).

Oxford (1997) describes two other concepts related to social constructivist approach as *context* and *situated cognition.* She argues that learning is completely situated within a given context. Learning takes place as people participate in the sociocultural activities of their learning community. Even though they have asymmetrical roles, both children and adults are active in constructing the inquiry conversationally. There is a field of many actors and many different kinds of relationships that provide the scaffolding the student needs. Oxford goes on to explain that social constructivist theory can be applied to second language learning by defining the classroom as the closest learning community for an L2 learner. Moreover, L2 learning can be a global adventure that includes learning about, understanding and identifying with another culture in which people use a different language (p.448). In a community of L2 learners, ideas are molded by reflective inquiry with other people such as peers, teachers, and native speakers. In a strong L2 learning community, scaffolding in different forms of assistance which can be removed gradually as the learner becomes proficient in the language and the culture can be provided by different people. Therefore, social constructivism is the foundation for collaborative learning in the L2 classroom (p.449).

De Lisi (2006) argues that one of the main ideas of socio-cultural constructivist theory is constructivism which states that students are active learners. Another idea is that higher forms of thinking develop from experiences with more competent other persons who serve as scaffolds for learning. Thirdly, higher forms of thinking develop from experiences with peers who co-construct learning outcomes. Next, cultural tools and artifacts play a formative role in learning processes. In addition, the quality of discourse is an important factor in the quality of learning. Finally, modern technology is an important example of a cultural tool that can be used to support learning in both scaffolding and co-constructing relationships. Moreover, peer experiences are assumed to be intrinsically motivating or at least more motivating than passively listening to the teacher talk. Likewise, there is an implicit assumption that working with a more competent other person in scaffolding, rather than a direct instruction environment, can be regarded as intrinsically motivating.

Effects of Collaborative Tasks on Learning

Many studies have been carried out to explore the effects of collaborative tasks on learning. The main advantage of collaborative learning is described as motivating students to seek new insights and perspectives, ask questions openly, and practice explaining difficult concepts, and as a result, gaining a better understanding of the domain (Doise, Mugny, & Perret-Clermont, 1975). On the other hand, how much of these benefits are obtained depends mostly on the effectiveness of the group interaction (Soller, Ogata, & Hesse, 2007). Many different factors may influence group dynamics, which in turn influence student learning. Some of these factors include group composition and cohesion, group size, task structure, student and

teacher roles, discourse styles, nature of facilitation, rewards or incentives, training in communication skills, group processing, and the learning environment (Levine & Moreland, 1998; Webb & Palincsar, 1996).

Smith and MacGregor (1992) argue that one of the most important advantages of collaborative learning is providing social and intellectual involvement which is difficult to maintain due to students' various backgrounds, prior experience, skills, and goals; and as they are commuter students with busy lives full of distractions and multiple responsibilities. Another advantage of collaborative learning is cultivating cooperation and teamwork and creating a new value system which acknowledges the importance of the teamwork, community and cooperation as well as academic achievement. Finally, encouraging civic responsibility by enabling students "to acquire an active voice in shaping their ideas and values and a sensitive ear in hearing others" (p.14). Moreover, McDonnell (1992) argues that language learners will be better prepared for the challenge of the future by working in groups since they will be better able to communicate, collaborate, negotiate, problem solve and think critically.

Nassaji and Tuan (2010) investigated the effects of collaborative tasks on students' success in completing the tasks and on improving their vocabulary knowledge. 26 low-intermediate ESL learners at a university in Canada participated in the study. A reconstruction cloze task and a reconstruction editing task were used in the study and all the students completed the same type of tasks both collaboratively and individually. The results of the study showed that when the students carried out tasks collaboratively, they were more successful in completing them than when they worked individually. On the other hand, the collaborative tasks resulted in a slightly more improved vocabulary knowledge which was not

statistically significant. Nassaji and Tuan state that the results of the study may be related to the nature of interaction that took place during pair work and the type of the target form (phrasal verbs) together with the learners' previous knowledge of those forms. They conclude that although collaborative tasks lead to better task performance, they may not lead to more improved vocabulary knowledge.

Cooperative and Collaborative Learning

Although the two terms are sometimes used interchangeably, Oxford (1997) distinguishes collaborative learning from cooperative learning by stating that collaborative learning is more grounded in an epistemological base. When compared with cooperative learning, collaborative learning appears to be less technique-oriented, less prescriptive, and more concerned with acculturation into the learning community. In addition, collaborative learning is more explicitly oriented to negotiation and fulfillment of the potential of the learner (p.449). She summarizes the distinction between cooperative and collaborative learning as shown in Table 1.

Table 1.Comparison between Cooperative Learning and Collaborative Learning

Aspects	Cooperative Learning	Collaborative Learning
Purpose	Enhances cognitive and social skills via a set of known techniques	Acculturates learners into knowledge communities
Degree of Structure	High	Variable
Relationships	Individual is accountable to the group and vice versa; teacher facilitates, but group is primary	Learner engages with 'more capable others' (teachers, advanced peers, etc.), who provide assistance and guidance
Prescriptiveness of Activities	High	Low
Key Terms	Positive interdependence, accountability, teamwork, roles, cooperative learning structures	Zone of proximal development, cognitive apprenticeship, acculturation, scaffolding, situated cognition, reflective inquiry, epistemology

Note. Adapted from "Cooperative learning, collaborative learning, and interaction: Three communicative strands in the language classroom" by R. L. Oxford, (1997), *The Modern Language Journal, 81(4),* p.444.

Olsen and Kagan (1992) propose a definition of cooperative learning:

> Cooperative learning is group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others (p.8).

Olsen and Kagan (1992) describe positive interdependence, team formation, accountability, social skills, and structuring and structures as the key elements of cooperative learning. Positive interdependence takes place when the individual gains are associated with group gains. That is, when one student achieves, other students benefit, too. One way of constructing positive interdependence among students is to assign specific roles to the members of the group. In addition, Gillies (2007) argue that positive interdependence, promotive interaction, individual accountability,

interpersonal and small-group skills, and group processing are the key elements for structuring cooperative learning groups (p.48). Gillies defines individual accountability as group members' being held accountable for their contributions to the group task. In addition, promotive interaction means that group members facilitate each other's learning through discussion. Interpersonal and small-group skills refer to the fact that group members use appropriate social skills when working together. Finally, group processing is explained as group members' discussing what they have achieved and how they are managing their working relationships. Gillies also notes the importance of training in the efficiency of group work. She claims that "trained groups were consistently more cooperative and helpful to each other, used more inclusive language, and gave more elaborated help to each other than untrained groups" (p.50). In addition, trained groups gained more autonomy on their learning, expressed higher satisfaction with their participation in groups, and obtained higher learning outcomes than their untrained peers.

"Collaboration is not to be confused with cooperation, which has many individuals work on a joint project but divide-and-conquer the subtasks that compose it" (Larusson, 2010 p. 2). Collaboration refers to the process of interaction among people who share the same goal (Clark, 1996). Collaboration requires the joint engagement of individuals, and coordination of their efforts, so that they may solve a problem, or produce a product together (Dillenbourg, 1999; Dillenbourg, Baker, Blaye & O'Malley, 1996; Benson, 2001; Alavi, 1994). Moreover, "cooperation and collaboration do not differ in terms of whether or not the task is distributed, but by virtue of the way in which it is divided: in cooperation, the task is split (hierarchically) into independent subtasks; in collaboration, cognitive processes may be (heterarchically) divided into intertwined layers" (Dillenbourg at. al.1996 p.2).

Drawing from the literature stated above, collaborative learning is adopted in the present study as a means of creating a sense of community in the foreign language classroom. As the participants come from various backgrounds and live in a metropolitan and busy city where they do not have enough time to meet, work and practice outside of the classroom, a new way of extending the classroom interaction beyond the physical borders of the school is examined. In addition, providing extra opportunities to practice writing in the target language is aimed at. Learners are expected to take responsibility for their own learning by engaging in collaboration with their classmates without restrictions such as time or physical presence. Moreover, they are expected to provide scaffolding for each other which, as stated in the literature, will help them improve their learning skills and motivate them intrinsically to participate in the language learning activities.

Collaborative Writing

Brufee (1999) argues that:

> Collaborative learning models the conversation by which communities of knowledgeable peers construct knowledge. Such a community can be as large as all English – (or Urdu) – speaking people or as small as a family or a half-dozen world authorities on sea urchins. All of these communities are constituted by people talking with one another. Most of them are also constituted by people writing to one another. That is why writing lies at the center of collaborative learning as one of the most important elements in the craft of interdependence. There is no more important skill to learn in acquiring the craft of interdependence than learning to write effectively (p.53).

According to Brufee (1999) language is a social artifact which is intrinsically collaborative and constructive. Therefore, every time we write, we try to construct, reconstruct, or conserve knowledge by justifying our beliefs to one another socially. We and other people judge what we write, according to the assumptions, goals,

values, rules, and conventions of our and their communities. As a result, we write to achieve only one goal: to confirm the abiding, constructive, collaborative social relationship among those immediately concerned and, in the broadest sense: our membership in a common human community. To achieve our goals when we write, we are always making large and small judgments, which affect all the others, such as what to write about, what to say about it, how to say it, how to begin, what word to use, how to phrase a sentence, and where to put the comma. "Writing is one decision after another, and learning to make knowledgeable, discerning, reliable decisions in any activity is something we learn best collaboratively" (p.56). Moreover, Brufee (1999) goes on to argue that:

> When we think about which word to use next, or its proper form, or how to begin the next paragraph, we are talking to our (socially constructed) selves, and to (socially constructed) others, about the (socially constructed) subject about which we are making a (socially constructed) judgment. So we have to be aware (awareness being a socially constructed state of mind) of how we are using our (socially constructed) language to make that judgment (p.58).

If writing is a socially constructed collaborative activity, then teachers cannot tell students how to write. Instead, they should create opportunities for them to engage in a constructive conversation with one another about writing. Brufee lists several valid assumptions on students' writing. First, students can only write about what they can talk about with one another, and also, in most cases, they can only write about what they have already talked about with one another. Second, students can write effectively only to people they have been and continue to be, directly or indirectly, in conversation with. Finally, students' writing can only be as clear, incisive and effective as their conversation is, both their conversation about the topic they are writing on and their conversation about writing itself. Therefore, Brufee argues that a writing teacher's first goal is to give students opportunities to talk with their peers

about what they are writing. He claims that learning to converse constructively with peers about writing is important for student writers because the most productive kind of conversation is the conversation with people we regard as our peers or equals from our own community.

Collaborative writing is defined as "meaningful interaction and shared decision making between members of a group using a common set of tools" (Hernandez, Hoeksema, Kelm, Jefferies, Lawrence, Lee & Miller, 2008). They argue that it is a powerful method of writing that promotes cooperation, critical thinking, peer learning and active participation towards an end product. Moreover, Lowry, Curtis, and Lowry, (2004) define collaborative writing as "an iterative and social process that involves a team focused on a common objective that negotiates, coordinates, and communicates during the creation of a common document" (p.72).

To make sure that our ESL writing classes prepare students for their life outside the classroom, it is vital to give them opportunities to experience collaborative writing as Lunsford and Ede (1991) assert that traditional model of single authorship is a myth and most of the professional writings are produced collaboratively and even 'creative' writing is collaborative. In addition, globalization expands the need for collaborative work and the Internet requires the ability to collaborate (Lowry, Curtis, and Lowry, 2004). In order to integrate collaborative strategies in the ESL writing classroom, greater specification of exactly how native speaker participants collaborate is needed (Murray, 1992). Murray (1992) observed a group of native English speakers whose aim was to develop competencies for ESL teachers teaching elementary and high school students. The results indicate that collaborative writers use a number of social and interactional rules which can be sorted as agreeing on a common goal; contributing differential knowledge;

determining the knowledge of the audience; interacting as a group; and distancing themselves from the text. As a result, Murray concludes that the Platonic view, which states that truth is discovered through an internal apprehension and a private vision, is contrary to what actually happens in real life. Thus, teaching strategies that will provide opportunities for collaborative writing need to be developed. However, these opportunities should be based on what actually happens as native speakers collaborate in literacy events.

Another investigation of what collaborative writing includes and how people perceive collaborative writing was carried out by Noel and Robert (2004). Noel and Robert argue that collaborative writing groups are generally small and can be modified during the project. Members of the group do not usually decide on their roles before the project and might play several roles during the project. Planning before writing is usually limited and may change depending on the circumstances. Tools usually used by collaborating writers involve personal word processors, phone, email, fax, and mail. They conducted a Web-based questionnaire which 41 people from scientific and academic backgrounds responded to. A majority of the respondents chose "obtaining a better product" as the most important advantage of collaborative writing. The second category indicated by the respondents was "helping with the task" which involved brainstorming, good feedback, task division, improved motivation, shorter time to finish, and easier revision. "Group or social issues" was the final most popular category which included social support and creation of a team having a stake in the result. In terms of the negative aspects of collaborative writing, the category stated the most frequently was "making the task more difficult" which referred to having to combine different writing styles, longer time to produce the document, difficulties with following the schedule, unequal

division of work, multiple editions, and more difficult coordination. "Management" was the second category reported as a negative aspect of collaborative writing. The last category was "group and social issues" which included more difficult communication, conflicts between members, and the difference in abilities between members (pp.72-73). Furthermore, synchronous access to the document, version control, easy communication, having comments that are distinct from text, easily seeing modifications, easily creating a schedule, being able to express one's ideas, adding notes, having a notification system, planning the project, and having face-to-face meetings were reported as the features an ideal collaborative writing tool should offer (p.73). Finally, the majority of the writers reported using asynchronous writing strategies. Noel and Robert argue that this may result from the fact that many people write when they can and may find it difficult to participate in synchronous writing activities because of their busy lives.

Effects of Collaborative Writing on Learning

Hernandez, Hoeksema, Kelm, Jefferies, Lawrence, Lee and Miller (2008) list the advantages of collaborative writing as teaching students how to express their ideas clearly, teaching the concept of teamwork, improving document quality by combining the strengths of group members while individual weaknesses are noticed by the group and revised. Hence, collaboration can provide motivation for students as they become excited about working with a group as well as the prospect of learning from other students. Effects of collaborative writing on learning were investigated in several studies.

Storch (2005) studied the product, process and the student perceptions on collaborative writing. 23 intermediate level ESL students at a university in Australia

participated in the study. They were asked to produce a short text based on a graphic prompt. After the study, the products of the participants were compared in terms of accuracy, fluency and complexity. In addition, the students who had worked in pairs were interviewed to explore their reflections on collaborative writing. The results indicated that although pairs spent more time on the activity, they produced shorter texts than the individuals. On the other hand, collaboratively written texts involved higher levels of grammatical accuracy and linguistic complexity than the individually written texts. In addition, the focus was much clearer in jointly produced texts. Analysis of the dialogues between pairs revealed that collaborative writing provided the students with opportunities to co-construct texts, pool their linguistic resources, and provide explanations for each other. In terms of the students' perceptions on collaborative writing, although most were positive about collaborative writing and expressed that it helped them to compare ideas and learn from each other different ways of expressing ideas, two of them stated that group/pair work was suited best to oral activities such as group discussions. Furthermore, participants indicated that collaborative writing was helpful in terms of improving grammatical accuracy and learning vocabulary. However, Storch argues that lack of confidence in one's language skills and concerns on criticizing others resulted in some reservations on collaborative writing.

Hernandez, Hoeksema, Kelm, Jefferies, Lawrence, Lee and Miller (2008) state that collaborative writing may also have some disadvantages such as inconsistent appearance of the writing if not carefully edited because of different kinds of writing styles and difficult coordination among group members which can be more time consuming for producing a relatively short document.

Tasks are the basic parts of the writing classroom which play a major role in teachers' planning and delivery of a writing course. Hyland (2003) defines language task as any activity which focuses mainly on meaning and which is accomplished using language (p.112). He argues that tasks are important in a writing class because learning to write includes engaging in activities rather than learning discrete items. Moreover, according to Hyland tasks help teachers to create an environment which encourages writing and developing an understanding of how language is used for communicative purposes. Hyland identifies two different types of writing tasks. Real-world tasks refer to the ones which are based on the learners' target communicative goals, whereas pedagogic tasks aim to develop their genre knowledge and composing skills. Hyland claims that learners need to be competent in five areas of writing knowledge to produce effective texts. The first area is content which refers to the knowledge of the ideas and topics to be addressed. System is another area which refers to the knowledge of the appropriate language forms to produce the text. Another area of writing knowledge is process which involves knowledge of drafting and revising. Next, students need to be knowledgeable in genre which refers to the communicative purpose and rhetorical structure. Finally, context refers to the knowledge of readers' expectations and beliefs.

While designing writing tasks, how much focus should be put on linguistic forms and at what stage of the writing process this focus should occur are the main questions teachers should consider. Hyland (2003) suggests that proficiency level is essential in creating effective texts and students should be provided with linguistic and rhetorical sources when they begin drafting. He calls the process of providing students with this kind of support and helping them to produce texts in the target language without assistance as 'scaffolding'. He defines scaffolding tasks as tasks

which are designed to increase learners' independence and control gradually starting from noticing activities to manipulation of model texts. He divides them into four categories as language familiarization, model analysis, controlled composition and guided composition. He separates composing tasks into two stages. Composing heuristics refers to the pre-writing stage in which learners prepare an outline before composing their texts. The second stage is called extended writing which Hyland defines as the goal of the L2 writing class. He argues that some of the advantages of the extended writing tasks include providing practice in entire writing process which involves planning, drafting, formatting, editing and polishing. Secondly, extended writing tasks provide learners with the experience of an independent performance which they combine a knowledge of content, process, language, context, and genre. However, Hyland states that since extended writing tasks take a considerable amount of time, students must do a great deal of writing outside the class.

The Role of the Audience in Writing

Nystrand (1989) argues that 'competent writers don't merely "will" a text on readers; rather, they mold their text by balancing their intentions and purposes with the expectations and needs of the reader' (p. 75). In addition, skilled writers understand the importance of addressing their audience's interests, knowledge, values, and rhetorical expectations for writing and address these concerns in all phases of composing (Zainuddin & Moore, 2003). Although audience awareness is associated with successful writing, the term audience is still discussed. One perspective argues that 'audience is invoked' for a purpose and does not represent a real audience which suggests that the audience exists in relation to the discourse situation and is constructed by the writer (Park, 1982; Ede & Lunsford, 1984). Thus, it is claimed

that the writer needs to use the semantic and syntactic resources of the language to provide cues for the reader rather than analyzing the audience and shape the writing to meet its needs (Ede & Lunsford, 1984; p. 160). The other perspective called 'audience addressed' states that real audience exists and the writer has to be aware of the attitudes, beliefs and expectations of the audience. Ede and Lunsford conclude that:

> A fully elaborated view of audience, then, must balance the creativity of the writer with the different, but equally important, creativity of the reader. It must account for a wide and shifting range of roles for both addressed and invoked audiences. And, finally, it must relate the matrix created by the intricate relationship of writer and audience to all elements in the rhetorical situation. Such an enriched conception of audience can help us better understand the complex act we call composing (p.169).

In addition, Dyc (2002) argues that the audience is culturally constructed and thus, English language learners may have difficulty in acquiring the discourse elements in English. Zainuddin and Moore (2003) studied whether bilingual writers differ in their levels of audience awareness in L1 and L2 writing due to differing developmental levels or cultural influences and to what extent audience awareness relates to the overall writing quality in L1 and L2. The results suggested that that the writers' strategies did not change across languages, but they differed in their strategies as a group in terms of their analysis of audience traits, evaluation of audience response, and revision with the audience in mind. The researchers claim that the differences in audience awareness for Malay and English persuasive writing stem from the writers' ability to construct an image of their audience's potential traits and the writers' task perception, which also affects their willingness and/or ability to question and re-evaluate personal opinions and knowledge with respect to audience perspectives. Moreover, the results indicated that skilled writers used their knowledge of audience traits to decide how much background information must be

included or excluded and to evaluate the effectiveness of their arguments. On the other hand, less skilled writers felt no need to consider their audience when composing although they knew that the audience for the Malay and English essays differed. Finally, a strong relationship was found between audience awareness and the quality of writing in L1 and L2. Zainuddin and Moore suggest that ESL teachers should be aware of the audience awareness strategies of the skilled writers so as to guide less skilled writers to improve their writing performance. Furthermore, the home culture of the bilingual writers should not be regarded as a negative factor. Instead, L1 culture can enhance the composing processes of bilingual writers by enabling the writers to view audiences and issues from multiple perspectives.

Online collaborative writing activities seem to foster the audience awareness skills of the learners. Gaddis, Napierkowski, Guzman, and Muth (2000) compared the development of audience awareness in the students working collaboratively in face-to-face small groups on-campus and online small groups. The results revealed that the students in the online section developed better audience awareness skills such as use of logical, ethical and emotional appeals, and treatment of opposing views while the on-campus students did not (p.144). The writers conclude that online interaction increases audience awareness in students' argumentative papers.

Peer Review in L2 Writing

The advantages of peer review are listed as creating a real sense of audience, improving students' critical reading and analysis skills (Keh, 1990), and encouraging students to focus on the intended meaning (Mendonca & Johnson, 1994). Moreover, Rollinson (2005) argues that peer feedback provides real audiences for student writers which will encourage the writer shape her writing taking the characteristics

and demands of her readers into consideration and write for communicative purposes. However, since peer review is quite complex, it requires careful training. Thus, teachers need to train students in terms of effective review practices and provide opportunities for effective peer interactions (Paulus, 1999). Although students from different cultural backgrounds have different perceptions on peer feedback and may sometimes be reluctant to apply it, Mendonca and Johnson (1994) found that all the students in their study thought that peer review was helpful in terms of audience perspective and development of ideas. In addition, 69% of the participants in Mangelsdorf's (1992) study had positive attitudes towards peer review. Paulus (1999) studied the effects of peer feedback and teacher feedback on student writing. Meaning preserving changes (as defined by Faigley and Witte, 1981) which involve paraphrasing and re-wording the concept already presented in the text are the most frequent type of changes that the students make. In addition, the results indicate that 63% of the revisions are surface-level changes. Moreover, the students used both teacher and peer feedback to revise their writings. Paulus also argues that the students find their peers' feedback useful since the majority of the changes were meaning-related. In addition, there are individual differences among the students in terms of using the feedback. Finally, Paulus concludes that "both peer and teacher feedback contributed to the revision process, with teacher feedback influencing more changes and being prioritized more by the students and required revision did significantly improve the essay scores of the class" (p. 283).

Fiddler Butcher (2006) studied the effects of peer review on EFL students' writing skills. The experimental group wrote revisions based on peer feedback whereas the control group received instructor feedback. The results did not indicate a statistically significant difference between the development in writing in the

experimental group and the control group. In addition, neither peer feedback nor instructor feedback resulted in development in writing in experimental and control groups. On the other hand, the students stated that they were generally satisfied with their work. They expressed that they had improved in developing ideas, morphology and syntax and vocabulary. Moreover, the students perceived the instructor's efforts and techniques as the key factor in their progress. Finally, the advantages of working online in groups were listed as generating ideas, sharing ideas, learning from others, intertextuality, and seeing mistakes. On the other hand, time constraints, lack of interest on the part of group members, poor quality of feedback, problem of students' being on the same level were listed as the disadvantages of group work. Furthermore, many of the students expressed that they preferred instructor feedback. Fiddler Butcher concludes that other factors such as affective aspects might have played a role in the students' progress and peer editing may not work very well in ESL classrooms since second language students tend to see the instructor as the authority and the only one qualified to evaluate and critique their writing (p. 81).

Hu and Lam (2009) investigated the effects of peer review on adult Chinese students' academic writing in L2 and what factors were related to the effectiveness of the peer review. Of the 240 revision-oriented comments made by 20 participants 75% were found to be valid suggestions. In addition, 76% of those valid suggestions were incorporated into the revisions. Moreover, the second drafts revised with the help of peer feedback improved significantly in terms of overall quality and individual components such as language, content, and organization. The results also indicated that the availability of the valid suggestions is not enough to provide improvement unless they are acted upon. Hu and Lam conclude that these results indicate the positive impact of peer feedback on the quality of revisions and texts

produced by the students. Moreover, although the students preferred teacher feedback over peer feedback, 80% of them stated that they would like to have peer feedback in addition to teacher feedback. L2 proficiency and feedback preference were found to play a role on student performance in peer reviews whereas previous experience with peer review did not seem to have a significant influence. However, the writers clarify that their results are not conclusive enough to determine the factors influencing peer review.

Dippold (2009) examined to what extent blogs can facilitate peer feedback on L2 writing tasks and the issues associated with peer feedback in blogs. In the first task, the students were asked to summarize a text and in the second task, they were asked to write a cover letter for a job application based on an authentic job advert. The results suggested that the students valued the interactivity blogs offered and enjoyed working on them. In addition, the quality of the peer feedback differed between the tasks. That is, in the first task which required summarizing a text received shorter feedback and contained very little content to build on for the receiver. On the other hand, peer feedback in relation to the second task, writing a cover letter, contained suggestions related to both content and language. Dippold argues that one of the reasons of this difference may result from the authenticity of the second task which might have provided a higher degree of intrinsic motivation. Moreover, most students expressed that they had benefited from the tutor's and other students' comments, and they somewhat agreed with the statement that the project fostered group interaction and collaboration. However, the students did not enjoy giving feedback due to lack of expertise, lack of specific guidance on how to give feedback and perceiving it as a kind of face-threatening act. Finally, Dippold suggests considering carefully which interactive technology to use, explicitly

teaching the skills for the use of learning technologies and interaction skills particular to computer-mediated communication, training the students to give and use feedback in different modes to make the best use of the projects. Moreover, he also adds that educational tools need to serve real-life purposes and teachers and students need to abandon their traditional roles.

Finally, Rollinson (2005) expresses that there are some problematic areas of using peer feedback in the language learning classrooms. For instance, peer feedback consumes a considerable amount of time. Student characteristics are another problematic aspect of using peer feedback as some students may need to be persuaded on the value of the peer feedback. Their age and proficiency level may also play a significant role on the effective use of peer feedback. In addition, teacher roles may cause some problems in using peer feedback since some teachers may find it difficult to give responsibility to students and not interfere during the review process. Rollinson suggests setting up the groups properly and establishing effective procedures together with adequate training help to create effective peer response groups.

Learning With Technology

Although it is often claimed that technology is important for student learning, an empirical basis for those claims is limited. In addition, less attention is paid to what students are learning as a result of the integration of technology, and there are few thorough evaluations of the impact of technology on student learning (Merisotis, 1999; Phipps& Merisotis, 1999).

O'Donnell (2006) claims that the use of technology for instruction in higher education is less constrained than in K-12 environments as students do a great deal

of their learning outside of the classroom and access to computing facilities is not constrained to single time period or location. Use of technology may influence many aspects of learning and instruction. For example, the report by the National Center for Post-secondary Education (Gumport & Chun, 2000) described a number of areas of impact of technology on teaching and learning in higher education including the nature of knowledge, the relationships among participants in the learning and teaching process, the content of courses, and the dimension of time as an influence on the processes of learning and teaching. In terms of relationships among participants, the writers argue that in face-to-face groups, students may feel intimidated by other students in their groups whereas in asynchronous online instruction, students can choose to participate when they feel prepared to do so.

In 1970s and 1980s computer-based instruction was largely directed toward the acquisition of basic skills (Kulik, Kulik, & Cohen, 1980). The change in emphasis on the expected role of technology in education was parallel to a change in the conceptualization of human learning and how it can be supported or promoted. In the early 1970s and 1980s, learning was still construed within a more behavioral tradition. Issues such as the complex contribution of social context to individual learning had not received broad consideration. Nowadays, human learning is viewed as complex; strongly influenced by social context; involving metacognitive, motivational, and cognitive components; and characterized by individual differences in almost every aspect (the American Psychological Association 1997; Bransford, Brown, and Cocking, 1999). Technology in support of instruction and learning may be developed to support or enhance one or more of these aspects of human learning (O'Donnell, 2006). Along with this change in the interpretation of human learning, the role of technology in education and how it is perceived have changed as well.

Warschauer (2000) argues that CALL (Computer Assisted Language Learning) has evolved from a structural (1970s-1980s) to communicative (1980s-1990s) and finally integrative (21st century) stage. As computers were used for drilling and practice in the structural stage; then they were used for communicative exercises during the communicative stage. However, in the 21st century, computers are used for an authentic discourse in language teaching. Moreover, the principle objective of integrative call is to achieve accuracy, fluency and agency which Warschauer defines as the power to construct a representation of reality. He states that it is the agency "that makes students so excited about using computers in the classroom as the computer provides them with a powerful means to make their stamp on the world" (p.65).

Computer Supported Collaborative Learning

Computer Supported Collaborative Learning (CSCL) focuses on building technology that extends the physical boundaries of the classroom, enabling students to engage in the same kinds of meaningful collaborative learning activities that they could do offline, when in a face-to-face setting, but online, at their pace and outside class time. Whether the students learned and whether the technology adequately supported the students' collaboration are the two issues to address in any kind of computer-supported collaborative learning activity. The latter question refers the support required for the "collaborative" part of the collaborative learning activities (Larusson, 2010 p.4).

Ellis, Gibbs, and Rain (1991) divide online collaborative systems into a time space matrix (see Table 2). They argue that a comprehensive system might best serve the needs of all of the quadrants. For example, it would be quite helpful to have the same base functionality, and user interface look and feel (a) while the participant is

using a computer to edit a document in real-time with a group (same time/same place or same time/different place) and (b) while the participant is alone editing in their office or home (different time) (p.41).

Table 2. Online Collaboration Time-Space Matrix

	Same Time	Different Times
Same Place	Face-to-face Interaction	Asynchronous Interaction
Different Places	Synchronous Distributed Interaction	Asynchronous Distributed Interaction

Note. Adapted from "Groupware: some issues and experiences", by C.A. Ellis, S.J. Gibbs and G. Rain, 1991, *Communication of the ACM,* 34(1), pp.38-58.

According to Larusson (2010) collaborative learning activities can fit into any of the four possibilities. Each one has different requirements for the "collaborative" part of collaborative learning. He argues that non-collocated asynchronous activities are especially valuable because they enable students to work together outside the classroom. Students may still have the opportunity to talk face-to-face, but potentially much of their collaboration emerges online in a virtual space where they are never really fully co-present at the same time in the same place (p.5).

Larusson (2010) divides computer supported activities into two categories. In '*loosely coupled activities',* students must connect with one another to create some common ground but do not necessarily have to jointly focus on, or produce, a specific product. Not every contribution must be recognized. Responses to contributions can be less timely. The sense of the common activity is less well defined and more distributed. The participants must be active, but their viewpoints require less convergence to maintain progress. He describes a course where students are required to use an online tool to blog on the course material and engage in conversations with one another by commenting on each other's blog posts as a loosely coupled activity. The aim for students is to convey their understanding of the

course material in their own words, develop their individual viewpoints, and comment on other interpretations of the same material. The students work occasionally, at their convenience, throughout the week/semester, blog about and comment on the course readings at their pace and at their convenience. Some level of awareness is needed for online discussions to regularly emerge but it is not necessary for the students to read every contribution to the blog-o-sphere. On the other hand, '*tightly coupled activities'* require students to work within a well defined joint problem space, which requires a detailed common understanding of the status of the problem. In addition, participants must jointly focus on key materials in a specific time as they collectively produce a product. The students must stay coordinated, especially on the key elements of their collaboration. Contributions lost in the interaction can potentially lead to degradation of performance. An example of a tightly coupled learning activity is a team-based design project in a Human-Computer Interaction course. In such a tightly coupled activity, the students are collaboratively producing a particular product using design methods and techniques taught in class. To be able to achieve the task, the students must stay jointly focused on the critical elements of the project and be mutually aware of who is doing what and when, what needs to be done, and the evolving product of their efforts. The technology mediating their collaboration needs to provide the students with adequate support to maintain awareness and be responsive to contributions by other students. The knowledge of the fact that one's contribution has been read or further worked upon by other students is an integral element of the activity. Performance depends significantly on honoring commitments (p.7).

Hoppe (2007) describes four prototypical roles of computational technologies as they emerge in CSCL and other types of technology enhanced learning

environments. The first one is ‘facilitation and enabling’ which refers to technology’s facilitation of the known types of learning in new and different environments or enabling new kinds of learning experiences. Another role of technology is ‘integration’ which can be described as using technology to integrate learning activities and learning results and as a result, allowing for a smooth ‘learning flow’. ‘Modeling’ is another role of technology which is explained as the use of computational techniques to model or formally describe (collaborative) learning processes. The last role of technology is ‘analysis’ which refers to the analysis of interaction traces or situational data from learning environments by computational techniques.

Online collaboration with the help of technological tools may offer new definitions of learning. Marton and Saljo (1976) distinguished between ‘deep’ and ‘surface’ level learning, where ‘deep’ refers to a meaning-seeking approach, and ‘surface’ refers to a reproducing approach. Later, the achievement (or strategic) approach, aiming at achieving high grades, was added by Entwistle and Ramsden (1983). However, all these categories of approaches to learning stem from a situation where students work individually. Recent research indicates that the ‘deep’ approach to learning may be re-evaluated in new, collaborative learning environments where a *collaborative-constructivist approach* may be viewed as an important learning orientation. Thus ‘deep learning’ my be seen arising from learning situations where learners are involved in a form of ‘collaborative knowledge building’ where collaboration is used as the basis for the negotiation of meaning between participants who, together, advances their knowledge and understanding of a particular subject (Scardamalia &Bereiter, 1996).

Banks, Hodgson, and McConnell (2004) define networked learning as "learning in which information and communications technology (ICT) is used to promote connections: between one learner and other learners; between learners and tutors; between a learning community and its learning resources" (p.1). They argue that human-human interaction, through computer-mediated communication or CMC, is an essential part of networked learning. Moreover, "there is no point to networked learning if you do not value learning through co-operation, collaboration, dialog, and/or participation in a community" (p.2).

Salmon (2002) offers a summary of documented weaknesses in networked research. First of all, we know much more about students' reactions to networked learning experiences than we know about learning outcomes. Secondly, we know more about the quantity of student interactions than we know about the quality of their communication (or its relationship to learning). Thirdly, published accounts are generally limited to data drawn from a single course but contextual factors are often neglected. Finally, we know much more about the sending of messages than the receiving of them. Along with exploring the students' opinions related to asynchronous collaborative writing tasks, the present study aims to investigate the contribution of technology to language learning process and offer insight to language teachers to be able to design tasks which serve for the students' immediate needs by making the best use of the benefits offered by technology at hand as well.

In terms of a comparison between individual and co-operative learning environments Johnson and Johnson (1990) argue that "generally achievement is higher in co-operative learning situations than in competitive or individualistic ones and that co-operative efforts result in more frequent use of higher-level reasoning

strategies, more frequent process gain, and higher performance on subsequent tests taken individually than do competitive or individualistic efforts" (p.26).

On the other hand, collaborative activities need careful planning. Slavin (1990) claims that if not properly structured, group work can suffer from the 'free rider' effect where some group members undertake most of the work with little input from the other group members. This phenomenon is referred to as 'diffusion of responsibility' (Slavin, 1990, p.16.).

Some factors seem to have an impact on the quality of online collaboration. Sclater and Bolander (2004) state that previous educational experiences are one of the factors promoting high quality collaboration in networked learning. Students' previous educational experiences combined with the context of learning such as teaching methods, curriculum and assessment influence students' general orientation towards studying (p.178). Extrinsic and intrinsic motivation is another factor important for high quality collaboration. Work can be important in various ways, each one producing a different kind of motivation depending on the context. Learners become 'extrinsically' motivated in situations where they are required to fulfill the requirements of others. On the other hand, learners become 'intrinsically' motivated where they are learning for personal understanding or developing a sense of personal competence. "For intrinsically motivated students, the point is to travel rather than arrive and this motivation can result in a deep approach to learning" (p.179). Slavin (1990) argues that extrinsic rewards are needed to motivate students in co-operative learning groups whereas others such as Sharan (1990) argue that intrinsic motivation brought about by personal involvement in the co-operative tasks is enough to create a climate for achievement. McConnell (2000) argues that this difference is a matter of educational perspective and advocates a philosophy of co-

operative and collaborative learning based on intrinsic motivation rather than external rewards (p.25).

Another explanation of motivational factors is provided by Feather's (1982) expectancy-value theory which argues that if anyone is to engage in an activity, she/he needs to both *value* the outcome and expect *success* in achieving it. If either one is not present, motivated activity does not occur. Thus, the theory suggests that a number of factors such as students' confidence, experience and values of how important an activity is to them form a background and influence the 'orientation' to studying. In addition, Sclater and Bolander (2004) argue that "if a student has a history of successful engagement with online collaborative learning the student builds up the knowledge base needed for deep learning and develops the expectations that give confidence for future success. However, if a student undertakes networked learning for the first time, this experience can sometimes cause a great deal of anxiety since there is little upon which to base their expectations of future success" (p. 181).

Teachers have an important role in motivating students to participate in collaborative activities. Sclater and Bolander (2004) studied how educators can ensure that it is within every student's interest to contribute to group work and how collaboration in networked learning should be evaluated particularly where there is a clear institutional requirement to retain individualized forms of assessment. Results suggested that the assessment methods together with the previous educational experiences and personal working/study methods had a significant influence on the orientation of participants in the collaborative enterprise (p.196).That is, individualized forms of assessment appeared to direct participants toward individual, competitive attitudes to work rather than collaborative ones and that there was a need

to develop new criteria to assess collaborative activities that would take the process into account (p.197). Sclater and Bolander conclude that there is a complex web of interacting factors which influence students' orientation to collaboration and suggest a model to explain those factors by combining Feather's (1982) expectancy-value theory and Ramsden's (1992) 'learning in context' model (See Figure 1).

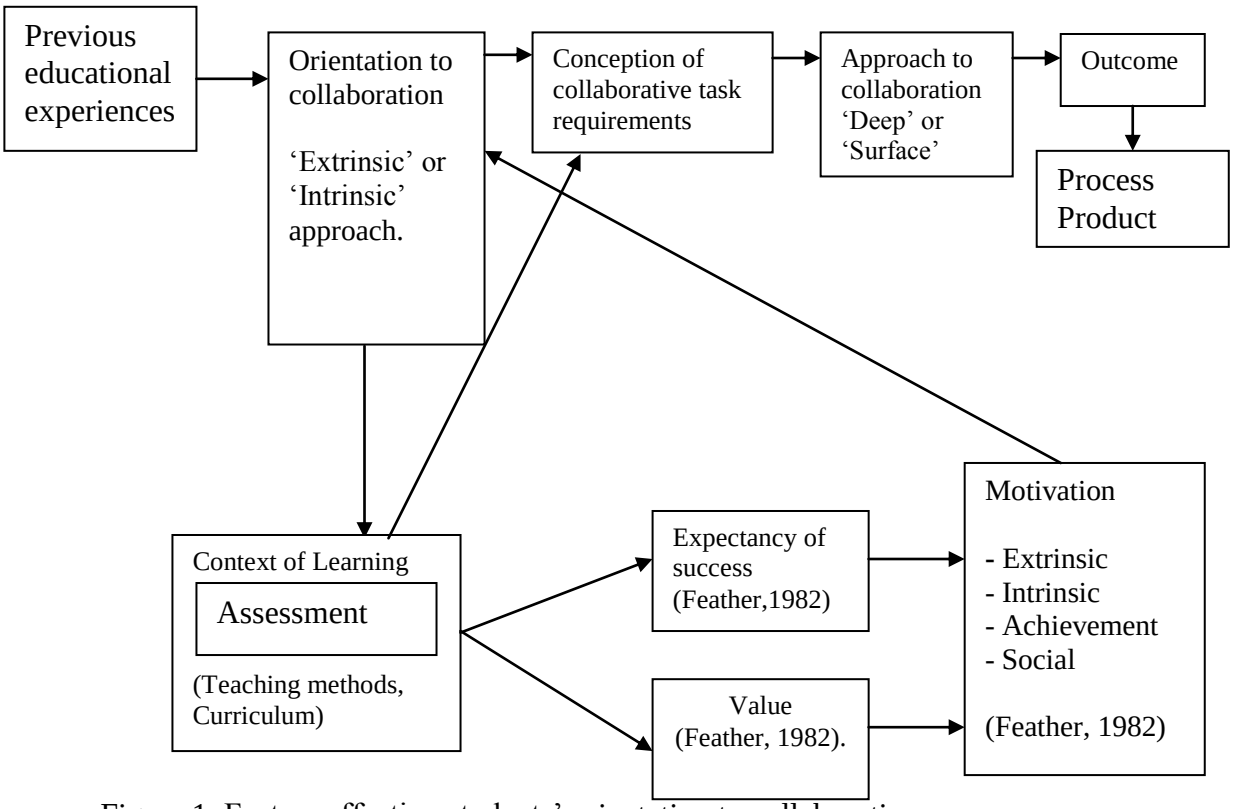


Figure 1. Factors affecting students' orientation to collaboration

Note. Adapted from "Factors influencing students' orientation to collaboration in networked learning" by M. Sclater & K. Bolander (2004). In P. Goodyear, S. Banks, V. Hodgson & D. McConnell (Eds.) *Advances in Research on Networked Learning,* Boston: Kluwer Academic Publishers. (pp.175-203).

They suggest that looking at how the activity is introduced, being encouraging, showing interest and asking questions in a way that is not inhibiting, thereby creating an openness in the educational process and within the learning community at large are the ways to ensure that an activity is valued. They believe that if the process of collaboration is highly valued by other people, important to the participant for

example, their peers as well as their tutors, then learning may take on an intrinsic importance thereby motivating them to collaborate. Moreover, they state that other criteria that would take into account commitment, participation and reciprocal cooperation and collaboration should be introduced because this might signal to participants that the experience of teamwork is equally valuable (p.199). In other words, they suggest a combination of individual and group based assessment which acknowledges both outcome and process. Furthermore, if the assessment is well constructed, the assessment methods in combination with other aspects of the design (teaching methods and curriculum) can promote a transition from extrinsic motivation to intrinsic motivation toward the collaborative task. Finally, they claim that the quality of the collaboration will affect the level of motivation (p.200).

Web 2.0 Technologies

The term Web 2.0 describes a new set of software applications that distinguish themselves from previous applications by a number of principles. Firstly, Web 2.0 allows and facilitates the active participation of each user. Web 2.0 applications and services allow publishing and storing of textual information, audio recordings (podcasts), video material (vidcasts), and pictures individually (blogs) and collectively (wikis). Secondly, the value of the Web 2.0 services increases the more people use them. Wikipedia serves as the best example of this principle. Wikipedia is an online encyclopedia in which the users explicitly contribute by adding and editing articles. Thus, large numbers of users exist in Web 2.0 services and their active contribution is encouraged which enables the users to immediately become members of a community with a low barrier to participate. In addition, data is as important as function in Web 2.0. Another principle of Web 2.0 services is that they make the

data and functionality accessible. Moreover, Web 2.0 services reach for a wider range of clients than the PC browser by the use of mobile phones, PDAs, game consoles, etc. Therefore, the participation of the users increases thanks to the multiple sources of input. Another distinguishing principle of Web 2.0 technologies can be explained as easily making content public which in turn allows producing, publishing, receiving and giving feedback –in other words, essential parts of learning as seen in constructivism. This social networking also facilitates building communities. Moreover, Web 2.0 applications are not released version-based packages but they are constantly refined and improved. For example, there is no such thing as Google 1.2 but it is gradually changed to meet the needs of the users. Finally, the focus is on high-level functionality in Web 2.0 software development. In short, the Web 2.0 is characterized by social learning and active participation (Ullrich, Borau, Luo, Tan, Shen, and Shen, 2008; Rollett, Lux, Strohmaier, Dosinger, and Tochtermann 2007). Arguments related to the use of Web 2.0 systems in education are listed as increasing self-directness and responsibility of students, enabling learning beyond the classroom, enhancing the critical usage of internet resources and allowing for cross-class and cross-school learning. Moreover, McLauglin and Lee (2007) list the benefits of social software tools as connectivity and social support, collaborative information discovery and sharing, content creation, and knowledge and information aggregation and content modification (p.667). On the other hand, some pitfalls include increasing the reliance of schools on the promises made by start-up companies of which future development and the services they provide are hardly predictable. In addition, transmitting the essential attributes of Web 2.0 such as trust, openness, voluntariness and self-organization to existing

educational contexts might be painstaking (Rollett, Lux, Strohmaier, Dosinger, and Tochtermann 2007).

Wikis

The inventor of the first wiki, Ward Cunningham, defines a wiki as "the simplest online database that could possibly work". Wiki is a piece of server software that allows users to freely create and edit Web page content using any Web browser. It supports hyperlinks and has a simple text syntax for creating new pages and crosslinks between internal pages (www.wiki.org). Basic wiki technology has several features which are suitable for encouraging a wide variety of online different time and place collaborative activities (see Table 3).

Table 3. Wiki Features Suitable for Constructing Different Time/Place Collaborative Activities

Feature	Motivation
Web 2.0 technology	Within reach for experts and non-tech savvy students and teachers
Document co-editing	Easy to asynchronously collaboratively create content
Automatic Publication	Easy for students and teachers to share/exchange/access material
Plasticity	Easy to preformat for a variety and range of collaborative activities
Malleability	Easy for users other than developer to adapt environment
Non-hierarchical control structure	Student-centered and owned workspace

Note. Adapted from "*Supporting the 'collaborative' part of wiki-mediated collaborative learning activities", by J. A.* Larusson, 2010, Unpublished dissertation. Brandeis University.

Research has shown that the modest level of skills required to use the wiki as a result of the simplified wiki markup language, makes it within reach for both users (students and teachers) with mixed levels of technical skills (Godwin-Jones, 2003). The wiki provides asynchronous interaction. It is easy to co-author documents as

webpages (wikipages) are automatically published online and accessible to others at different times and places. There is a common syntax for articulation. That is, web pages can be edited using WYSIWIG (What You See Is What You Get) text editors. In addition, wikis automatically keep a history of any co-authored document. Participants can refer to, or restore, prior versions of a given web page. Uploading and attaching files to wiki pages facilitates fast and easy publication of material from other sources. Moreover, it is easy to preformat wiki pages which enables the teacher to mediate the student interaction and coordinate their collaboration. The malleability of wikis permits both teachers and students to do further adaptations to the environment so that it better meets the requirements of a particular class or learning activity. The standard wiki philosophy encourages everyone to add and edit content. Finally, there is not a centralized authority that controls the changes and additions to content in wikis. Students feel as if they work within a student-owned and centered workspace versus e.g. a course management system, which tends to be more focused on the instructor. (Larusson, 2010, pp.9-10).

In terms of the contribution of wikis to language learning, Lund and Smørdal (2006) argue that wikis hold a potential for collectively producing, organizing and sustaining textual (and, increasingly, visual and auditory) resources for language learning. They represent a rapidly expanding phenomenon but there is a need for studies that address their use in education and how they can be utilized in school subjects.

The advantages of using wikis in education include promoting collaborative writing. Collaborative writing skills are most widely believed to be acquired in the wiki environment (Engstrom & Jewett, 2005; Keith, 2006; Lamb & Johnson, 2007). The collaborative context provided by wikis encourages users to negotiate,

collaborate with others as well as learn from others' work (Keith, 2006). Moreover, wikis emphasize the process of learning while discouraging outcome oriented learning (Lamb, 2004). Another advantage of using wikis is providing open-editing. Users can alter their own and others' work. Wikis provide an easy way for completing collaborative projects, extending group work by continuing it asynchronously outside the course, and they encourage learners to participate in discussions on their own in the online environment (Lamb, 2004; Farabaugh, 2007). Allowing non-linear text structure is another advantage of wikis. They provide associative web pages with non-linear navigation structures which provide easy connection of meaning making previously unknown to learners and increase the speed and variety of content developing (Farabaugh, 2007; Keith, 2006). Furthermore, wikis encourage multiple modalities. Learners can incorporate graphics, audio, video, and animation to express themselves and communicate the meaning that may not be fully expressed in the text format (Jewitt, 2005; Kress, 2003). Finally, wikis provide a simple editing environment. Little navigation and clicking are required. The easy editing process enables non-technical users to participate in the collaborative work (Chang, 2004; Raitman, Augar, & Zhou, 2005).

On the other hand, there are also some drawbacks to using wikis. Firstly, students may not be comfortable or familiar with collaborative writing. They may have difficulties in sharing their works in a public space and concern deleting or making changes to others' work (Keith, 2006; Raitman, Augar, & Zhou, 2005). Secondly, online texts may increase challenges in learning. Online text incorporating multimedia tools may lack recognizable text structures that found in formal printed text formats and reduce learners' opportunities in improving such comprehension and learning (Cairo, 2003).

Educational use of wikis has been investigated in several studies. Schwartz, Clark, Cossarin, and Rudolph (2004) examined 24 university wikis in Canada, the USA, Germany, New Zealand, Switzerland, and the UK and concluded that university wikis were mostly used as knowledge repositories which enabled instructors to create interactive activities for their students, and to present course information such as resources, external links, project information, and frequently asked questions. In addition, instructors monitored student discussions to determine problematic areas for students. Moreover, wikis may be used as a forum for students to share course materials, hold discussions, get information about courses, and organize extra curricular activities. Schwartz, et al. argue that "personal home pages and discussion areas help to humanize the learning experience, and to provide social interaction among students" (p.2). In addition, the results of the survey showed that many universities integrated wikis in their websites but they were mostly used by specific departments to share information on activities, events or clubs. Wikis were also used for project management especially in music and languages. After comparing several wiki engines, they offer a list of selection criteria for selecting a wiki for educational use. These criteria include cost, complexity, control, clarity, common technical framework, and features such as being editable by major browsers, WYSIWYG editing, HTML support, and image insertion, etc. Finally, they conclude that: "wikis can provide an efficient, flexible, user friendly and cost-effective interface for collaboration, knowledge creation and archiving, and student interaction. Lack of standardized formatting across wiki programs makes WYSIWYG editing attractive. The need for minimal technical skills allows users to concentrate on content rather than on the technical process of writing, and reduces the need for student support" (p.5).

Research on Wikis in Language Learning

Development of new technologies offers new ways for language teachers to promote and enhance collaboration in foreign language education. As there are quite a few technological tools to use in collaborative language learning tasks, teachers need to choose the ones which appeal to their objectives and needs. How wikis facilitate collaboration in foreign language learning classrooms was studied by Lund (2008). He investigated the impact of wikis on collaborative work in the foreign language classroom and the kinds of interdependent activities learners engage in. 31 high school EFL learners participated in the study and they were asked to create a wiki-based project called 'our USA' in which they defined the US culture in their own words. The results indicated that learners were still unique and displayed individual agency. Lund argues that what students construct is not discrete individual contributions only but the dynamically evolving wiki depends on the relations between participants as enacted in a collective ZPD. In addition, response, trust and interdependency were found to be the driving forces. Moreover, Lund claims that "in a wiki, texts are not finite or "finished" but function as resources for expansion, reconfiguration, and new syntheses" (p.50). The activity types presented in the study showed that a wiki afforded collective production, networked structures, and shared spaces and Lund concluded that a wiki did not make sense on an individual level.

Another area of interest was the contribution of wikis to students' writings. Mak and Coniam (2008) investigated how students engaged in collaborative writing through wikis and the effects that wiki-based collaborative writing had on the final product. 24 year 7 English as a Second Language (ESL) students were asked to work in groups of 4 to prepare a brochure describing their school which would be distributed to their parents. The results suggested that the students produced more

text than they were expected to. In addition, t-unit length also increased which indicated greater complexity. In addition, there was a large amount of expanding, reorganizing, and correcting which implied that coherence also improved. However, the results seem to be inconclusive in terms of accuracy since some students' t-unit accuracy rose while some others' worsened. In relation to the effects of the task, the writers conclude that the task's authenticity, awareness of the real audience, increased the students' confidence as writers and at the same time promoted the students' creativity. Moreover, peer review was a rewarding experience for the students. Although the process required a lot of time and effort from both the teacher and the students, the teacher observed that the students' interest and attention during English lessons increased.

A thorough investigation of the type of edits in a wiki was done by Kessler (2009) who explored the degree to which language learners attempt to correct others' and their own grammatical errors in a long-term collaborative writing task, the level of accuracy they achieve and the attention they pay to grammar revision vs. content revision. Senior non-native speakers (NNS) EFL teacher candidates at a Mexican university participated in the study. The wiki was used as the final product of the course and the students tried to define 'culture' by online discussions on a wiki. The results indicated that the students had knowledge and skills, but lacked the willingness to attend to form issues that they were capable of correcting. That is, they simply did not address issues of form that did not obscure meaning. In addition, the students were willing to engage in self-and peer-editing while peer-editing addressed form more frequently. Moreover, the students did not struggle for perfect grammatical accuracy. Kessler concluded that the task did not appear to contribute to an increased grammatical accuracy.

Together with the number and type of revisions, students' perceptions were also investigated. Arnold, Ducate and Kost (2009) examined the number of revisions learners make during the composition process in wiki-based writing, different kinds of revisions, level of accuracy in those revisions, differences between an unstructured and a teacher-guided approach and learners' perceptions of the project. 54 undergraduates in three German classes at three different universities participated in the study and they created resource with sociohistorical background information for the novel *Am kürzeren Ende der Sonnenallee* by Thomas Brussig (2003) working in small groups on one wiki page. Class 1 followed an unstructured approach. Students worked in groups of 3 to create a resource for the novel about 400 words to be completed after reading the novel and they presented the wiki in class. On the other hand, Classes 2 and 3 followed a teacher-guided approach working in groups of 2-4 to create the resource to be completed before reading the novel. Assignments were completed gradually and included annotated bibliography, outline, two drafts, and teacher and peer feedback. There was also a graded webquest before reading. After the study, the students stated mostly positive experience related to the use of wiki-based projects. Equal contribution of work remained as a challenge. There were large amounts of revisions. As a result, Arnold, et al. conclude that collaborative writing and electronic writing encourage more frequent revisions than paper-and-pencil writing and word processing. In addition, the results suggested that teacher feedback led to more formal revisions and higher linguistic accuracy. Finally, the researchers argue that wikis are effective educational tools to foster collaborative writing skills and revision behavior.

The role of task in wiki-based collaborative writing tasks also received attention by some researchers. Lee (2010) studied how learners view the

effectiveness of using wikis in the support of process writing through social interaction and collaboration, the role the task plays in wiki-mediated writing, and to what extent the use of wikis promotes peer feedback and scaffolding in the revision process. 35 Spanish learners at the beginning level completed four different tasks over 14 weeks. The results indicated that the students had a very rewarding experience with wiki assignments. Lee argues that "the wiki supported learners' autonomy and self-directed learning by encouraging them to make choices and initiate attempts to bring ideas to share with others" (p.265). Some students stated that they preferred to work alone because they did not want to wait for other students' responses. Therefore, Lee suggests that students need to adopt collective ways of thinking and learn to collaborate with others so as to get ready to work as a team. In addition, the students agreed that their working on a wiki collaboratively helped them to write better compositions in the classroom. Lee concludes that "the wiki helped the beginning students build their confidence in L2 writing, enhance their organizational skills, and foster critical reflection" (p266). In terms of the role of task-based writing in wikis, the results of the study revealed that topic choice affects the degree to which students engage in collaborative writing. For instance, the students expressed that they were motivated by the open-ended topics that allowed them to be creative while focusing on form. Furthermore, task type affected the degree of focus on form and the amount of writing production. For example, open-ended topics, such as writing a letter to *Dear Abby* to ask for advice, promoted peer feedback and allowed focus on form. Thus, Lee claims that task-based learning is crucial for meaningful interaction and collaboration and it is the task not the online environment that encourages production. In addition, although the students benefited from making edits, they did not feel secure or comfortable correcting each other's

mistakes. Hence, Lee concludes that "while error correction should be encouraged during the revision process, the instructor plays an important role in guiding students and offering them strategies and tips for effective use of feedback" (271).

In another study, Kessler and Bikowski (2010) investigated the nature of individual and group behavior when attending to meaning in a long-term wiki-based collaborative activity, how students demonstrated collaborative autonomous language learning in wiki space and how the development of collaborative autonomous language learning abilities could inform computer mediated language learning. 40 pre-service NNS English teachers participated in the study and they were asked to collaboratively create a class wiki defining the term 'culture'. After examining all meaning-related changes in the wiki pages created by the learners, the researchers identified five main coding categories: new information, deleted information, clarification/elaboration of information, synthesis of information, and the addition of URL links. The most frequent language acts were adding new information, deleting information and clarifying/elaborating. In addition, degree of participation varied among students. A slight majority of the students engaged marginally whereas, a small group were more interested in continuous collaboration. Moreover, Kessler and Bikowski claim that the students were able to contribute their own information to the group product acting both independently and as a collaborative team member because the students needed to consider what had already been written (or deleted or modified) before adding new information to the wiki so that their contribution benefited the final product. The researchers identified three phases of student collaboration: build and destroy, full collaboration and informal reflection. The first phase lasted two weeks and the students constructed an emerging definition of the term 'culture' four times and made large-scale deletions before

creating a very brief definition. The second phase lasted for 14 weeks and the students collaborated without large-scale deletions. The final phase lasted for 11 days and included personal reflections. In addition, the students often demonstrated autonomy throughout the project. That is, researchers concluded that 80% of the language acts demonstrated autonomy as a collaborative learner. Interviews with the students revealed that the students were primarily concerned with the meaning of their contributions to the wiki; they valued the collaborative nature of the wiki activity even though it was unfamiliar; they also valued their own contributions to the wiki and thought that their classmates valued their contributions as well; and they valued their classmates' changes to the wiki because revisions resulted in an improved product.

Finally, Elola and Oskoz (2010) examined the differences between collaborative and individual writing, how writers approach collaborative writing through the use of social tools and students' perceptions on writing individually and collaboratively and how they perceive collaborative work with the use of social tools. 8 advanced level Spanish learners participated in the study. They completed two argumentative essays, one collaboratively and one individually, using wikis and submitted a draft through wikis before the revised version. Each writing assignment was completed in 15 days. Class discussions on the writing topics were held before the students began writing. The results indicated no significant difference between the collaborative drafts and individual drafts in terms of fluency, accuracy and complexity. When the learners' individual and collaborative performances were compared, a significant increase in fluency, accuracy and complexity between Draft 1 and Draft 2 when working individually was noted. When the students worked collaboratively, there were no statistically significant difference between Draft 1 and

Draft 2. However, it was observed that the students were still concerned about accuracy and they worked on how to express their ideas better. Moreover, learners focused mostly on content and organization either working individually or collaboratively. When working individually the students carried out grammatical and lexical corrections towards the end of the writing process, whereas when working collaboratively they focused on these issues during the phase of developing multiple drafts. Elola and Oskoz claim that this result might stem from the collaborative nature of the writing because the students had real readers which encourage them to pay attention to grammar while creating drafts. Moreover, the "learners used the chats to discuss the structure, the thesis and the overall division of the essay into introduction, body and conclusion, whereas in the wiki, learners generally worked on the organization at the paragraph level, focusing on thematic sentences and internal coherence of ideas within a paragraph" (p.63). In terms of the students' perception on collaborative and individual writing, despite having expressed a preference for writing individually to be able to manipulate the text to suit their personal style and work within their own schedule, all of the learners stated that working collaboratively enabled them to improve the overall quality of their work. At the end of the project, 50% of the students stated that the wiki helped them to improve their grammar. All the learners agreed or strongly agreed that wiki helped them to improve their writing content and 80% of the students agreed or strongly agreed about the usefulness of the wikis in improving their writing structure.

Drawing from the literature above, the present study aims to investigate the effects of task type on the number of peer and self corrections or meaning-related and form-related changes as well as the accuracy of peer and self corrections in wiki-based collaborative writing tasks in an EFL context. Moreover, the study explores

the learners' attitudes towards the integration of wiki-based collaborative writing activities into their foreign language learning process in the preparatory program of a private university. By doing so, the study aims to offer insight to language teachers in terms of the affordances and weaknesses of wikis in foreign language education and the role of task types in wiki-based collaborative writing projects.

CHAPTER 3

METHODS AND PROCEDURES

Introduction

In this chapter, the methods and procedures of the present study will be described. The chapter will start with the statement of the research questions and variable definitions and will continue with the description of the context and the participants. Finally, the data collection and analysis procedures will be explained.

Research questions

This study investigates the types of changes students make in a wiki-based collaborative writing environment and the role of task type in the number of different types of changes. Furthermore, the study explores students' perceptions towards wiki-based collaborative writing tasks in foreign language education. Based on these aims and in the light of the previous research this study aims to answer those questions listed below:

1. In a wiki-based collaborative writing project, what is the role of task type in the number of peer-corrections and self-corrections?
2. How accurate will the participants be in making these peer and self corrections?
3. What is the role of task type in the number of form-related changes and meaning-related changes?
4. How do the students describe their overall experience with the integration of a wiki-based collaborative writing project in their foreign language learning process?

Definitions and Measurements of Variables

Independent Variable

The independent variable of the current study is task type. Task type is a categorical independent variable with three levels: a) argumentative, b) informative, c) problem-solving.

Dependent Variables

Correction: Correction is defined as any change in the form of any grammatical structure made by the participants working on the wiki. This is a categorical dependent variable with two levels: a) self-correction, b) peer-correction measured by the detailed analysis of the text produced by the participants in the wiki pages.

Type of the changes: Changes are defined as any edits made in the wiki by the participants. This is a categorical dependent variable with two levels: a) form-related, b) content-related measured by detailed coding of the text produced by the participants in the wiki pages. If the edit is intended to alter any kind of grammatical structure, it is determined as a form-related change. On the other hand, any edits intended to change the meaning of the text is determined as a meaning-related change.

Accuracy of the corrections: This is a categorical dependent variable with two levels: a) correct, b) incorrect measured by detailed coding of the changes made by the participants in the wiki pages.

Participant opinions on the effectiveness of the wiki-based collaborative writing activities: This is a continuous variable measured at the end of the study by a focus-group interview and a questionnaire.

Context of the Project

The study was set up using wikis for B2[1] level English language learners in the preparatory class of a private university in İstanbul in 2010. The institution provides the students with one-year English Preparatory Program before they can start taking departmental courses since English is used as the medium of instruction in the university. The students who pass the English Proficiency Exam at the beginning of the year or the students who are successful in one of the standardized tests the university accredits such as TOEFL, IELTS, and FCE are accepted directly to their departments. The scores that students have to get from either of these international tests instead of BUEPT (B. University English Proficiency Test) are illustrated in Table 4.

Table 4. Minimum Scores on International Tests Accepted by the Institution.

Name of the Test	Minimum Score
TOEFL (Paper-based)	537
TOEFL (Computer-based)	203
TOEFL (Internet-based)	74
IELTS	6
FCE	B

The students who fail the English Proficiency Test take intensive English instruction in the English Preparatory Program. Before they start the English Preparatory Program, they are given a placement test by the institution. They are placed in three

[1] B2 level learner is defined as an "independent user" by the Council of Europe in CEFR (Common European Framework of Reference) and can understand the main ideas of complex text on both concrete and abstract topics. In addition, B2 level students can interact with a degree of fluency and spontaneity with native speakers. Finally, they can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.

different levels according to their exam results namely, A1, A2, and B1. A1 and A2 levels are defined as "basic user" by the Council of Europe in CEFR (Common European Framework of Reference) whereas B1 level students are defined as "independent user". Except from different kinds of formative and summative assessments throughout the module, at the end of the module which usually lasts seven or eight weeks, the students have to take an end-of-module-exam to complete their module and pass on to the next level. The passing grade in each module is determined as 65% by the institution. The students are allowed to take the Proficiency Exam when they complete either B2 level or they complete B1 level with an average grade of 80%. The passing grade for the BUEPT as determined by the institution is 60% for all departments except for American Culture and Literature students who have to get an 80% from the BUEPT. At the end of their English instruction, the ones who pass the English Proficiency Exam are allowed to continue their departmental programs. The students who cannot complete their Preparatory Program successfully in successive two years are not allowed to continue their departmental programs and although they do not lose their right to attend a university, they are asked to transfer to a Turkish language university.

Wiki technology was implemented in two sections of B2 level English classes to provide the students with extra practice in writing. The primary aim was to support process writing by creating a virtual learning environment for group collaboration and scaffolding. On the researcher's part, wikis afforded her an innovative approach to teach L2 writing as well as to explore Web 2.0 technology. The program *Wikispaces*, freely available software, was adopted for the study because of its user friendliness and accessibility. Five percent of the course grade was awarded for wiki writing.

Participants

The participants in this study were 16 female and 18 male non-native speakers of English from various educational backgrounds all over Turkey enrolled in the preparatory program at a private university. The participants were studying in two different classes. Each class had 17 students. Two instructors taught each class. One of the instructors was the researcher who shared each class with one another instructor. The students had 24 hours of English instruction each week. All the students shared the same native language, Turkish. They had already completed A1, A2 and B1 levels before starting the B2 module. The average age of the students was 19.2. All of the students were competent users of Web 1.0 technology, including browsing the internet and using email and text chat. None of the students had used a wiki prior to the study, so a brief training on how to use *Wikispaces* was provided to them.

Task Design

For the project described here, various types of meaning-focused tasks were designed to engage the students in collaboration and negotiation of both meaning and form. As it is stated in the literature, the students try to reach a common goal and share both tools and activities in collaborative learning tasks (Webb & Palincsar, 1996). In addition, as Cohen (1994) argues open tasks with no correct answers are more suitable for collaborative learning. As it is suggested in collaborative learning, in the present study the students are immersed in demanding tasks or questions which encourage them to practice and develop higher order reasoning and problem-solving skills. Furthermore, as collaborative writing suggests the students in the present study "are engaged in meaningful interaction and shared decision making using a common set of tools" (Hernandez, Hoeksema, Kelm, Jefferies, Lawrence,

Lee & Miller, 2008). Finally, all the tasks in the present study are '*tightly coupled activities'* as the students are required to work jointly focusing on key materials in a specific time as they collectively produce a product (Larusson, 2010). Table 5 shows the tasks designed for the study.

Table 5. Tasks Designed for the Study

Task 0: Writing Definitions	Choose 5 concepts and write definitions for them. Explain what they mean to you.
Task 1: Argumentative Task	Choose one of the prompts below and write an argumentative essay with your partners. a) Restrictions should be placed on the use of mobile phones in public areas like restaurants and theaters. b) Censorship is necessary. c) Traditional male role has changed in Turkey over the last 20 years. d) Advertising means manipulation. e) The mass media, including TV, radio, newspapers have a great influence on people and especially on the younger generation. It plays an important role in shaping the opinions and positions of the younger generation. f) Global climate change is man-made. g) Parents should let teenagers make their own decisions. h) Age does not matter in relationships.
Task 2: Informative Task (Visitor's Guide)	Choose one of the cities in Turkey and prepare a visitor's guide for people who want to visit that city. The guide should include general information on the city, accommodation, food, places to see, and things to do, etc. in that city. You may add photos or videos in it. You may get ideas from the websites below: http://www.visitorsguide.is/ http://www.seattlepi.com/visitorsguide/
Task 3: Problem-solving Task (Dear Abby)	You are working for a website called 'Dear Abby' on which people write about their problems and ask for advice. Read the posting and try to help the person by offering advice on how to solve his/her problem.

Task 0 was designed to help the students get used to using *Wikispaces* and learn how to edit a page, how to make changes, and how to save those changes. Five concepts such as being a teenager, love, or success were chosen together with the students in class. Then, they were asked to work in groups and write definitions for each of the concepts in the wiki in one week time. They were also told that their work would not be graded since the aim was to help them discover the features of the Wikispaces. In Task 1 the students were randomly assigned to groups of four and as a group they were asked to choose one of the topics given to them and write an argumentative essay. It was assumed that the students would be motivated to participate in this writing task since the argumentative essay is the first essay type that these students are introduced in B2 level and are taught through process writing. It was also important because as a course requirement, they were going to be asked to write an argumentative essay in the form of a summative assessment which would account for 7% of their overall grade after the process writing which was carried out in class. In addition, in the writing section of the English Proficiency Exam, they are usually asked to write an argumentative essay. Therefore, the first task was designed that way because the students were dealing with how to write argumentative essays that time and it would help them feel safe and keep them on the task since it was parallel to what they were doing in class. In Task 2, groups were asked to prepare a visitor's guide for one of the cities in Turkey. They were allowed to choose the city they wanted. The third task was a problem-solving task which asked the students to write advice for authentic problems written to Dear Abby website. Although the last two task types were not included in the course syllabus as an institutional requirement, some students might have carried out similar tasks in previous modules as those

kinds of tasks are frequently used in foreign language education by language teachers.

Wikispaces

www.wikispaces.com is a website run by Dominick Bellizzi, Jessica Brown, James Byers, Sarah Cove, Adam Frey, Debbie Guskin, Jeff Hanke, Ryan Koopmans, and Carole Snitzer. It was established in 2005 and now hosts millions of wikis for nearly five million people and have products designed for the smallest classroom and the world's largest corporations and institutions (wikispaces-about). The website's features are listed as ease of use, effective collaboration, customizing the wiki, security and reliability, and availability for organizations (wikispaces-features).

The website enables you to format your text, insert images and files, add widgets, and link to other pages using a toolbar after creating a personal account. The free version of it provides 2GB storage however; it is possible to enlarge your storage area by choosing different payment plans. After a wiki is created, it is possible to invite people to the wiki by sending invitations to their e-mail addresses. With page histories, the participants can monitor the activity on their wiki and on individual pages in the wiki. Each version of each page on Wikispaces is saved. Users can see who has made which changes to the wiki and compare the differences between any two versions of the page. In addition, it provides the users with discussion forums for each wiki page. The users can also keep track of the changes happening on their wiki with the notification system. They can receive updates via e-mail or RSS whenever a change is made to the wiki or to a particular page on the wiki. It provides graphs and downloadable statistics for the moderators which track the number of the views and visitors to the wiki, what countries the visitors are coming from, and the frequency of edits and messages. Moderators can also

determine who can access the wiki by setting the wiki permissions. They can make the wiki open to the public, protected from editing by non-members or completely private (wikispaces-features).

In short, Wikispaces was chosen for the study because of its immediate availability and user-friendliness both for the participants and the moderator in addition to being freely available.

Data Collection Procedures and Instruments

At the beginning of the module, the instructor/researcher designed a class wiki for each class. A guiding session had been held before the students started to work on their projects. They were presented the tutorial video available online to familiarize them with a wiki and the rationale behind using a wiki in the guiding session. Then, they were introduced to their classroom wiki and informed on how to register, edit a page, save a page, insert pictures or videos to a page, and use the discussion and history pages. In addition, each student was provided with criteria indicating how their work was going to be graded (see Appendix A and B). The criteria consisted of two parts, the first one being related to the individual work and was worth 12 points out of 20. The other part of the rubric was related to the collaborative product and worth 8 points. Individual work was worth more points than the collaborative work for two reasons. Firstly, the aim was to motivate the students individually to participate in the tasks and to prevent them from leaving the responsibility to other members of the group and breaking down the process of collaboration. Secondly, the institution required teachers to give individual homework grades as part of the students' passing grade. In addition, the students were also informed that their overall grade from the project would constitute 5% of their passing grade. As the

final part of the tutorial, the students worked on a trial wiki page for one week on which they collaboratively wrote definitions of some concepts they had chosen before by editing their peers' contributions to the wiki.

After the tutorial week, the students were provided with teacher feedback on how to improve their performance on the wiki-based writing tasks and effective ways to ensure they benefit from the collaborative writing activities throughout the project. Next, the students were given instructions on their first task and they worked in randomly assigned groups for two weeks for the first task. No instructor/researcher intervention was provided throughout the project apart from some guidance with the technological problems whenever the students asked for it. For the second task, new groups were formed and one hour of in class discussion was provided to them to choose the city they were going to work on and decide on the sections of the visitor's guide. They were told to complete the second task in two weeks. Finally, they worked in different groups for the final task and they were given one week to complete it. Throughout the project, the students collectively wrote drafts, read, and edited each other's contributions. The students worked in new groups for each task to avoid the effect of familiarity with the peers. In other words, the aim was to prevent groups from working more efficiently just because they form a harmonious community. In addition, if a student had unresponsive group members in one task, s/he might loose his/her motivation to participate in the other tasks if s/he continued the project with the same peers. To be able to observe the affordances of wikis on collaborative writing tasks, new groups for each task were formed to avoid the effects of group dynamics on the participants' collaboration. This was also mentioned in the focus group interview by the students as one student stated:

> Members of the group really affect the effectiveness of the wikis. For example, in the first task, my group members were really motivated

> and they constantly contributed to the project and edited my work which motivated me to write more. However, in the second task, I had difficulty in agreeing on some issues with my group mates and some of them were not really interested. This made it difficult to carry on the task.

Another student expressed:

> It is not fair to be assessed as a group as some group members might be irresponsible and inattentive. Why should I be punished because of other people who did not do their work?

The Questionnaire

On the seventh week of the study the students were asked to fill out a questionnaire to describe their experience and evaluate the effectiveness of the project (See Appendix C). The 20 items covered in the questionnaire adapted from Hazari, North and Moreland (2009) asking the students' opinion about the wiki project included (a) five items about overall learning, (b) five items regarding motivation (c) five items related to group interaction and (d) five items about technology. The items included statements such as "Use of the Wiki enhanced my interest in class", "I liked seeing other students' interaction with material I posted in the Wiki", and "The Wiki interface and features were overall easy to understand". The reliability value of the first 20 questions was calculated by Hazari, North and Moreland. It is stated that Cronbach alpha reliability value of the overall scale (α) was 0.97. For the subscales, Learning had an alpha of 0.92, Motivation alphą was 0.93,.Group Interaction alpha was 0.87, and Technology alphą was 0.85 (Hazari, North&Moreland, 2009 p.191).

The questionnaire was translated into Turkish to avoid any miscommunication problems and to get the most accurate answers. The questionnaire was translated back to English by a professional translator and interpreter who works in the field of foreign language education. There were a total of 39 items in the questionnaire. It included 35 items with Likert-type items, i.e,

"Strongly Disagree", "Disagree", "Neither Agree nor Disagree", "Agree" and "Strongly Agree", 1 being "Strongly Disagree" and 5 being "Strongly Agree". Furthermore 4 of the questions were open-ended. The items were adapted from Lee (2010) and Hazari, North, and Moreland (2009).

The interview

A semi-structured focus-group interview was conducted on the seventh week of the study regarding participants' experience in using the wiki and being engaged in asynchronous collaborative writing tasks. Eight participants were chosen randomly for the interview and six of them agreed to participate. The two students who did not attend the interview also did not participate in the wiki project. They probably did not attend the interview since they were not familiar with the tasks and the wiki. They were also academically weak students who could not complete the course and had to repeat the same level in the following module. Open-ended questions were used to seek additional observations on wiki technology, offer suggestions for improvement and to explore the participants' attitudes toward wiki-based collaborative writing tasks in foreign language learning. The semi-structured questions were shown in Appendix D. The interview was conducted face-to-face at the researcher's institution after the six-week treatment and it was tape-recorded and transcribed. Responses on similar topics were grouped together and incorporated into the survey results for discussion. Qualitative data from the readily available wiki pages was used to provide additional evidence to illustrate and support the findings.

Data Analysis

In the following section the data analysis procedures will be explained according to each research question. The analyses conducted to address each research question of the study are as follow:

Research Question 1

In a wiki-based collaborative writing project, what is the role of the task type in the number of peer-corrections and self-corrections?

In order to examine the role of the task type in the number of peer-corrections and self corrections, all history pages of all tasks were analyzed and the number of peer-corrections and self-corrections were calculated separately for each task. Self correction or peer correction refers to any change in the form of a grammatical structure. They do not include any meaning related changes. Peer corrections can be defined as the corrections made on one participant's contribution by any other member of the group he/she works with. In addition, self-corrections refer to the corrections made on one's own contributions to the wiki pages. The number of peer and self-corrections were compared to explore which task yielded more self-correction or peer-correction. Examples of self corrections and peer corrections as occurred in the data will be presented below. A student wrote:

"This conditional effect authority of the man."

Another student corrected it as:

"This condition affects authority of the man."

This correction was counted as a peer correction since a student corrected another student's mistake in terms of the part of speech used and the spelling. On the other hand, one student wrote:

"One can finde different kind of places."

Then, he noticed his own spelling mistake and corrected it as:

"One can find different kind of places."

This correction was coded as a self correction because the student corrects his/her own mistake.

Research Question 2

How accurate will the participants be in making these peer and self corrections?

Accuracy of the corrections was noted with the support of a native speaker of English as "correct" or "incorrect" and the number of correct and incorrect changes was calculated. Then, the accuracy level for self corrections and peer corrections was identified separately to investigate whether there is a relationship between the correction type and grammatical accuracy. Examples of correct and incorrect editions are provided below.

"The most older city in Gaziantep…"

"The oldest city in Gaziantep…"

This was coded as a 'correct' edition since the accurate form of the grammatical structure is supplied.

"…in historical ages-thousands years ago-…"

"…in historical ages- of thousands years ago-…"

This edition was coded as 'incorrect' as the use of the preposition 'of' is not accurate in the sentence.

Research Question 3

What is the role of the task type in the number of form-related changes and meaning-related changes?

To identify form-related changes, all sentences containing a grammatical correction were analyzed. Kessler's (2009) categorization was used as a starting point. The original categories in Kessler (2009) included articles, coordination, fragment, part of speech, punctuation, run on sentence, spelling, subject/verb agreement and word choice. Some categories were excluded if they were not observed in the data. For example, fragment was excluded as there were no examples of fragment corrections in the data. If there were any other categories in the data other than the original categorization, they were included as separate categories later. The categories noted during the data analysis included: a) Word Choice, b) Coordination, c) Spelling, d) Part of Speech, e) Singular/Plural, f) Articles, g) Prepositions, h) Subject/Verb Agreement, i) Unnecessary Word, j) Tense, k) Punctuation, l) Word Order, m) Capitalization, n) Verb Form, o) Active/Passive, p) Superlatives, r) Relative Clauses, s) Negation, and t) Modals. Examples from the data will be provided for each category below.

Word choice:

"…. When the woman learns to stand on her own legs…."

"… when the woman learns to stand on her own feet…"

This correction was coded as a form-related change and categorized as 'word choice' since the meaning of the expression was not changed but the word 'legs' which was not appropriate to use in the expression was edited as 'feet' to correct the grammatical usage.

Coordination:

"Also most parents claim that teenagers should make their own decisions."

"On the other hand, most parents claim that teenagers should make their own decisions."

Spelling:

"I thing you have to talk with your mother."

"I think you have to talk with your mother."

Part of Speech:

"They will be self confidence."

"They will be self confident."

Singular/Plural:

"….male and female role…"

"…male and female roles…"

Articles:

"We chose some of most important places for you."

"We chose some of the most important places for you."

Prepositions:

"Sumela Monastry is a place where you have to see when you go Trabzon."

"Sumela Monastry is a place where you have to see when you go to Trabzon."

Subject/Verb Agreement:

"Your ideas is important."

"Your ideas are important."

Unnecessary Word:

"Firstly, also you know that…"

"Firstly, you know that…"

Tense:

"If she was your best friend, she had helped you."

"If she was your best friend, she would have helped you."

Punctuation:

*"*Secondly there are a lot of differences in domestic lives of men."

*"*Secondly, there are a lot of differences in domestic lives of men."

Word Order:

"Choice of profession, the individual's life is one of the most important decisions."

"Choice of profession is one of the most important decisions in the individual's life."

Capitalization:

"These days living conditions are becoming more and more difficult due to economic crisis. when this effect is taken into consideration…"

"These days living conditions are becoming more and more difficult due to economic crisis. When this effect is taken into consideration…"

Verb Form:

"There are lots of benefits in terms of self confidence, gaining experience and have their own personalities."

"There are lots of benefits in terms of self confidence, gaining experience and having their own personalities."

Active/Passive:

"…and female roles have redefined in our country."

"…and female roles have been redefined in our country."

Superlatives:

"Doliche was most older city in Gaziantep"

"Doliche was the oldest city in Gaziantep."

Relative Clauses:

"Turkey's third largest city, Izmir, is contemporary and sophisticated."

"Izmir, which is Turkey's third largest city, is contemporary and sophisticated."

Negation:

"….nobody isn't the same."

"…nobody is the same."

Modals:

"…of course you should go out with your friends and have fun..."

"...of course you can go out with your friends and have fun..."

To identify meaning-related changes, all of the sentences including at least one meaning-related change (MRC) were examined. Kessler and Bikowski (2010) define a MRC as any meaning-related change that a student made to the wiki such as changing a letter, word, or sentence, paragraph or the entire wiki (p.45). Kessler and Bikowski's (2010) coding category was adapted to examine meaning-related changes in the student projects. On the other hand, change of a letter was coded as a form-related change unless it led to a change in the meaning. For instance a change of a misspelled word such as 'improvment' to 'improvement' was coded as a form-related change and categorized as 'spelling' since it did not result in a change in the meaning of the word. The last three categories were added by the researcher as they emerged in the data. Table 6 includes a description of each category.

Table 6. Coding Categories and Descriptions

Coding Category	Description of Category
New information	Student writes about a sub-topic not previously discussed
Deleted information	Student deletes information, ranging from one word or piece of punctuation to the entire body of the wiki
Clarification/elaboration of information	Student adds to a sub-topic that had already been introduced
Synthesis of information	Student writes a sentence or paragraph that ties together previously written information
Link	Student adds a link.
Reorganization	Student changes the place of a sentence or a whole paragraph.
Picture	Student adds a picture.
Video	Student adds a video.

Note. Adapted from "Developing collaborative autonomous learning abilities in computer mediated language learning: Attention to meaning among students in wiki space", by G. Kessler & D. Bikowski, 2010, *Computer Assisted Language Learning*, 23(1), 41-58.

Examples for each category will be provided below as they emerged in the data.

New information:

> İstanbul is the most populated and vivacious city in Turkey.It is located at the northwest of Turkey and costs of the sea of Marmara and Blacksea.İstanbul is a perfect choice who want to go a place which is in the heart of history, art, natural beauties and technology.İstanbul consists of two sides which are connected with each other by two bridges.
>
> HISTORICAL PLACES OF ISTANBUL
> You can see almost everywhere in İstanbul traces of old civilizations such as Ottoman Empire and Byzantine Empire.Every avenue,building even paving stones carry a historical and magical atmosphere especially districts like Eminönü,Üsküdar,Beyoğlu etc."

The part titled as "Historical Places of Istanbul" was added as a new piece of information to the existing body of the text. Therefore, it was coded as adding new information to the text.

Deleted Information:

> There is no point brooding over it,you sould talk to your friend face to face and explain your feelings ~~and concerns~~ about your friendship and her attitude towards you,so you can feel comfortable.

The crossed out part was deleted from the text. Thus, it was coded as deleted information.

Clarification/Elaboration of Information:

> You can see almost everywhere in İstanbul traces of old civilizations such as Ottoman Empire and Byzantine Empire.Every avenue,building even paving stones carry a historical and magical atmosphere especially districts like Eminönü, Üsküdar, Beyoğlu etc. Moreover,if you want to learn more aboıt İstanbul and its past,you should visit Topkapı palace,Blue Mosque,Hagia Sophia etc. Topkapı Palace is a very rich museum where the important objects belonging to Ottoman Empire mostly are kept.Blue Mosque and Hagia Sophia also are of interest to a wide range of visitors.

The underlined part was added to the paragraph to clarify/elaborate on the existing information. Therefore, it was coded as elaboration/clarification of information.

Synthesis of Information:

> In retrospect, the traditional male role has undergone massive changes in terms of social, domestic and business life. The traditional notion of male and female roles has been redefined in our country. In the light of the aforementioned ideas, we can say that men's perspective and the point of view of the society to men's role have improved with the aid of getting educated and disposing of gender bias. There is no question that the man has gradually given up his patriarchal authority. Therefore, the traditional position of women in the society has considerably changed over the last 20 years and as a result of this, one of men has too.

In this paragraph student wrote a conclusion to the argumentative essay that ties together what had already been written. Therefore, it was coded as a synthesis of informaton.

Link:

> If you want to have information this issue, they can should look link
>
> http://en.wikipedia.org/wiki/Interpersonal_relationship

In this excerpt, student added a link to the text. Thus, it was coded as link.

Reorganization:

> Official statistics indicate that women now represent almost fifty percent of the workforce~~. These days, living conditions are becoming more and more difficult due to the economic crisis. When this effect~~

> ~~is taken into consideration, women should work.~~ This condition affects the authority of man because earning money is his sole power on woman in some period of male life so, when the woman learn how to stand on her own legs, traditional male role disappear easily. These days, living conditions are becoming more and more difficult due to the economic crisis. When this effect is taken into consideration, women should work.

The crossed out sentence shows the previous location of the part which was reorganized by the student. The student deleted the sentence from its original location and pasted it to a different location in the text without making any other editions. Therefore, it was coded as reorganization.

To examine the role of task type in the number of form-related and meaning-related changes form and meaning-related changes were counted for each task type with the help of a native speaker of English who teaches English at the same institution with the researcher. Then, the numbers were compared to see if the task type affected the number of meaning related and form related changes in the task.

Research Question 4

How do the students describe their overall experience with the integration of a wiki-based collaborative writing project in their foreign language learning process?

To gain in-depth understanding of the students' opinions on the overall effectiveness of a wiki-based collaborative writing project the results of the questionnaire were analyzed. The questionnaire had a response rate of 67.64%. Descriptive statistics was used to analyze the results of the Likert-scale questions. In addition, a focus-group interview with six randomly chosen students was held and transcribed. Recurring themes were grouped together with the answers to the open-ended questions in the questionnaire.

Summary

The research questions, data collection methods, and data analysis are summarized in the table below.

Table 7. Overview of Research Questions and Related Procedures

Research Questions	Instruments	Data Analysis
1. In a wiki-based collaborative writing project, what is the role of the task type in the number of peer-corrections and self-corrections?	- Three types of tasks; a) argumentative, b) informative, c) problem-solving. -Content analyses of Wikispaces entries.	- Descriptive Statistics -Chi-square test
2. How accurate will the participants be in making these peer and self corrections?	- Content analyses of Wikispaces entries.	- Descriptive Statistics
3. What is the role of the task type in the number of form-related changes and meaning-related changes?	- Three types of tasks; a) argumentative, b) informative, c) problem-solving. - Content analyses of Wikispaces entries. - Kessler and Bikowski's (2010) taxonomy of meaning related changes	- Descriptive Statistics - Chi-square test
4. How do the students describe their overall experience with the integration of a wiki-based collaborative writing project in their foreign language learning process?	-Questionnaire adapted from Lee (2010) and and Hazari, North, and Moreland (2009). - Semi-structured focus group interview with six students.	- Qualitative data

CHAPTER 4

RESULTS AND DISCUSSION

Introduction

In this part of the study, the findings of the previous research questions followed by a discussion will be presented. The first research question investigated the effects of the task type in the number of peer and self corrections in wiki-based collaborative writing environments. The second research question sought to examine the accuracy of the peer and self corrections. The third research question investigated the role of the task type in the number of meaning-related and form-related changes. The final research question explored the participants' perceptions of the integration of a wiki-based collaborative writing project in their foreign language learning process. Both quantitative and qualitative analyses were used to answer the research questions. SPSS 16.0 (The Statistical Package for Social Sciences) was used for the statistical analysis of the data. Descriptive statistics and chi-square tests were used to seek answers for the quantitative analyses.

Results and Discussion

The Effects of Task Type on the Number of Peer and Self Corrections

The first research question was;

In a wiki-based collaborative writing project, what is the role of task type in the number of peer-corrections and self-corrections?

This research question was analysed in two stages. In the first stage, peer corrections and self corrections for each task were identified and counted separately. If one participant's contribution was corrected grammatically by any other members of the group, this was identified as a peer correction. In addition, if the participant

corrects any grammatical mistake in his/her own contribution, this was identified as a self correction. In the second stage, the number of peer and self corrections in all tasks were compared to examine whether the numbers of those corrections were affected by different task types. Figure 2 shows the overall results of the analysis.

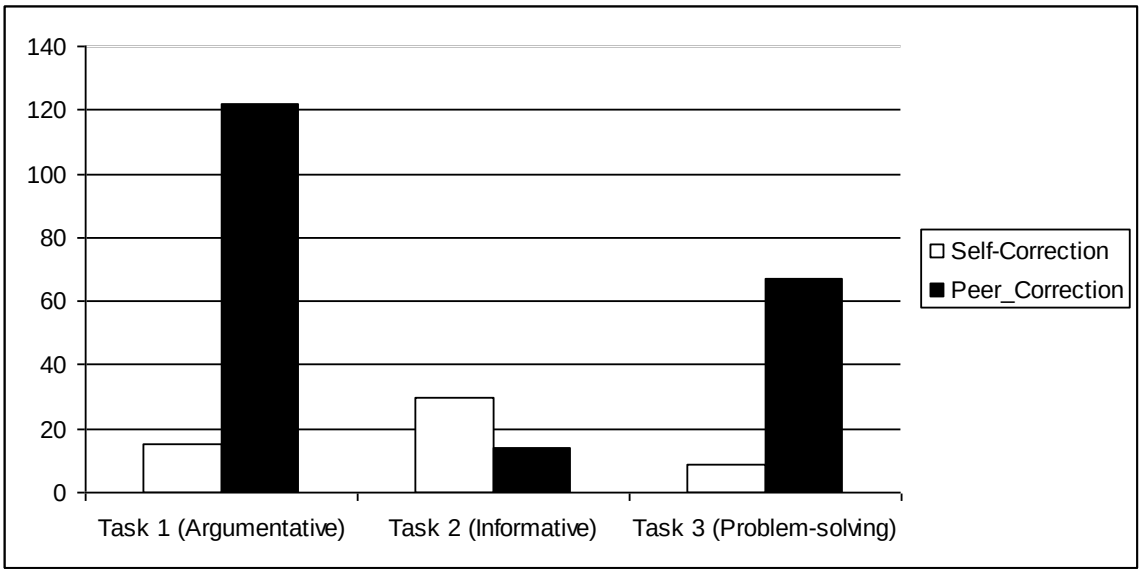


Figure 2. Distribution of corrections in all three tasks

As it is illustrated in Figure 2, the argumentative task resulted in the largest number of corrections, followed by problem-solving and informative tasks. In addition, the argumentative task yielded more peer corrections than the informative and problem-solving tasks. On the other hand, the informative task promoted more self corrections than the argumentative and problem-solving tasks. Furthermore, the smallest number of peer corrections was promoted by the informative task whereas the problem-solving task included the least amount of self correction. In other words, 89% of the corrections were made by peers in the argumentative task while 11% were self-corrections. 75% of the corrections were self corrections in the informative task whereas 15% of the corrections were made by peers. Finally, in the problem-solving task, self corrections constituted 12% of the total number of corrections whereas

88% were peer corrections. The results of the chi-square analysis in SPSS revealed that those differences are statistically significant (X^2=71.197, p<0.05). Thus, it is possible to conclude that the argumentative task in this study yielded more peer corrections than the informative and the problem-solving tasks. On the other hand, the informative task facilitated more self corrections than the argumentative and problem-solving tasks.

The difference in the role of the task types in the number of self and peer corrections may be attributed to the fact that participants were trying to convey their own ideas in the argumentative task whereas, in the informative task they were trying to present the information from other sources in their own words. In other words, in the informative task, they had the chance to refer to other sources to correct their own grammatical mistakes although they did not have the same chance in the argumentative task. The primary source of evaluation was their peers who noticed and corrected one another's mistakes. Bygate (1999) argues that familiarity with the content increases the number of incidences to self-correct. It was evident in his study that a student self-corrected more on the second occasion she was asked to retell a cartoon story she had watched before. Bygate concludes that as she was familiar with the content, she focused more on the accuracy of her production as indicated by self-corrections. This finding may explain the higher number of self-corrections in the informative task as the students had to do a research on the city they wanted to describe. As a result, they had already become familiar with the content and that may have led them to do more self-corrections. In addition, the students preferred to divide the work in the informative task because the nature of the task was quite suitable for the division of responsibility since they had different parts in the visitor's guide. Therefore, each member of the group might have been kept responsible for

their own part before they revised the whole product. This might also have encouraged them to be more careful about what they had written in their part before combining it with the other parts. Finally, as the students were presenting facts in the informative tasks, they did not feel that they needed to correct one another's contributions. As it is indicated by one student in the interview:

> Since we were presenting facts in the informative task, I felt I did not have the right to change what my peers had written since the information presented was an obvious fact known by everyone.

On the other hand, in the argumentative task, there were not very clear-cut divisions of the work. Everybody in the group was trying to defend their own ideas against an opposite idea to convince the reader that their main idea was stronger. This might have caused rivalry among the members. As a result, they might have paid more attention to one another's mistakes. This is also supported in the focus group interview as one student states:

> In the argumentative task, everybody in the group was trying to defend their own ideas and if one wanted to argue against another idea, one had to express their own idea in a stronger way than the others. In addition, if you wanted your idea to be accepted by the others, you had to support it more effectively. This created a competition among the group members. Thus, the argumentative task encouraged me to write more.

The relatively higher number of peer corrections in the problem-solving task can be explained by the same reason as the participants were also trying to express their own opinions on how to solve a problem. Furthermore, they relied on their peers to notice and correct the mistakes in the text. However, in this task the students produced shorter texts than the informative task. Therefore, although there are more peer corrections than self corrections, the number of peer corrections in the problem-solving task is less than the number of peer corrections in the argumentative task.

Besides, the lowest number of self corrections in the problem-solving task can result from the fact that students were supposed to offer a jointly written solution to the stated problem without dividing the text into parts. Since they could not divide the work, they might not have felt responsible enough for a specific part of the text to go back and revise what they had written. Instead, they may have just left that responsibility to their friends.

Accuracy of the Self and Peer Corrections

The second research question was;

How accurate will the participants be in making these peer and self corrections?

To be able to answer this question, all the corrections were checked for their accuracy with the support of a native speaker of English who holds a BA degree in English Language and Literature and teaches English at the same institution. All correct and incorrect edits were noted and counted for each task separately. Percentages were also calculated. Then the numbers were compared to investigate whether wiki-based collaborative writing tasks encouraged grammatical accuracy. Table 8 shows the results of the analysis.

Table 8. Level of Accuracy in the Corrections

	Correct	Percentage	Incorrect	Percentage
Task 1 (Argumentative)	129	94%	8	6%
Task 2 (Informative)	39	89%	5	11%
Task 3 (Problem-solving)	74	97%	2	3%
Total	242	94%	15	6%

As Table 8 illustrates, the number of accurate corrections is higher than the number of inaccurate corrections in all three tasks. The highest level of accuracy is found in the problem-solving task as 97% of the corrections resulted in grammatical accuracy.

In addition, in the argumentative task, accurate corrections constitute 94% of all the grammatical corrections whereas in the informative task 89% of the corrections are accurate. When the total number of corrections is examined, out of 257 corrections made by participants in the wiki pages, 94% is accurate. This can be a result of the emphasis on the process writing as the wiki encourages and allows the students to do as many revisions as they want until they are satisfied with the product. In addition, the collaborative nature of the tasks facilitate corrections as members of the group read one another's contributions and edit them if they notice any grammatical mistakes.

Self corrections and peer corrections were also analysed separately to investigate which type of correction leads to higher levels of accuracy. Table 9 shows the distribution of accuracy according to the type of the corrections.

Table 9. Accuracy Level According to Correction Type

	Self	Correct	Incorrect	Peer	Correct	Incorrect
Task 1 (Argumentative)	15	13 (87%)	2 (13%)	122	116 (95%)	6 (5%)
Task 2 (Informative)	30	29 (97%)	1 (3%)	14	10 (71%)	4 (29%)
Task 3 (Problem-solving)	9	8 (89%)	1 (11%)	67	66 (98%)	1 (2%)
Total	54	50 (92%)	4 (8%)	203	192 (94%)	11 (6%)

Table 9 indicates that in the argumentative task 87% of the self corrections led to grammatical accuracy while 95% of the peer corrections resulted in accurate grammatical forms. On the other hand, self corrections led to accurate use of grammatical structures 97% of the time whereas 71% of the peer corrections facilitated accurate grammatical usage in the informative task. Finally, in the problem-solving task 99% of the self corrections were accurate while peer

corrections resulted in accurate use of grammar 98% of the time. If the total number of self corrections is examined, it can be seen that out of 54 self corrections 92% were accurate. In addition, 94% of the 203 peer corrections yielded accurate usage of grammatical structures. A chi-square test was computed to see if there is a relationship between the type of the correction and the grammatical accuracy. The result of the chi-square test revealed that there was not a statistically significant relationship between them. Therefore, it is not possible to argue that peer corrections lead to a higher level of grammatical accuracy or vice versa. On the other hand, it can be concluded that wiki-based collaborative writing tasks promote accurate usage of grammatical forms most of the time (94%). This finding indicates the advantages of collaborative writing tasks in producing grammatically correct texts. The result supports the finding in Noel and Robert's (2004) study which states that collaborative writing helps to obtain a better product. In addition, the finding is parallel to Storch's (2005) conclusion that collaboratively written texts involve higher levels of grammatical accuracy. On the other hand, this finding is not consistent with the results in Kessler's (2009) study as the participants in his study did not pay attention to form and the task did not contribute to an increased grammatical accuracy.

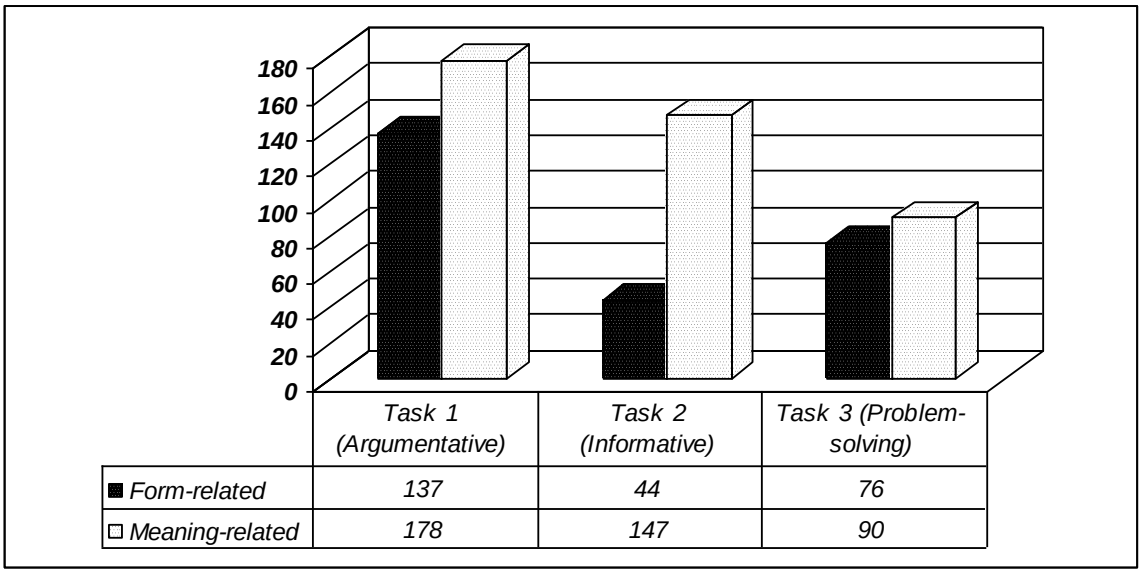
The role of task type in the number of meaning-related and form-related changes

The third research question was,

What is the role of task type in the number of form-related changes and meaning-related changes?

To be able to answer this research question, all changes were identified either as meaning-related or form-related. Any change that intended to correct the

grammatical usage was coded as a form-related change whereas any change intended to change the meaning was coded as a meaning-related change. A native speaker of English who holds a BA degree in English Language and Literature and teachers English at the same institution helped in the coding process of meaning and form-related changes. Then, the number of form-related and meaning-related changes in all tasks was compared to examine whether the numbers of those editions were influenced by different task types. Figure 3 shows the overall results of the analysis.



	Task 1 (Argumentative)	Task 2 (Informative)	Task 3 (Problem-solving)
Form-related	137	44	76
Meaning-related	178	147	90

Figure 3. Distribution of changes in all three tasks

As Figure 3 indicates, there were more meaning-related changes than form-related changes in all three tasks. In the argumentative task, 57% of the changes were meaning-related whereas 43% of the changes were form-related. Meaning-related changes constituted 77% of the all changes in the informative task while 23% of the changes were form-related. Moreover, 54% of the changes were meaning-related and 46% were form-related in the problem-solving task. Chi-square test indicated that those relationships were statistically significant (X^2=26.371, p<0.05). Thus, it can be concluded that students pay attention to meaning more than form regardless of the

task type in wiki-based collaborative writing tasks. This result may depend on several factors. Firstly, the students' proficiency level may have a role in attention to form. The students may not notice all the grammatical mistakes in the text since they are not completely proficient in the target language. This is also evident in the final versions of the texts as they are not error-free and there are a number of grammatical mistakes left uncorrected in them. As Lee (2010) suggests, inadequate proficiency in the target language prevents resolving language problems. Hu and Lam (2009) also argue that L2 proficiency is an important factor that plays a role on student performance in peer reviews. Moreover, Rollinson (2005) states that the students' ages, cultural backgrounds, class size and interlanguage level may significantly influence peer feedback. The students' concern about correcting the grammatical mistakes in the wiki pages is also evident in their responses during the focus group interview. As one student stated:

> Since we are not completely proficient in English, it was difficult for us to notice all the grammatical mistakes in our peers' work. Even if we thought something needed to be expressed in a different way, we had to search from other sources and be sure that our edits were accurate.

Another factor that may lead to a higher attention to meaning may result from the authentic nature of the tasks. All the tasks in the study are designed to achieve a goal such as defending an idea, introducing a city, or offering a solution to a problem. Hence, negotiation of meaning is important and the students are trying to convey a message to the readers. Moreover, audience awareness is increased in wiki-based collaborative writing tasks as student writings are published immediately on the web and they know that their peers are going to read what they have written. This may also have motivated them to pay more attention to meaning rather than form. This finding supports the finding in Kessler's (2009) study which revealed that the

students paid more attention to meaning rather than form in wiki-based collaborative writing tasks.

The distribution of meaning related changes and form related changes was analyzed using descriptive statistics. Table 10 summarizes the distribution of meaning related changes (MRCs) in all three tasks.

Table 10. Distribution of MRCs in All Three Tasks

Type of MRC	Argumentative Task	Informative Task	Problem-solving Task	Total
Clarification / Elaboration of Information	89	36	46	171
New Information	33	51	14	98
Picture	22	48	9	79
Deleted Information	22	7	12	41
Synthesis of Information	9	1	7	17
Reorganizing	2	1	2	5
Video	0	3	0	3
Link	1	0	0	1

As indicated by Table 10, in the argumentative task and problem-solving task, the highest number of meaning related changes was in the form of clarification/elaboration of information. On the other hand, in the informative task, adding new information was the most frequent MRC. Moreover, no videos were added to the text in the argumentative and problem-solving tasks whereas no links were added to the text in the informative and problem-solving tasks. When the total number of MRCs is examined, it is evident that MRCs took the form of clarification/elaboration of information most of the time as they constituted 41% of the total MRCs. The second most frequent MRC was adding new information to the

text (24%). These findings are different from Kessler and Bikowski's (2010) findings since in their study, the most frequent forms of MRCs were new information and deleted information.

The distribution of form related changes (FRCs) was also analyzed. Table 11 summarizes the overall results of the analysis.

Table 11. Distribution of FRCs in All Three Tasks

Type of FRC	Argumentative Task	Informative Task	Problem-solving Task	Total
Word Choice	29	5	22	56
Spelling	23	9	13	45
Coordination	13	2	8	23
Singular/Plural	12	4	3	19
Articles	9	6	1	16
Tense	5	3	8	16
Capitalization	12	1	0	13
Verb Form	8	1	3	12
Part of Speech	6	2	1	9
Subject/Verb Agreement	3	2	4	9
Prepositions	2	4	2	8
Unnecessary Word	4	0	4	8
Word Order	4	1	3	8
Punctuation	3	0	0	3
Verb-Verb Agreement	2	0	1	3
Relative Clauses	0	2	1	3
Active/Passive	2	0	0	2
Modals	0	1	1	2
Superlatives	0	1	0	1
Double negation	0	0	1	1

As Table 11 illustrates, there were a number of types of FRCs in the tasks. Word choice was the most frequent FRC in the argumentative and problem-solving tasks whereas in the informative task, spelling was the most frequent FRC. When the total number of FRCs is examined, it is observed that 22% of the FRCs was related to word choice. The second most frequent FRC was spelling (17.5%). On the other hand, superlatives and double negation were the least frequent MRCs. The distribution of FRCs in the current study is parallel to the distribution of FRCs in Kessler's (2009) study as word choice and spelling were the most frequent types of FRCs he found in his study.

Participants' attitudes towards the integration of wiki-based collaborative writing tasks in foreign language education

The final research question of the study was;

How do the students describe their overall experience with the integration of a wiki-based collaborative writing project in their foreign language learning process?

The questionnaire was analyzed to explore the students' attitude towards wiki-based collaborative writing tasks in foreign language education. The reliability of the questionnaire was calculated as α=.98. The items which had the highest mean in the questionnaire were *"Use of wiki-based collaborative writing tasks helped to improve my foreign language writing skills"* (M=3.9)*, "I liked the topics used in the tasks"* (M=3.9), and *"I started to view new and different foreign language learning methods more positively after this project"* (M=3.9). Therefore, it is possible to argue that the students felt that their foreign language writing skills improved because of the use of wiki-based collaborative tasks. In addition, they enjoyed the topics used in the tasks and their attitudes towards using new and different methods

of learning a foreign language changed positively. On the other hand, the items which have the lowest mean were *"Use of the wiki enhanced my interest in the course"* (M=3) and *"Doing the assignments through the wiki encouraged me to study more regularly"* (M=3). As a result, it can be concluded that use of wikis did not promote more interest in the course and did not encourage the participants to change their studying habits. However, this result can be attributed to the short duration of the project since it is difficult to realize the changes in one's attitudes or habits in such a short time as 7 weeks. Had the project lasted longer, the students might have felt more motivated towards the course and changed their style of studying. The results of the questionnaire were triangulated with the results of the interview and will be presented together.

The semi-structured interview conducted with six randomly chosen students who agreed to attend to it at the end of the study revealed some data on the students' opinions related to wiki-based collaborative writing tasks in foreign language education. All six students participated in the interview stated that they had a positive experience in using wikis for collaborative writing tasks. This finding is also supported by the questionnaire results as the mean score of the item *"Overall, I had a positive experience with the use of wiki-based collaborative writing tasks"* was 3.5 out of 5. In other words, 52.2 % of the respondents stated that they agreed or strongly agreed with the item. The interviewees expressed that the wiki provided the best environment to work in groups and it was enjoyable. One student indicated that the wiki had become a part of their daily lives. Similarly, 60.9% of the respondents agreed or strongly agreed with the statement *"I liked working together with my friends while creating wiki pages"* (M=3.7). In addition, they emphasized the fact that they could easily notice their own mistakes and also their peers could notice

their mistakes while writing on the wiki. In terms of the contribution of the wiki-based collaborative writing tasks into their second language writing skills, participants stated that they had become aware of different perspectives of an issue which helped them generate more ideas when they were writing. They also had the chance to search for information from other sources to be able to produce more ideas and improve the content of their texts. Even if they had difficulty in producing a new idea, the collaborative nature of the tasks encouraged them to think more deeply to develop their peers' ideas and pushed them to write more. In addition, wiki-based collaborative writing tasks encouraged them to practice writing regularly every day instead of once in a while. One student said:

> I personally do not like writing on a paper using a pencil and an eraser. However, writing on a website using a keyboard is much more practical for me and it makes writing more enjoyable since I like using computers.

Another student stated that wiki-based collaborative writing tasks improved her vocabulary knowledge and research skills since she also used an online dictionary to look up the meanings of the words and tried to use the synonyms instead of repeating the same words while writing on the wiki. Moreover, they had the opportunity to learn new expressions from their peers when they read their edits. As one student expressed:

> When you read your peers' edits, you see different sentences used to express different ideas. This contributes to your existing knowledge of vocabulary.

Another student added:

> And this happens regularly every day so the knowledge accumulates.

Another student also said:

> We exchange vocabulary with our peers. We use the expressions that they do not know; they use the expressions that we do not know. So, this is a good bargain.

In addition, feeling responsible towards the group motivated them to be more careful when they were writing.

> When working in a group, you have additional responsibilities. You feel responsible for both yourself and the group. You think that if this is a group work, you must contribute to it and this contribution should be helpful for the others, too. When you are responsible only for your own work, sometimes you feel that it does not have to be the best you can do. Sometimes you do it just for the sake of doing it.

The feeling of improvement in the students' foreign language writing skills is also reflected in the questionnaire as the item *"Use of wiki-based collaborative writing tasks helped to improve my foreign language writing skills"* was one of the most popular items with a mean of 3.9 as 69.8% of the respondents agreed or strongly agreed with it.

As another advantage of using wikis in collaborative writing tasks, the participants stated that they did not have to wait for the teacher feedback since collaborative writing in wikis provided them with immediate feedback on their writings from their peers and they all expressed that they went over the text again to see what their friends had changed in their contributions. Moreover, the participants expressed that peer feedback was more effective in improving the writing skills since they get constant feedback from their peers throughout the writing process. However, they thought that because teacher feedback was given after the final product, it might later be forgotten easily since the task had already been completed. In addition, they believed that the teacher feedback was more form-focused as the teachers tended to correct mostly the grammatical mistakes and made few suggestions on improving the content. On the other hand, they stated that peer feedback was helpful in terms of

improving the content and complexity of the text as the sentences they produced were edited by their peers to make them sound stronger and more complex. As one student said:

> If I had a weak or a simple sentence in the text the teacher would probably correct the grammatical mistakes in it. However, while we are working on the wiki my peers rewrite the whole sentence, change some words or add some words into it so that I can see how to make my sentences look more complex and ideas sound stronger.

Thus, they felt that their text was constantly reproduced. Another advantage of peer feedback as indicated by the participants was that it encouraged them to question the accuracy of the feedback and go over the text again and again since they felt the need to re-examine the peer feedback unlike the teacher feedback which they regarded as non-questionable. Giving feedback to their peers also encouraged them to search for the accurate usages of the vocabulary items or the grammatical structures which they thought resulted in more permanent learning. Awareness of the value of the peer feedback was also evident in the questionnaire as 39.1% of the respondents agreed or strongly agreed with the statement *"I learned more because of my friends' contributions to the wiki" (*M=3.3). Moreover, the statement *"I learned new things while reading and editing my peers' contributions"* had a mean of 3.5 and 43.5% of the respondents agreed or strongly agreed with it. Finally, 73.9% of the respondents agreed or strongly agreed with the statement *"Wiki-based collaborative writing tasks helped me to learn from my mistakes in the wiki tasks"* (M=3.8). In addition, unlike the results in Lee's (2010) study which revealed that the students did not feel comfortable editing their peers' work, the students in the current study felt quite comfortable correcting their peers' mistakes. When they were asked whether they felt comfortable editing their peers' work in the interview, all the participants stated that they felt very comfortable editing one another's work. This is also evident in the

questionnaire as the item *"I felt comfortable while editing my peers' work"* had a mean of 3.7 and was agreed or totally agreed by 69.5% of the respondents. This finding supports the finding in Kessler's (2009) study as he claims that the students were not hesitant to edit their peers' work.

When they were asked to compare wiki-based writing tasks with in-class writing tasks, the students affirmed that in-class writing tasks put them under pressure and caused more anxiety since the time was limited while they enjoyed writing whenever they felt motivated to write at their own pace without time restrictions in wiki-based writing tasks. In addition, wiki-based writing projects allowed them to monitor their own process and notice the improvement between the drafts. As it is indicated in the questionnaire, 52.2% of the respondents agreed or strongly agreed with the statement *"I prefer wiki-based writing tasks to in-class writing tasks"* (M=3.6).

Another advantage of using wikis in collaborative writing tasks was stated as improving the students' paraphrasing and translating skills since they had to paraphrase the information they acquired from English sources and translate the information they obtained from the sources in their native language and write it in their own sentences. This may also have helped the learners improve their grammar knowledge as translating and paraphrasing require high levels of grammatical competence in the target language.

In terms of the tasks used in the project, the participants indicated that they enjoyed the argumentative task the most since it required more creativity and it encouraged them to generate more ideas to support their point of view. Furthermore, conveying their own opinions and expressing themselves motivated them to write more. Because they were provided with more than one topic to write on, they felt

that they had the freedom to choose the topic they liked and this helped them to stay more on-task. Another reason why they enjoyed the argumentative task the most was that it was parallel to what they had been learning in the classroom at that time. They felt safe since they knew what they were supposed to do and it gave them an opportunity to make extra practice on essay writing. The results of the questionnaire also indicated that the students generally liked the topics used in the tasks as 73.9% of the respondents agreed or strongly agreed with the statement *"I liked the topics used in the tasks"* (M=3.9).

When they were asked what they liked the most about working on the wiki the participants indicated that not having to be together with the group members at the same place at the same time was the most important benefit of using wikis. They stated that participating in the group work at their own convenience facilitated a comfortable studying environment and saved them from the pressure of doing homework. One of the participants said:

What's the use of wikis if my peers are not editing what I have done?

This answer indicates that the students were aware of the importance of peer feedback and collaboration. In addition, it is obvious that they have valued the wiki as a tool promoting collaboration since they think that there is no point in using wikis without group work. Likewise, 69.6% of the respondents in the questionnaire agreed or strongly agreed with the statement *"Use of the wiki promoted collaborative learning"* (M=3.5). Moreover, the participants found the notification system of the wiki very useful since they were notified when there was a change in their wiki pages and had the chance to go to the page and follow the changes as soon as they were notified. The history page of the wiki also helped them observe their own process and see the modifications/corrections. As it is also indicated in the

questionnaire results, 52.1 % of the respondents agreed or strongly agreed with the statement *"I often used the History page to see my peers' edits before I edit something."* (M=3.4). Finally, some students argued that the discussion page in the wiki helped them socialize and establish positive relationships with their classmates outside the classroom. As stated by one student:

> Thanks to the Discussion page, we had the chance to establish closer relationships with our classmates as we discussed on the tasks as a group.

The questionnaire results also indicate that 43.1% of the respondents agreed or strongly agreed with the statement *"I found the Discussion page useful to communicate with my group members and share my comments with them"* (M=3.1).

When they were asked about the most challenging part of wiki-based collaborative writing assignments the participants stated that the limited time they had to complete the tasks made the whole process considerably difficult because they already had a very busy schedule at school. Another difficulty was unmotivated group members. When some members of the groups did not contribute to the task regularly, other members felt frustrated. Furthermore, they did not enjoy doing the task alone without receiving feedback.

In terms of the role of wiki-based writing tasks in changing the students' attitudes toward L2 writing, the students expressed that they had gained more self confidence in writing. This result is supported by the questionnaire results as 47.8 % of the respondents agreed or strongly agreed with the statement *"Contributing to the wiki pages helped me to write better in-class essays"* (M=3.4). In addition, collaboration on the wiki pages encouraged them to generate their ideas by thinking in English, not in their native language as they used to do before. Therefore, wiki-based collaborative writing tasks facilitated the improvement of composing skills in

the target language. Some students also stated that they had a more positive attitude towards L2 writing after completing wiki-based collaborative writing tasks.

Observed Weaknesses of Wikis

The focus-group interview also revealed some weaknesses of the wiki-based collaborative writing tasks. First of all, participants mentioned some technical difficulties of the website and stated that it needed to improve in terms of technical issues. For instance, some students had difficulties in uploading videos to the page. In addition, when they uploaded a picture, the overall layout of the page was sometimes ruined and they had to reorganize it. Another technical problem stated by the participants was that when two people were working on the same page at the same time, the modifications of the person who clicks on the "save" button before the other one were saved but the other's were lost. Finally, the students expressed that there had to be an "undo" button in the website.

Other weaknesses stated by the participants were related to peer feedback. Participants expressed that peer feedback was not as detailed as the teacher feedback since their peers could not notice all the errors in the text. They indicated that they also needed teacher feedback and preferred that teacher gave feedback at regular intervals while the students were giving peer feedback regularly on a daily basis. They thought that this method would be more effective in improving their writing skills. These findings is parallel to the findings in Hu and Lam's (2009) study as participants in that study preferred to have teacher feedback in addition to peer feedback.

Another crucial issue stated by the participants referred to group dynamics. All the students in the interview agreed that group dynamics affected the

effectiveness of the wiki-based collaborative writing tasks. When some people in the group were uninterested in the task or did not contribute regularly, the students felt that they were not benefiting from the tasks and were not motivated to contribute to the project. Therefore, some students thought that the assessment of the collaborative work was unfair because when they had unresponsive/uninterested members in their groups, their grade was affected negatively even if they worked hard. However, some students disagreed with the idea since individual work was also being evaluated by the teacher as it was illustrated in the rubric distributed to the students before the project.

Combining different styles of writing and different ideas was another problematic area expressed by the participants. They mentioned that they had difficulty in agreeing on the style of writing. For instance, it was difficult to agree on which parts to include in the text, how many pictures to use, what kind of information to present or what kind of language to use. Moreover, sometimes everybody in the group had a different idea and they had to discuss in their groups to persuade one another and support their own ideas. This is also indicated by the questionnaire results as 21.7% of the respondents strongly disagreed or disagreed with the statement *"The group I worked with came to consensus more quickly thanks to the use of the wikis"* (M=3.3).

Finally, participants stated that time allocated for tasks was limited and they needed more time to complete them. Because of their busy schedule at school they sometimes could not concentrate on the wiki tasks and could not participate regularly.

When participants were asked what kind of recommendations they would give to improve the effectiveness of the wiki-based collaborative writing tasks, some of

them argued that there had to be more people in groups. Therefore, even if some people were not interested in the task, they would not affect the other members of the group and they would still have more people to collaborate. However, some other students disagreed and told that it would be much more difficult to come to a consensus on some issues if there were more people in a group. Another suggestion made by the participants was that the project might be more effective in lower levels to improve their writing skills and they could spare more time to wiki tasks since they did not have other concerns such as getting prepared for the proficiency exam. Moreover, the students suggested organizing wiki project competitions among different classrooms to motivate the students to participate more in the tasks. They also thought that if wiki-based collaborative writing tasks were commonly carried out at the school, this would motivate them more to contribute to the projects.

Summary of the Qualitative Data

In conclusion, the focus-group interview and the questionnaire indicated that the students enjoyed working collaboratively on the wiki-pages and they all felt that their writing skills improved as a result of the project. This finding supports the findings reported in the recent studies (Lee, 2010; Arnold, Ducate, & Kost, 2009). Despite the technical problems experienced, the results of the interviews indicate that wikis promote collaborative work in foreign language classrooms by allowing the participants to contribute to the projects without any time or space restrictions as was argued by other researchers (Engstrom & Jewett, 2005; Keith, 2006; Lamb & Johnson, 2007). Moreover, wikis offer an alternative way to extend collaboration outside the classroom and provide students with opportunities to make extra practice in writing which is also supported by the findings in other studies (Lamb, 2004 and

Farabaugh, 2007). They also motivate students to write more as they find it enjoyable to write and collaborate online. As Mark and Coniam (2008) argue students produce more text than they are expected to in wiki-based collaborative writing tasks. This is partly supported by the current study as in the argumentative task students were expected to write an essay about 300 words the total number of words in the argumentative task was 2775 which indicated that each group produced more than 346 words on average. This analysis is not applicable to other tasks in the study since the students were not given a word limit. In the informative essay there were a total of 3185 words and average word count for each group was 398. Finally, in the problem-solving task the students produced a total amount of 1860 words and 232 words on average in each group. Table 12 gives a summary of the word count per task.

Table 12. Word Counts for Each Task in the Project

	Total number of words produced	Average word count for each group
Argumentative Task	2775	346
Informative Task	3185	398
Problem-solving Task	1860	232

Another advantage of using wikis in collaborative writing projects as revealed by the focus-group interview is that they help the students to increase their self confidence in writing by creating a feeling of accomplishment and improvement in writing skills. This finding supports Mak and Coniam's and Lee's conclusion that wiki-based collaborative writing tasks help to increase the students' confidence as writers. Making students aware of the value of peer feedback is another contribution of wikis in foreign language writing as participants clearly state that they find peer feedback

useful and they think that they have learned a lot from their peers. Students also benefit from giving feedback as they feel they have to check the accuracy of their corrections from multiple sources before changing anything in their friends' contributions. Similarly, Mark and Coniam conclude that peer review is a rewarding experience for students. Contrary to the finding in Lee's study which states that students did not feel secure or comfortable while correcting each other's mistakes, the participants in the study did not feel any discomfort in editing their peers' contributions although they were concerned about the accuracy of their own corrections. Engaging students in wiki-based collaborative writing tasks also results in socializing and maintaining positive relationships among the students in the classroom. On the other hand, the results of the focus-group interview indicated some problematic issues that should be taken into consideration by language teachers before designing wiki-based collaborative writing tasks. The selection of the group members is a crucial issue teachers need to think carefully before using wikis in collaborative writing as group dynamics have an important role on the effectiveness of the collaboration. Another issue is to choose the best software to use by examining the technical benefits of different wikis to decide which one is more suitable to the students' needs and the requirements of the tasks. Assessment type is another issue that needs careful consideration. Teachers should decide whether they should evaluate the individual work, the group work or both. Finally, while designing collaborative writing tasks teachers should bear in mind how much time students may need to complete the tasks according to their proficiency level and schedule of the course.

CHAPTER 5

CONCLUSION AND IMPLICATIONS

Introduction

The purpose of this study was to investigate the use of wikis in collaborative writing projects to enhance collaboration in foreign language education and to examine the effects of task type on the number of peer and self corrections together with meaning related and form related changes. In addition, the accuracy of those changes was also investigated. Moreover, the participants' attitudes toward the use of wikis in collaborative writing projects in foreign language learning were explored. In order to answer the research questions of the present study several instruments and analyses were used.

First of all, the participants included 34 students coming from different backgrounds enrolled in the preparatory program at a private university in Istanbul, Turkey. They were B2 level English language learners who spoke Turkish as their native language. After a training period on the use of wikis for collaborative writing projects, they were asked to work in randomly assigned groups of four. They completed three different tasks, namely an argumentative, an informative and a problem-solving task, in five weeks. After each task, new groups were formed. The argumentative and informative tasks lasted two weeks whereas the problem-solving task was completed in one week. In the argumentative task, they were asked to choose one topic out of eight topics given beforehand by the teacher/researcher and write an argumentative essay working collaboratively in their groups. The informative task asked participants to choose a city in Turkey and prepare a visitor's guide for the city they had chosen. In the problem-solving tasks, participants were asked to write their suggestions to the problems given to them taken from the Dear

Abby website (http://www.uexpress.com/dearabby/). The wiki project accounted for 5% of the participants' overall grade from the course and they were provided with a rubric on how their work would be evaluated before the project started. No teacher/researcher intervention was provided to the students throughout the project unless they asked for help in technological issues.

After the tasks were completed, the participants were asked to fill in a questionnaire on their opinions about the use of wikis in foreign language education. A semi-structured focus-group interview was also conducted with randomly selected six participants to gain in-depth understanding of their overall experience with the project.

The texts on the wiki pages created by the participants were coded according to Kessler's (2009) and Kessler and Bikowski's (2010) categorization of form related and meaning related changes. In addition, self and peer corrections were identified and their accuracy was determined. Chi-square test was used to see whether there was a relationship between the task type and the number of peer/self corrections and meaning/form related changes. Chi-square test was also used to see whether there was a relationship between the type of corrections and accuracy. In addition, descriptive statistics was used to examine the category of changes the students made in the wiki pages. Finally, the focus-group interview was recorded and transcribed. The results of the questionnaire analyzed by descriptive statistics and were triangulated with the results of the interview to determine the recurrent patterns in the qualitative data.

Based on the results and discussions that were presented in detail in the previous chapter, the pedagogical implications of the findings, the limitations of the study, and recommendations for further research will be presented in this chapter.

Pedagogical Implications

The findings of the study have several implications for the use of wikis in collaborative writing projects in foreign language education. In the present study, the argumentative task promoted more peer corrections than the informative and problem solving tasks. This relationship was indicated as statistically significant by the chi-square test. This finding indicates that argumentative tasks, which encourage students to decide on a main idea and develop it with different supporting ideas, are more suitable to use in collaborative writing tasks. In other words, tasks which require students to be creative and express themselves result in larger numbers of peer correction in collaborative writing. Thus, language teachers may design argumentative tasks in order to encourage language learners to work collaboratively. This result appears to be consistent with previous findings. Kelly and McGrath (1985) argue that production tasks which require groups to generate ideas or images – that can be compared to the argumentative task in the present study- lead to products that receive higher ratings on length, originality, creativity and quality of presentation. In other words, task type affects the quality of the product (p.404). On the other hand, the findings of the present study suggest that the informative task promotes more self corrections than the argumentative and problem solving tasks, which was indicated as a statistically significant relationship by the chi-square test. Therefore, if language teachers want their students to gain self awareness about their strengths and weaknesses in foreign language writing, they may use informative tasks in teaching writing. Because informative tasks require students to do a research about a topic and present the information they have gathered in their own words, students have the opportunity to compare their productions with other sources of information and revise their texts accordingly. As Lee (2010) suggests, “wikis

support individual reflective learning through collaborative writing" (p.268). In short, task type plays an important role in the number of peer corrections and self corrections in wiki-based collaborative writing tasks. Thus, different types of tasks serve to different purposes. As a result, language teachers may take the role of the task type into consideration and design different tasks for different objectives in wiki-based collaborative writing projects. As Lee (2005) argues task type affects the way learners interact with each other for meaningful use of the target language. Moreover, Lund (2008) argues that it is the task that promotes high levels of collaborative exchange in the wiki environment.

Secondly, the findings of the present study suggest that although there is not a statistically significant relationship between the correction type and grammatical accuracy, wiki-based collaborative writing tasks lead to accurate use of the grammatical structures most of the time (94%). This finding supports the finding in Elola and Oskoz (2010) as they argue that although student drafts did not indicate statistically significant differences in grammatical accuracy, the students were still concerned about correcting their grammatical mistakes and worked on expressing their ideas better. Therefore, language teachers may use wiki-based collaborative writing tasks to encourage students to produce grammatically correct texts in the target language. In addition, as Hyland (2003) states, scaffolding helps learners to increase their independence and control over the target language and scaffolding should begin when they start drafting. Moreover, Lee (2010) argues that one of the benefits of using wikis in writing is to promote peer collaboration and scaffolding which foster attention to form for the improvement of grammatical accuracy.

Thirdly, the results of the present study indicate that task type does not affect the number of meaning related and form related changes and students pay more

attention to meaning rather than form in all three tasks. As Richardson (2011) argues collaborative creation of meaning is one of the important aspects of Communicative Language Teaching (CLT). In addition, it is important for learners to experiment with different ways of expressing ideas. As a result, language teachers may utilize wiki-based collaborative writing tasks to help learners to focus on meaningful use of the target language to convey different kinds of messages. Furthermore, Dennis and Valacich (1999) suggest that for communication processes that involve conveyance of information, CMC is preferred, while for communication processes involving convergence, face-to-face communication is preferred. This is also supported by Murthy and Kerr (2003) as they argue that teams perform better when communicating face-to-face in problem-solving tasks which require convergence whereas they perform better when communicating through a CMC system in idea-generation tasks which require conveyance of information. This argument may provide an explanation for the relatively lower rates of collaborative activity as indicated by shorter length of the texts produced and lower numbers of peer and self corrections in the problem-solving task and its being the least favorable task of the present study when compared to the other tasks as stated by the participants in the focus group interview. Therefore, language teachers may prefer idea-generation or argumentative tasks to use in computer mediated language teaching in order to enhance and foster online collaboration.

Finally, students generally enjoy working collaboratively on wikis as also stated by many other studies (Lee, 2010; Mak and Coniam, 2008; Elola and Oskoz, 2010). This may also be used as a motivational factor to encourage students to practice writing in the target language. In addition, as wikis allow users to work collaboratively at their own pace and convenience, they make it possible to extend

the writing practice outside the classroom. Moreover, students think that wikis are useful in improving their writing skills in the target language. Thus, wikis may be used to increase students' confidence as writers as it was stated by other researchers (Lee, 2010; Mak and Coniam, 2008). The study also reveals that wikis promote collaborative activities in foreign language learning classrooms as Shihab (2008) claims after comparing blogs, wikis, podcasts and RSS that wikis are the most powerful tools to support collaboration. Therefore, language teachers may integrate wiki-based writing activities into collaborative writing projects to enhance collaboration in foreign language education.

The study also provides insight for language teachers on the issues that need careful consideration while designing wiki-based collaborative writing tasks. First of all, software to be used throughout the project should be chosen with care as the software needs to meet the needs of the students in terms of technological benefits and must not cause technological problems while working online as it might discourage students to participate in the tasks. In addition, it needs to be user friendly and easy to use not to put an extra burden on students and help them to focus more on their work rather than trying to figure out how to use the software. As Larusson (2010) suggests whether the technology adequately support student collaboration is one of the most important issues to deal with in any kind of computer supported collaborative learning activity. Second, students should be provided with adequate training on peer correction to benefit from collaborative activities as suggested by other researchers (Paulus, 1999; Rollinson, 2005; Dippold, 2009; Lee, 2010). To be able to train students on peer review, they should be shown how to respond to writing in a peer context (Nystrand, 1984). They should also be trained on how to give and receive criticism, how to indicate positive and negative qualities of writing

and how to reorganize different stages of writing (Huff & Kline, 1984). Teacher may also model how to give constructive feedback and they may use peer response sheets including specific questions students need to answer while responding to their peers' writing (Berg, 1999). As previous research has indicated, trained peer correction is more effective than untrained peer correction (Berg, 1999; Zhu, 1995; Min, 2006). Teachers may choose to combine peer feedback and teacher feedback to guide students in process-based collaborative writing as indicated by previous studies (Paulus, 1999; Hu&Lam, 2009). Another issue that needs careful consideration is organizing groups. As the results of the study indicate, group dynamics affect the quality of collaboration. Therefore, teachers should decide on the number of students a group will involve, whether to allow students to form their own groups or not, whether forming new groups for each task or keeping the group members constant as suggested by Dillenbourg (1999), and how to evaluate group work and individual work as argued by Sclater and Bolander (2004). Next, teachers should carefully choose the most appropriate types of tasks to be used in the wiki environment to prevent conflicts among students on combining different writing styles and different ideas especially when the students are not experienced in using online tools to collaborate. As the results of the present study and previous studies (Dennis & Valacich, 1999; Murthy & Kerr, 2003) indicate argumentative tasks may be more appropriate to use in CMC than problem-solving tasks. Finally, teachers should be aware of the effects of time restrictions on task performance and carefully decide on the amount of time to be given to the students to complete the tasks.

Limitations and Suggestions for Further Research

Although the present study has revealed important findings for foreign language teaching and learning, it has several limitations and, thus the findings should be taken with caution.

First of all, the short duration caused a limitation for the study. The study was conducted in seven weeks. Due to the modular system of the institution, the instructor/researcher could not spend more time on the study. Although all the participants were computer literate, it was the first time they used wikis as a component of their foreign language learning courses. Therefore, the novelty effect of the tool may have affected student participation in the wiki-based tasks. This effect was attempted to decrease with the use of Task 0 and the training sessions in order to help the students get familiar with the tool. However, if the students had worked on the wiki for a semester and then the data had been collected in the following semester, more conclusive results could have been obtained. Hence, the study may be replicated within a longer time span, by allowing the participants to get fully accustomed to the technical features of the tool and acquire a full appreciation of how to collaborate using a wiki.

In addition, the argumentative and the informative tasks lasted for two weeks whereas the students were given one week to complete the problem-solving task to be able to complete the study in one module. As it was indicated by the participants in the focus group interview, time restrictions may have created a burden for the students. Some students may have needed more time to complete the tasks. Therefore, the study may be replicated by allocating more time for the completion of the tasks to be able to eliminate time restrictions as a confounding factor in the students' participation in the tasks.

Another limitation of the study was limited number of participants. The participants of the study included 34 students studying at the preparatory school of a private university. They were B2 level English language learners who were native speakers of Turkish between the ages of 18 and 20. As the target population of the study was EFL language learners in general, this study should be replicated in other contexts with different proficiency level learners in order to generalize the findings to a larger target population of EFL learners.

Fourthly, new groups were formed for each task in the present study. That is, the students worked in different groups for each task. This was done purposefully to prevent the familiarity effect on the performance and to enable fair evaluation of the students' performance as some unresponsive group members may affect others' performance in the tasks. On the other hand, working in a new group for each task may have played a role in the production of some groups and may have affected the performance of some students. Therefore, the study should be replicated without changing the groups throughout the tasks in order to eliminate the effect of group dynamics on student performance in the project.

Another limitation to the study was task types. An argumentative task, an informative task and a problem-solving task were designed to examine the role of the task type in the study. On the other hand, the study should be replicated with other types of tasks to explore the role of different task types in wiki-based collaborative writing projects and to compare the results with the findings in the present study.

Furthermore, the argumentative task had already been included in the program as a course requirement. This might have affected the participation and performance of the group members on the task. The study may be replicated either

designing tasks which are similar to the course requirements or designing tasks that do not match with the course requirements.

Finally, the wiki-based collaborative writing project constituted only 5% of the students' passing grade. As a result, the project might have been regarded as a peripheral component of the course by the students. That is why, the project should be integrated into the course as a core component, which may increase the students' motivation to participate in the project and help to obtain more conclusive results.

APPENDICES

APPENDIX A

Collaborative Work Skills: Wiki Grading Rubric (Individual Work)

Student Name: _____

CATEGORY	4	3	2	1	0
Contributions	Routinely provides useful ideas when participating in the wiki project. A definite leader who contributes a lot of effort.	Usually provides useful ideas when participating in the wiki project. A strong group member who tries hard!	Sometimes provides useful ideas when participating in the wiki project. A satisfactory group member who does what is required.	Rarely provides useful ideas when participating in the wiki project. May refuse to participate.	Does not participate in the wiki project.
Quality of Work	Provides work of the highest quality with original, comprehensive, and creative content. Uses his/her own sentences.	Provides high quality work with partially original, comprehensive, and creative content. Uses his/her own sentences.	Provides work that occasionally needs to be checked/redone by other group members to ensure quality.	Provides work that usually needs to be checked/redone by others to ensure quality.	Copies and pastes from other sources. Content is not original, comprehensive and creative.
Focus on the task	Consistently stays focused on the task and what needs to be done. Very self-directed.	Focuses on the task and what needs to be done most of the time. Other group members can count on this person.	Focuses on the task and what needs to be done some of the time. Other group members must sometimes warn and remind to keep this person on-task.	Rarely focuses on the task and what needs to be done. Lets others do the work.	Does not focus on the task.

APPENDIX B

Collaborative Work Skills: Wiki Grading Rubric (Collaborative Product)

CATEGORY	4	3	2	1	0
Content&Originality	Covers topic in-depth with details and examples. Language used is clear and accurate with no grammatical and spelling mistakes. Product shows a large amount of original thought. Ideas are fully developed, organized very well, creative and inventive.	Includes essential information about the topic. Language used is clear and mostly accurate with a few grammatical and spelling mistakes. Product shows some original thought. Work shows new ideas and insights. Ideas are somewhat developed and well organized.	Includes essential information about the topic. There are a few factual errors. Language used has several grammatical and spelling mistakes which do not obscure the meaning. Uses other people's ideas (giving them credit), but there is little evidence of original thinking. Ideas are not fully developed and organized.	Content is minimal OR there are several factual errors. Language used has serious grammatical and spelling mistakes which obscure the meaning. Uses other people's ideas, but does not give them credit.	Content shows no evidence of group collaboration. Ideas are not relevant. Language used is not grammatical and most words are misspelled.
Workload	The workload is divided and shared equally by all team members. Project is completed by deadline.	The workload is divided and shared fairly by all team members, though workloads may vary from person to person. Project is completed by deadline.	The workload is divided, but one person in the group is viewed as not doing his/her fair share of the work. Project is completed by deadline.	The workload is not divided OR several people in the group are viewed as not doing their fair share of the work. The project is completed late.	There is no division of work among the group members. The project is not completed by deadline.

APPENDIX C

Questionnaire

This questionnaire was designed to examine students' opinions on the use of wikis in English language teaching. Please circle the best option which states how much you agree with the following statements This questionnaire is not going to affect your grade in the course.

*Name:*_____ *Age:*_____ *Class Code:* _____

5= Completely agree 4=Agree 3= Neither agree nor disagree 2= Disagree 1= Completely disagree

1. The Wiki interface and features were overall easy to understand.	1	2	3	4	5
2. I liked seeing other students' interaction with material I posted in the Wiki.	1	2	3	4	5
3. I would prefer classes that use Wikis over other classes that do not use Wikis.	1	2	3	4	5
4. Editing information in the Wiki was easy.	1	2	3	4	5
5. Use of the Wiki aided me in improving my writing skills in English language.	1	2	3	4	5
6.I stayed on the task more because of using the Wiki.	1	2	3	4	5
7. I would like to see Wikis used in other courses when I go to my faculty.	1	2	3	4	5
8. Benefit of using the Wiki is worth the extra effort and time required to learn it.	1	2	3	4	5
9. I participated in the assignment more because of using the Wiki.	1	2	3	4	5
10. Benefits of using the Wiki outweighed any technical challenges of its use.	1	2	3	4	5

11. Use of the Wiki for the assignment helped me interact more with students.	1	2	3	4	5
12. Technical features in the Wiki helped me improve my writing skills in English.	1	2	3	4	5
13. Because of using the Wiki, my group was able to come to a consensus faster.	1	2	3	4	5
14.I will retain more material as a result of using the Wiki..	1	2	3	4	5
15.I would recommend classes that use Wikis to other students.	1	2	3	4	5
16.Compared to other discussion boards and forums, the Wiki was easier to use.	1	2	3	4	5
17.Use of the Wiki promoted collaborative learning.	1	2	3	4	5
18.I learned more because of information posted by other students' in the Wiki.	1	2	3	4	5
19. Use of the Wiki enhanced my interest in the course.	1	2	3	4	5
20. Wiki projects should be used more frequently in education.	1	2	3	4	5
21.Wiki tasks were completely related to the course objectives.	1	2	3	4	5
22. I liked the topics we used in the Wiki tasks.	1	2	3	4	5
23. I liked working with my peers when creating Wiki pages.	1	2	3	4	5
24. I often used the Hisyory page to see the previous changes before I edit something on the Wiki.	1	2	3	4	5
25. I found the Discussion page useful to communğcate with my friends and share my comments.	1	2	3	4	5
26. I learned something while I was revising and editing my peers' work.	1	2	3	4	5
27. I felt comfortable while editing my peers' work.	1	2	3	4	5
28. I would rather writing on the Wiki to traditional essay writing.	1	2	3	4	5
29. Contributing to the Wiki tasks helped me write better essays in the classroom.	1	2	3	4	5

30. Overall, I had a positive experience with the Wiki project.	1	2	3	4	5
31. Doing the assignments on the Wiki helped me study more regularly.	1	2	3	4	5
32. Doing assignments on the wiki enabled me to evaluate my own performance.	1	2	3	4	5
33. Doing assignments on the Wiki helped me to learn from my own mistakes.	1	2	3	4	5
34. Working on the Wiki projects improved my research skills.	1	2	3	4	5
35. I started to view other English language learning techniques more positively after using the Wiki.	1	2	3	4	5

36. What did you like most about the Wiki assignments?

37. What did you find the most challenging about the Wiki assignemtns?

38. What would you recommed to improve the use of Wikisin the future?

39. If there is anything else you would like to mention, please write it below.

APPENDIX D

Focus Group Interview Questions

1. Could you please explain your overall experience with the wiki tasks?
2. What do you think about the topics in the tasks? Which task did you like the most and the least? Why?
3. What was the most important and interesting aspect of working on a wiki? Why?
4. What was the most challenging aspect of working on a wiki? Why?
5. What is the contribution of the wiki to the group work?
6. Was it easy for you to change/edit your peers' writings? Did you feel comfortable while editing your peers' work?
7. How did the use of wikis afect your overall opinion on foreing language writing?
8. What would you suggest to make the use of wikis more effective?

REFERENCES

Alavi, M. (1994). Computer-mediated collaborative learning: An empirical evaluation. *MIS Quarterly, 18 (2),* 159-174.

American Psychological Association. (November, 1997). *Learner-centered psychological principles: A framework for school reform and redesign.* Retrieved December 4, 2010 from http://www.apa.org/ed/governance/bea/learner-centered.pdf

Arnold, N., Ducate, L., Kost, C. (2009). Collaborative writing in wikis: Insights from culture projects in intermediate German classes. In L. Lomicka & G. Lord (Eds.), *The next generation: Social networking and online collaboration in language learning,* (pp.115-144). San Marcos, TX: CALICO Publications.

Bamberg, B. (2003). Revision. In Clark I. L. (Ed.). *Concepts in composition: Theory and practice in the teaching of writing.* New Jersey: Lawrence Erlbaum Associates, Inc., Publishers, 107-129.

Benson, P. (2001). *Teaching and researching autonomy in language learning*. Harlow, England: Pearson Education Limited.

Berg, E. C. (1999). The effects of trained peer response on ESL students' revision types and writing quality. *Journal of Second Language Writing, 8(3),* 215-241.

Bonk, C. J. and Cunningham, D. J. (1998). Searching for learner-centered, constructivist, and sociocultural components of collaborative educational learning tools. In C. J. Bonk & K. S. King (Eds.), Electronic *collaborators: Learner-centered technologies for literacy, apprenticeship and discourse.* NJ: Lawrence Erlbaum Associates Inc.

Bransford, J. D., Brown, A. L., Cocking, R. R. (1999). *How people learn.* Washington, D.C.: National Academy Press.

Bruffee, K. A. (1993). *Collaborative learning: Higher education, interdependence, and the authority of knowledge.* Baltimore: Johns Hopkins University Press.

Bygate, M. (1999). Task as context for the framing, reframing and unframing of language. *System, 27,* 33-48.

Cairo, J. (2003). Reading comprehension on the Internet: Expanding our understanding of reading comprehension to encompass new literacies. *Reading Teacher, 56*(5), 458-464.

Chang, M. (2004). I've gathered a basket of communication and collaboration tools. *Computers in Libraries, 24*(8), 6-9.

Clark, H. H. (1996). *Using language.* Cambridge, MA: Cambridge University Press

Clark, I. L. (2003). *Concepts in composition: Theory and practice in the teaching of writing.* New Jersey: Lawrence Erlbaum Associates, Inc., Publishers

Cohen, E. G. (1994). Restructuring the classroom: Conditions for productive small groups. *Review of Educational Research, 64,* 1-35.

De Lisi, R. (2006) A developmental perspective on virtual scaffolding for learning in home and school contexts. In A.M. O'Donnell, C. Hmelo-Silver & G. Erkens (Eds.), *Collaborative learning, reasoning, and technology* (pp.1-13). Mahwah, NJ: Lawrence Erlbaum Associates.

Dennis, A.R., & Valacich, J. S. (1999). *Rethinking media richness: towards a theory of media synchronicity.* In Proceedings of the 32nd Hawaii International Conference on System Sciences, IEEE Computer Soc. Press, Los Alamitos, CA.

Dewey, J. (1916). *Democracy and education.* The USA: Macmillan

Dillenbourg, P. (1999). Introduction: What do you mean by "Collaborative Learning"? In P. Dillenbourg (Ed.) *Collaborative learning: Cognitive and computational approaches.* UK: Elsevier Science Ltd. (pp.1-19)

Dillenbourg, P., Baker, M., Blaye, A. & O'Malley, C.(1996) The evolution of research on collaborative learning. In E. Spada & P. Reiman (Eds) Learning in Humans and Machine: Towards an interdisciplinary learning science (pp. 189-211). Oxford: Elsevier.

Dippold, D. (2009). Peer feedback through blogs: Student and teacher perceptions in an advanced German class. *ReCALL, 21(1),* 18-36.

Doise, W., Mungy, G., & Perret-Clermont, A. N. (1975). Social interaction and the development of cognitive operations. *European Journal of Social Psychology, 6(2),* 367-383.

Dyc, G. (2002). Language learning in the American southwestern borderlands: Navajo speakers and their transition to academic English literacy. *Bilingual Research Journal, 26*(3), 611-630.

Ede, L. & Lunsford, A. (1984). Audience Addressed /Audience Invoked: The role of audience in composition theory and pedagogy. *College Composition and Communication, 35(2),* 155-171.

Ellis, C. A., Gibbs, S. J., & Rein, G. (1991). Groupware: some issues and experiences. *Communications of the ACM,* 34(1), 38–58.

Elola, I. & Oskoz, A. (2010). Collaborative writing: Fostering foreign language and writing conventions development. *Language Learning & Technology*, 14(3), 51-71.

Engstrom, M. E. & Jewett, D. (2005). Collaborative learning the wiki way. *TechTrends: Linking Research & Practice to Improve Learning, 49*(6), 12-16.

Entwistle, N. & Ramsden, P. (1983). *Understanding student learning.* London: Croom Helm.

Faigley, L., & Witte, S. (1981). Analyzing revision. *College Composition and Communication 32,* 400-414.

Farabaugh, R. (2007). The isle is full of noises: Using wiki software to establish a discourse community in a Shakespeare classroom. *Language Awareness, 16*(1), 41-56.

Feather, N. (Ed). (1982). *Expectations and Actions.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Fiddler Butcher, K. (2006). *The efficacy of peer review in improving E.S.L students' online writing.* Unpublished dissertation. University of New Orleans

Gaddis, B., Napierkowsk, H., Guzman, N., & Muth, R. (2000). *A comparison of collaborative learning and audience awareness in two computers-mediated writing environments.* Paper presented at the Association for Educational Communications and Technology, Denver, CO. Retrieved January 29, 2011 from http://eric.ed.gov/PDFS/ED455771.pdf

Gillies, R. M. (2007). *Cooperative learning: Integrating theory and practice.* LA: Sage Publications.

Godwin-Jones, R. (2003). Emerging technologies: blogs and wikis: environments for on-line collaboration. *Language, Learning & Technology,* 7, 12-16.

Goodyear, P., Banks S., Hodgson, V. & McConnell D. (2004). *Advances in research on networked learning*, Boston: Kluwer Academic Publishers.

Gumport, P.J. & Chun, M. (2000) *Technology and higher education: Opportunities and challenges for the new era* (Tech. Rep. No.1-02). Stanford, CA: Stanford University, National Center for Post-secondary Improvement.

Hazari, S., North, A., & Moreland, D., (2009). Investigating pedagogical value of wiki technology. *Journal of Education Systems Education,* 20(2), 187-198.

Hernandez, N., Hoeksema, A., Kelm, H., Jefferies, J., Lawrence, K., Lee, S., Miller, P. (2008). *Collaborative writing in the classroom: A method to practice quality work*. Retrieved 22nd January, 2011 from http://www.edb.utexas.edu/cscl/2008/topicpapers/s2paper.pdf

Hiltz, S. R. (1998). Collaborative learning in asynchronous learning networks: Building learning communities. In: Webnet 98 World Conference of the WWW, Internet and Intranet Proceedings (3rd Orlando, FL, November 7-12, 1998). Retrieved October 30, 2010 from http://eric.ed.gov/PDFS/ED427705.pdf

Hoppe, H. U. (2007). Educational information technologies and collaborative learning. In Hoppe, H. U., H. Ogata & A. Soller (Eds.). *The role of technology in CSCL: Studies in technology enhanced collaborative learning*. NY, the USA: Springer, 1-9.

Hu, G. & Lam, S. T. E. (2009). Issues of cultural appropriateness and pedagogical efficacy: Exploring peer review in a second language writing class. *Instructional Science, 38(4),* 371-394.

Huff, R., & Kline, C. R. (1987). *The contemporary writing curriculum: Rehearsing, composing, and valuing. New* York: Teachers College Press.

Hyland, K. (2003). *Second language writing.* New York: Cambridge University Press.

Jewitt, C. (2005). Multimodality, "reading," and "writing" for the 21st century. *Discourse: Studies in the cultural politics of education, 26*(3), 315-331.

Johnson, D.W. & Johnson, R.T. (1990). Co-operative learning and achievement. In S. Sharan (Ed.), *Co-Operative learning: Theory and research,* (pp. 23-37). New York: Praeger.

Keh, C. L. (1990). Feedback in the writing process: a model and methods for implementation. *ELT Journal 44*, 294-304.

Kelly, J. R. & McGrath, J. E. (1985). Effects of time limits and task types on task performance and interaction of four-person groups. *Journal of Personality and Social Psychology,* 49(2), 395-407.

Kessler, G. & Bikowski, D. (2010). Developing collaborative autonomous learning abilities in computer mediated language learning: Attention to meaning among students in wiki space. *Computer Assisted Language Learning,* 23(1), 41-58.

Kessler, G. (2009). Student-initiated attention to form in wiki-based collaborative writing. *Language Learning and Technology*, 13(1), 79-95.

Ketih, M. (2006). Wikis and student writing. *Teacher Librarian, 34*(2), 70-72.

Kress, G. R. (2003). *Literacy in the new media age*. London: Routledge.

Kulik, J. A., Kulik, C. C., & Cohen, P. A. (1980). Effectiveness of computer-based teaching: A meta-analysis of findings. *Review of Educational Research*, 50(4), 525-544.

Lamb, A. & Johnson, L. (2007). An information skills workout: Wikis and collaborative writing. *Teacher Librarian, 34*(5), 57-59.

Lamb, B. (2004). Wide open spaces: Wikis, ready or not. *EDUCAUSE Review, 39*(5), 36-48.

Larusson, J. A. (2010). *Supporting the "collaborative" part of wiki-mediated collaborative learning activities.* Unpublished dissertation. Brandeis University.

Lee, L. (2005). Using web-based instruction to promote active learning: Learners' perspectives. *CALICO Journal,* 23, 139-156.

Lee, L. (2010). Exploring wiki-mediated collaborative writing: A case-study in an elementary Spanish course. *CALICO Journal,* 27(2), 290-276.

Levine, J.M. & Moreland, R.L. (1998). Small groups. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology (4th ed.)* Boston, MA: McGraw-Hill, 415-469.

Lowry, P. B., Curtis, A., Lowry, M. R. (2004). Building a taxonomy and nomenclature of collaborative writing to improve interdisciplinary research and practice. *Journal of Business Communication,* 41(1), 66-99.

Lund, A. (2008). Wikis: a collective approach to language production. *ReCall,* 20(1), 35-54.

Lund, A. and Smørdal, O. (2006) Is there a space for the teacher in a wiki? In: *Proceedings of the 2006 International Symposium on Wikis* (WikiSym '06). Odense, Denmark: ACM Press, 37–46.

Lunsford, A. & Ede, L. (1992). Collaborative authorship and the teaching of writing. *Cardozo Arts & Entertainment Law Journal,* 10(681), 681-702.

MacGregor, J.T. (1992). Collaborative learning: Reframing the classroom. In A. S. Goodsell, M.R. Mahell, V. Tinto, B. L. Smith & J.T. MacGregor (eds.) *Collaborative learning: A sourcebook for higher education.* The National Center on Postsecondary Teaching, Learning, and Assessment. (pp. 51-56). Retrieved October 30, 2010 from http://eric.ed.gov/PDFSED427705.pdf

Mak, B. & Coniam, D. (2008). Using wikis to enhance and develop writing skills among secondary school students in Hong Kong. *System,* 36, 437-455.

Mangelsdorf, K. (1992). Peer reviews in the ESL composition classroom: What do the students think? *ELT Journal, 46,* 274-284.

Marton, F. & Saljo, R. (1976). On qualitative differences in learning I: Outcome and process. *British Journal of Educational Psychology* 46(6), 4-11.

McConnell, D. (2000). *Implementing computer supported cooperative learning.* London: Kogan Page.

McDonnell, W. (1992). Language and cognitive development through cooperative group work. In C. Kessler (Ed.) *Cooperative language learning: A teacher's resource book* (pp.51-64). Englewood Cliffs, New Jersey: Prentice Hall Regents.

McLauglin, C. & Lee, M. J. W. (2007). Social software and participatory learning: Pedagogical choices with technology affordances in the Web 2.0 era. In: *Proceedings of the Ascilite.* Singapore, 664-675.

Mendonca, C. O. & Johnson, K. E. (1994). Peer review negotiations: Revision activities in ESL writing instruction. *TESOL Quarterly 28*, 745-769.

Merisotis, J.P. (1999) The "What's the difference?" debate. *Academe*, 85(5), 47-51.

Min, H-T. (2006). The effects of trained peer review on EFL students' revision types and writing quality. *Journal of Second Language Writing, 15*, 118-141.

Murray, D. E. (1992). Collaborative writing as a literacy event: Implications for ESL instruction. In Nunan D. (Ed.) *Collaborative language learning and teaching.* New York: Cambridge University Press (pp.100-117)

Murthy, U.S. & Kerr, D.S. (2003). Decision making performance of interacting groups: An experimental investigation of the effects of task type and communication mode. *Information & Management*, 40, 351-360.

Nassaji, H. & Tian, J. (2010). Collaborative and individual output tasks and their effects on learning English phrasal verbs. *Language Teaching Research, 14(4)*, 397-419.

Noel, S. & Robert, J.M. (2004). Empirical study on collaborative writing: What do co-authors do, use and like? *Computer Supported Cooperative Work*, 13, 63-89.

Nystrand, M. (1989). A social-interactive model of writing. *Written Communication, 6*, 66-85.

Nystrand, M. (1984). *Learning to write by talking about writing: a summary of research on intensive peer review in expository writing instruction at the University of Wisconsin-Madison.* Urbana, IL. ERIC Document Reproduction Service #ED 255 914.

O'Donnell, A.M., (2006). Introduction: Learning with technology. In A.M. O'Donnell, C. Hmelo-Silver & G. Erkens (Eds.), *Collaborative Learning, Reasoning, and Technology* (pp.1-13). Mahwah, NJ: Lawrence Erlbaum Associates.

Olsen, R. E. W-B., & Kagan, S. (1992). About cooperative learning. In C. Kessler (Ed.) *Cooperative language learning: A teacher's resource book* (pp.1-30). Englewood Cliffs, New Jersey: Prentice Hall Regents.

Oxford, R. L. (1997). Cooperative learning, collaborative learning, and interaction: Three communicative strands in the language classroom. *The Modern Language Journal, 81(4),* 443-456.

Park, D.B. (1982). The meanings of audience. *College English, 44*(3), 247-258.

Paulus, T. (1999). The effect of peer and teacher feedback on student writing. *Journal of Second Language Writing, 8,* 265-289.

Phipps, R., & Merisotis, J.P. (1999). *What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education.* Retrieved December 4, 2010 from http://www.ihep.org/assets/files/publications/s-z/WhatDifference.pdf

Raitman, R., Augar, N., & Zhou, W. (2005). Employing wikis for online collaboration in the e-learning environment: Case study. *Proceedings for the Third international Conference on Information Technology and Applications.*

Richardson, J. C. (2011). *Learning in the Communicative Classrooms: Principles and Practices.* Presentation at Bahcesehir University, Istanbul, Turkey.

Rollett, H., Lux, M., Strohmaier, M., Dosinger, G.& Tochtermann, K. (2007). The web 2.0 way of learning with technologies. *Int. J. Learning Technology,* 3(1), 87-107.

Rollinson, P. (2005). Using peer feedback in the ESL writing class. *ELT Journal,* 59(1), 23-30.

Salmon, G. (2002). Approaches to researching teaching and learning on-line. In C. Steeples & C. Jones (Eds.) *Networked learning: Perspectives and issues,* pp.195-212, London: Springer-Verlag.

Scardamalia, M. & Bereiter, C. (1996). Computer support for knowledge building communities. In T. Koschman (Ed.), *CSCL Theory and practice of an emerging paradigm*, pp.249-268. Manwah, NJ:Lawrence Erlbaum Associates.

Schultz, J.M. (2000). Computers and collaborative writing in the foreign language curriculum. In Warschauer, M. & Kern, R. (Eds.), *Network-based language teaching: concepts and practice.* The USA: Cambridge University Press, pp.121-151.

Schwartz, L., Clark, S., Cossarin, M., & Rudolph, J. (2004). Educational wikis: Features and selection criteria. *International Review of Research in Open and Distance Learning*, 5(1), 1492–3831.

Sclater, M. & Bolander, K. (2004). Factors influencing students' orientation to collaboration in networked learning. In P. Goodyear, S. Banks, V. Hodgson & D. McConnell (Eds.) *Advances in research on networked learning.* Boston: Kluwer Academic Publishers. (pp.175-203).

Sharan, S. (1990). *Cooperative learning: Theory and research.* New York: Praeger.

Shallert, D. & Reed, J. (2003). Intellectual, motivational, textual, and cultural considerations in teaching and learning with computer-mediated discussion. *Journal of Research on Technology in Education, 36(2),* 103-119.

Shihab, M. (2008). *Web 2.0 tools improve teaching and collaboration in high school English language classes.* Unpublished dissertation. Nova Southeastern University.

Slavin, R.E. (1990). *Co-Operative learning: Theory, research and practice.* Englewood Cliffs, NJ: Prentice-Hall.

Smith, B. L. & MacGregor, J.T. (1992). What is Collaborative Learning. In A. S. Goodsell, M.R. Mahell, V. Tinto, B. L. Smith & J.T. MacGregor (eds.) *Collaborative learning: A sourcebook for higher education.* The National Center on Postsecondary Teaching, Learning, and Assessment (pp.9-29). Retrieved October 30, 2010 from http://eric.ed.gov/PDFSED427705.pdf

Soller, A., Ogata, H., Hesse, F. (2007). Design, modeling and analysis of collaborative learning. In Hoppe, H. U., H. Ogata & A. Soller (Eds.). *The role of technology in CSCL: Studies in technology enhanced collaborative learning.* NY, the USA: Springer, 13-20).

Storch, N. (2005). Collaborative writing: Product, process, and students' reflections. *Journal of Second Language Writing,* 14, 153-173.

Tinto, V., Goodsell-Love, A. & Russo, P. (1993). Building community. *Liberal Education, 79,* 16-21.

Ullrich, C., Borau, K., Luo, H., Tan, X., Shen, L., & Shen, R. (2008). Why Web 2.0 is good for learning and for research: Principles and prototypes. Proceeding of the 17th international conference on World Wide Web, April 21-25, Beijing, China.

Vygotsky, L. S. (1978). *Mind in society.* Cambridge, Massachusetts: Harvard University Press.

Vygotsky, L. S. (1986). *Thought and language.* Cambridge, Massachusetts: the MIT Press.

Wang, X. (2007). What factors promote sustained online discussions and collaborative learning in a web-based course? *International Journal of Web-Based Learning and Teaching Technologies, 2(1),* 17-38.

Warschauer, M. (2000). The death of cyberspace and the rebirth of call. *English Teachers' Journal,* 61-68.

Webb, N. & Palincsar, A. S. (1996) Group processes in the classroom. In D. Berlmer & R. Calfee (Eds.), *Handbook of educational psychology* (pp.841-873). New York: Simon & Schuster Macmillan.

Wood, D., Bruner, J. and Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry* 17 , (89-100).

www.wiki.org – What is Wiki?

Zainuddin, H. & Moore, R. A. (2003). Audience awareness in L1 and L2 composing of bilingual writers. *The Electronic Journal for English as a Second Language, 7(1).* Retrieved November 27, 2010 from http://www.tesl-ej.org/wordpress/issues/volume7/ej25/ej25a2/

Zhu, W. (1995). Effects of training for peer response on students' comments and interaction. *Written Communication, 12(4),* 492-528.