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WIKI EFFECT ON DEVELOPING EFL WRITING SKILLS AMONG TURKISH ADOLESCENTS

Ph.D. DISSERTATION

ASSİYE BURGUCU TAZEGÜL

Supervisor
Assoc. Prof. Dr. SALİM RAZI

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Assiye BURGUCU TAZEGÜL

20.01.2023

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ÖZET

TÜRK LİSE ÖĞRENCİLERİNİN YABANCI DİL OLARAK İNGİLİZCE YAZMA BECERİLERİNİN GELİŞTİRİLMESİNDE WİKİ ETKİSİ

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Yabancı dil olarak İngilizce yazma becerilerinin öğretimine teknoloji entegrasyonu son zamanlarda giderek yaygınlaşmış ve sıklıkla kullanılır hale gelmiştir. Bilişim teknolojilerinin yazılı iletişime sağladığı bir çok kolaylık vardır. Özellikle yaklaşık yirmi yıldır kullanılan web 2.0 araçları, öğrencilerin İngilizce yazı yazmasını teşvik eden içeriklere ve özelliklere sahiptirler. Teknoloji aracılı bu iletişim araçları öğrencilerin kendilerini rahat hissetmediği bireysel bir yazma ortamına odaklanmak yerine, ortak hedeflere ulaşmak için onlara işbirlikçi yazma fırsatı veren alternatif ortamlar geliştirmiştir. Bu çalışma, işbirlikçi yazma ve web 2.0 araçlarının faydalarını göz önünde bulundurarak küçük gruplar içinde teknoloji destekli işbirlikçi yazma ve grup içi geri bildirimlerinin öğrencilerin İngilizce yazı yazma becerilerini geliştirmeleri için farklı bir ortam sağlamayı amaçlamıştır. Wiki, bu çalışmada yazma becerilerini geliştirmek için seçilmiş çevrimiçi bir web 2.0 aracıdır. Araştırmada wiki tabanlı işbirlikçi yazma modeli (deney grubu), geleneksel yöntemli işbirlikçi yazma modeli (kontrol grubu) ile eş zamanlı takip eden uygulamalarla karşılaştırılmıştır. Ayrıca öğrencilerin bu yazma ortamlarına ve akran geri bildirimine karşı algıları da incelenmiştir.

Araştırmanın amacı doğrultusunda, nicel ve nitel verilerin bir arada olduğu karma araştırma deseni kullanılmıştır. Nicel araştırma kapsamında, yarı deneysel desen olan ön test son test eşleştirilmiş kontrol gruplu desenden yararlanılmıştır. Araştırmanın katılımcıları

17’si deney grubu, 23’ü kontrol grubundan olmak üzere 40 ileri düzey İngilizce dil seviyesine sahip 10. sınıf lise öğrencileridir. Çalışma özel bir lisede gerçekleştirilmiş, 10/B sınıfı kontrol, 10/C sınıfı deney grubu olarak belirlenmiştir. Bu öğrenciler hedef dilde yazma becerilerini geliştirmek için tasarlanmış iki ayrı işbirlikçi yazma modelinin kullanıldığı sınıflarda (*wiki tabanlı işbirlikçi yazma* sınıfı ve *geleneksel yöntem kullanılarak işbirlikçi yazma* sınıfı) 10 hafta süren çalışmalarda yer almıştır. Verileri toplamadan önce araştırmacı tarafından deney grubu öğrencilerine wiki kullanım rehberi semineri düzenlenmiştir. Nicel veriler, her iki grup için ön test ve son test şeklinde ikişer adet bireysel yazılan makalelerin iki ayrı puanlayıcı tarafından 10 puanlık analitik rubrikle değerlendirilmesi ile toplanmıştır. Nitel veriler öğrencilerin her iki uygulamaya yönelik algılarını öğrenebilmek için anketler ve ikili görüşmeler ile yapılmıştır. Nicel verilerin analizinde, SPSS programı kullanılmıştır. Analizlerde paired sample *t*-test ve ANCOVA kullanılmıştır. Analizler sonucunda ulaşılan bulgulara göre deney grubu lehine anlamlı bir farkın olduğu tespit edilmiştir. Bu sonuca göre wiki tabanlı işbirliğine dayalı yazmanın İngilizce yazma sınıflarında alternatif bir yöntem olarak kullanılabileceğini ortaya koymuştur. Deney grubu öğrencileri, wiki tabanlı işbirliğine dayalı uygulama ile birlikte yazma becerilerinde önemli bir gelişme göstermiştir. Ayrıca, nitel verilerin bulguları teknolojiyi kullanmak, birlikte üretmek, geri dönütler almak ve vermek, yazma becerilerine yönelik algılarının olumlu yönde artığını ortaya koymuştur. Kontrol grubu öğrencilerinin de İngilizce yazma becerilerinde gelişmeler fark edilmiş ve bireysel yazmaktansa işbirlikçi yazma uygulamsına karşı yüksek oranda olumlu bir algı geliştirmişlerdir. Araştırma kapsamında ulaşılan sonuçlardan hareketle, İngilizce öğretmenlerinin yazma derslerinde çevrimiçi imkanlar dahilinde wiki tabanlı işbirlikçi yazma uygulamasından ya da geleneksel yöntem kullanılarak işbirlikçi yazma uygulamasından faydalanmaları önerilmektedir.

Anahtar kelimeler: İngilizce Yazma, Wiki Tabanlı Ortak Yazma, İşbirliğine Dayalı Yazma, İngilizce Yazma Algısı

ABSTRACT

WIKI EFFECT ON DEVELOPING EFL WRITING SKILLS AMONG TURKISH ADOLESCENTS

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Technology integration into teaching English writing skills as a foreign language has recently become increasingly widespread and frequently used. There are many conveniences that information technologies provide to written communication. The web 2.0 tools, especially used for nearly twenty years, have content and features that encourage students to write in English. Instead of focusing on an individual writing environment where students are not comfortable with, these technology-driven communication tools have developed alternative environments that give them the opportunity to collaborate to achieve common goals. This study aims to investigate whether technology-supported collaborative writing model provides students with the opportunity to practice/ enhance their English writing skills and enables a different and alternative environment for students. The study also aims to clarify students' perceptions of two models of collaborative writing and peer-feedback and also it discovers how students perceive wiki. Wiki is an online web 2.0 tool selected to improve writing skills in this study.

For the purpose of the research, a mixed-methods research design, which includes quantitative and qualitative data together, was used. In the context of quantitative research, it was utilised from the control group pattern which is quasi-experimental and whose pre-test and post-test is matched. There are 40, 10^{th} grade, English advanced-level high school students; 17 students for experimental groups, 23 students control groups. The study was conducted in a private high school, 10/B class control group, 10/C class experiment group. These students took part in 10-week studies in the classes in which two separate

collaborative writing interventions are used to improve writing skills in the target language (the "wiki-based collaborative writing" class and the "collaborative writing using traditional-based method" class). Before collecting the data, a wiki instruction guide seminar was organized by the researcher to the experimental group students. Quantitative data is collected by two individual scoring essays (pre-test and post-test) for both groups and the essays were evaluated by two raters by using 10-point analytic scoring rubric. Qualitative data was collected via questionnaires and interviews to learn students' perceptions of both interventions.

The SPSS program was used to analyze quantitative data. Paired sample *t*-test and ANCOVA were used to at the analysis. The analysis results showed that there was a significant difference on behalf of the experiment group. In terms of findings attained in consequence of the analysis, wiki-based collaborative writing could be used as an alternative method in English writing classes. The experimental group students made a significant improvement in their writing skills with a collaborative practice based on wiki. In addition, the findings of qualitative data indicated that their perceptions of writing skills improved in a positive way to use technology, to study collaboratively, and to receive and provide feedback to each other. The control group students also noticed improvements in their English writing skills and enhanced a highly positive perception of collaborative writing practice rather than individual writing. As a matter of recent research, it is highly recommended that English teachers can make use of wiki-based collaborative writing within the online possibilities of writing class or traditional-based method of collaborative writing rather than individual writing in their writing class.

Key Words: EFL Writing, Wiki-based Collaborative Writing, Collaborative Writing, EFL Writing Perception

DEDICATION

To my beloved parents who have influenced my life
morally, attitudinally, intellectually and
my two brilliant kids for being my greatest inspiration.

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DISCUSSION, CONCLUSION AND IMPLICATIONS

ABBREVIATIONS

AEE	Automated Essay Evaluation
AWE	Automated Writing Evaluation
CAF	Complexity, Accuracy, and Fluency
CEFR	Common European Framework of Reference for Languages
CELTA	Certificate in English Language Teaching to Adults
CF	Corrective Feedback
CMC	Computer-Mediated Communication
COVID-19	Coronavirus Disease 2019
EFL	English as a Foreign Language
ELT	English Language Teaching
ESOL	English for Speakers of Other Languages
FL	Foreign Language
ICT	Information and Communications Technology
K-12	From Kindergarten to 12th Grade
L1	First Language
L2	Second Language
TCS	Traditional Classroom Setting
TMCW	Traditional-based Method of Collaborative Writing
TMCS	Technology-mediated Classroom Setting
WCW	Wiki-based Collaborative Writing
WO	Word Order
ZPD	Zone of Proximal Development

TABLES

FIGURES

CHAPTER 1

INTRODUCTION

This chapter starts with a brief discussion of some basic literature in terms of writing skills, the writing process through in-classroom collaboration, technology-mediated collaboration and providing peer feedback in collaborative writing classrooms. Then, the statement of the problem followed by the purpose of the study, research questions, and significance of the study. Finally, the assumptions and limitations of the study are presented. This chapter gives specific details about the dissertation in brief.

1.1. Background of the Study

Writing is a productive skill and an important tool for communication. It allows writers to make their thoughts and ideas visible and concrete. However, the issue of putting thoughts into words is not an easy process. Olander (2007) and Wu (2015) state that writing is an intensely complex activity that needs time, practice, and effort. That is, writing in the first language (L1) is already a complex and often painful process, and Gilmore (2009) argues that when students are expected to write in English if it is not their L1, it becomes a much more painful experience. In addition, my academic experience in teaching writing gives me the same result. Turkish EFL students believe that writing is difficult and boring when they are pressured to produce a text and complain that they cannot think of any interesting ideas. They may complain that the writing process demands the acquisition of many subskills such as sufficient word stock, mastery of grammatical structures, and writing practice. Moreover, our students are accustomed to a test-based system of assessment which negates the need for students to become proficient writers in EFL. This general lack of production skills affects the ability to write in EFL.

The interest of researcher in writing skills began when she observed her students' writing problems and proceeded with reading the literature related to theoretical concerns and discussing how students can improve their writing performance. While some researchers have searched how language leaning methods scaffold and enhance writing skills (De Larios, Murphy & Manchon, 1999; Fan & Hsu, 2008; McMullen, 2009), others have studied the process and product approaches as more effective ways to improve skills (Dovey, 2010; Ransdel & Levy, 1994) and the impact of error-feedback (Ferris & Roberts, 2001), peer-

feedback (Jacobs, Curtis, Braine, & Huang, 1998; Mangelsdorf, 1992; Nelson, 1995), collaborative writing (Heeter, 2014; Saunders, 1989; Speck, 2002; Storch, 2005; Yong, 1997). In addition to the above, there is another growing body of literature that has noted that web-based writing has had significant effects on writing skills (Mehlenbacher, Miller, Covington, & Larsen, 2000; Ni, 2013). One other way of making writing interesting is the networked computer-assisted classroom or web-based writing setting which can offer new opportunities for students. These opportunities enable equal participation among classmates either in or out of the classroom instead of a somewhat isolated, individual writing performance, and working in groups can encompass various thoughts and ideas in writing skills. (Hung, 2017; Sullivan & Pratt, 1996; Zhang, 2009).

With these alternative dimensions in mind, the researcher is concerned with students' engagement in the writing process through classroom collaboration. Instead of focusing on an individualistic writing atmosphere in which students do not feel comfortable and motivated, collaborative writing is an effective way of working together to achieve shared goals, and it encourages social interaction among students (Alsubaie & Ashuraidah, 2017; Yong, 1997). Multiple writers support one another while composing their individual writing products (Saunders, 1988, 1989). Saunders (1989) categorized collaborative writing as four types in terms of the task-interaction relationship. (1) Co-writing (completely cooperative), (2) Co-publishing (cooperative), (3) Co-responding /Co-editing (helping obligatory), and (4) Helping (helping permitted). The present study follows the first type of collaborative writing, *co-writing*, which means that all group members interact and contribute to each of the following stages: planning, composing, reviewing, and correcting. Including the entire writing process in an interpersonal interactive learning context makes collaborative writing not similar to other group works (Yong, 2006). Additionally, along with the development of the networked computer-assisted classroom or web-based writing setting, a number of web 2.0 tools (the read / write a web) have emerged supporting the collaborative writing process. Web 2.0 provides various tools, such as social networks, wikis, blogs, and forums (Ortoleva, 2018). To assist student engagement in group work writing, wiki is used as a tool promoting constructivist and collaborative learning models (Cole, 2009). Basically, a wiki is an asynchronous Web 2.0 tool (*the read / write web*) of computer-mediated communication, and it allows users to add, delete and edit (change) the contents. Wiki is thought of as an alternative collaborative environment to collaborative classroom settings for writing skills, and they provide many useful functions such as democratic collaboration (Barton, 2004),

fast and efficient for group experience, group testing, or group feedback (Shirky, 2003), tracking of edits and writing (Zorko, 2009). Wiki is suitable for group projects and support a cooperative, collaborative and constructivist learning environment (Gökçearslan & Özcan, 2011). Alexander (2006) also states that, unlike blog pages, wiki enable many authors with the opportunity of podcasting, deleting, and editing. In short, wiki have some characteristics that separate them from other web-based social platforms: they *are collaborative, have open-editing,* use *simple coding,* and are *evolving* (Lamb, 2004).

Wiki can also cope with the potential challenges of collaborative writing. Students have some concerns such as "what happens if my partner is not willing to take on an appropriate share of the work" (Narayan & Johnson, 2019, p. 1), "group projects are never fair, members do not contribute evenly" (Chisholm, 1990, p. 90). However, wiki-based collaborative writing (WCW) evaluates individual contributions via 'edit', 'page history', and 'discussion' modules. Instructors could check learners' pages in terms of who has/has not written. Therefore, wiki provides an equitable and democratic collaboration.

1.2. Statement of the Problem

Students' reluctance to write may lead to a decline in their writing skills. To increase the number of students showing a willingness towards writing, students need to take action and participate actively in group work. Instead of working alone, students can improve multiple language skills more effectively by thinking and working together, and it makes a considerable difference in the acquisition of writing skills (Johnsons, Penny, & Gordon, 2009; Mulligan & Garofalo, 2011).

Collaborative writing is one type of group work form that is different from others because it maximizes motivation, tolerance, risk-taking, editing, social skills, and student interaction (Foster, 1998; Reid, 1993; Yong, 2006). Therefore, students' online collaborative writing tasks may also increase motivation, tolerance, risk-taking, peer-editing, social skills, and interaction and can also raise the effectiveness of students' writing performance.

In short, we see the development of the writing environment both in the increasing use of technology and the move toward collaborative groups of writers offering mutual support in the cognitive process as they interact to achieve a common goal. Although using the internet writing platforms as a supplementary teaching medium to support collaborative writing, learning is not an unexplored area (Hsieh, 2012), and few studies have been

conducted to research how collaborative writing through peer feedback helps to improve individual writing performance by using a web-based environment setting. This study aims to reveal the effects of students' collaborative writing treatments on their individual writing performances. It is also expected to make a noticeable difference in K-12 students' writing performance in the Turkish EFL setting. Although a great number of studies have been conducted related to the use of technology in the teaching of writing, they are limited to higher education and specifically students attending schools of foreign languages in Turkish universities.

1.3. Purpose of the Study

This study aims to obtain information on the efficacy of collaborative writing on students' writing skills within both traditional and networked computer-assisted classrooms. Even though some challenges have been observed on peer-feedback exchange such as insufficient EFL proficiency and lack of task training (Wakabayashi, 2008), recent studies show that collaboration and peer-feedback promote students' writing performance and provide a rich linguistic interaction (Caruso, 2014; Wu, 2015). According to Davis (1993), one of the most efficient learning methods for improving writing skills is to involve students actively in the process, also group work activities reinforce students' learning and retain it longer. Considering these benefits, the researcher investigates whether technology-supported collaborative writing or peer-feedback within small groups allow students to practice their writing. In other words, the main purpose is to explore how wiki enhances a learner's individual writing performance in an EFL context and facilitates collaboration. The study also aims to clarify students' perceptions of wiki and traditional based-method of collaborative writing and discover how students perceive wiki.

Three research questions are formulated based on the ideas to guide the study.

RQ1: Is there any significant difference between WCW classroom EFL students' writing performance improvement and TCMW classroom EFL students' writing performance improvement?

1a: To what extent does TCMW affect EFL students' individual writing performance?

1b. To what extent does WCW affect EFL students' individual writing performance?

1c. Is there any significant difference between each EFL student's pre-test and post-test writing scores in a WCW classroom?

1d. Is there any significant difference between each EFL student's pre-test and post-test writing scores in a TCMW classroom?

1e. Is there any significant difference between pre-test writing scores assigned to WCW classroom and pre-test scores assigned to TCMW classroom?

RQ2: What are EFL students' perceptions before and after undertaking the WCW and TMCW process?

2a. What are the benefits that EFL students' experience in WCW classroom?

2b. What are the benefits that EFL students' experience in TMCW classroom?

2c. What are the challenges that EFL students' experience in WCW classroom?

2d. What are the challenges that EFL students' experience in TMCW classroom?

RQ3: What are EFL students' perceptions towards peer-feedback exchange?

3a. What are EFL students' perceptions towards peer-feedback in WCW classroom?

3b. What are EFL students' perceptions towards peer-feedback in TMCW classroom?

3c. How do EFL students feel while acting as feedback providers and as receivers during peer feedback sessions in WCW and TCMW?

1.4. Significance of the Study

The present study suggests an alternative environment and writing instruction that enables supportive, learner-centered, motivating, and amusing experiences for EFL classrooms and provides guidelines to the teachers who are planning to use wikis in their writing classrooms. The language teacher has a crucial role in teaching writing skills such as proficiency in mechanics (surface features) and, more importantly, the ability to write

clearly and coherently so that the message is clear to the reader. The teacher negatively or positively affects students' attitudes and perceptions of this skill. Therefore, teachers need to reflect on their teaching so that they can teach students to apply the principles of best practice in an EFL context (Calderhead & Gates, 1993). However, according to Babacan (2003), teachers may not be able to use the writing process efficiently in the Turkish EFL context. Thus, this study is important not only in helping EFL students improve their writing but also in helping teachers become aware of different approaches such as using WCW or similar platforms. According to Jeong (2012), instructional inventions (e.g., WCW or similar platforms) support collaborative writing processes and facilitate students' writing ability.

The study may also be important for Curriculum Specialists or Instructional Coordinators to follow the cutting-edge technology to suggest more powerful and enriched writing environments in schools. In today's digital world, curriculum specialists often work to suggest innovative methods for teachers to incorporate technology seamlessly into their curriculum (Master of Arts in Teaching, 2018). The study can also provide innovations for EFL teacher education. It will be a useful reference source for pre-service teachers, especially looking for alternative methods, environments for writing skills and development.

1.5. Limitations of the Study

Even though the present study provides a guideline for further studies focusing on traditional or online collaborative writing, as with any scientific research, it has some limitations.

First of all, it is limited to 40 students at the upper-intermediate level English Language (CEFR-level B1), studying in a private high school in Central Anatolia, Turkiye. As the number of participants was limited, the results of the study may not be generalized to a larger scale. Also, the students have been placed at the upper-intermediate level based on a placement test at the outset of the teaching year administered by the Turkish Education Association Coordinatorship of Foreign Languages to demonstrate their language level. The students were assigned classrooms on the basis of norm references framework assessment. The other limitation is the data was collected in one semester, and the study only focused on certain type of essay, '*argumentative essay'*. Further studies might use different essay types over a longer period of time.

1.6. Assumptions of the Study

The following assumption was made:

Both group participants are assumed to have moderately-high *flow experience* throughout the eight-week collaborative writing treatments. Flow, defined as an enjoyable and satisfying experience, is a state of mind where a person feels motivated and becomes fully immersed in an activity (Csikszentmihalyi, 1990). That is, it is assumed that the participants would conduct and complete these ten weeks willingly and without getting bored harmoniously with their group mates.

1.7. Definitions

Asynchronous communication tools: Online communication software platforms that allow reading and responding the messages rather than at regular intervals (Junnutula, 2015).

Collaborative Writing: The definition of collaborative writing is quite varied in the related literature; however, in the most general sense, collaborative writing is defined as any writing done with multiple writers who work together to produce a joint document (Dickinson, 1986; Ede & Lunsford, 1990; Yanushefski, 1988) or scaffold one another during the writing process to improve their individual writing performances (Saunders, 1988, 1989).

Computer-Mediated Communication (CMC): Communication among individuals and groups using any platforms of information technology (e.g., discussion forums such as blackboard, moodle, wikis, or email, social media tools, and a computer conferencing system) (Coffin, Curry, Goodman, Hewings, Lillis & Swann, 2003).

Digital Native: "A person born or who has grown up with digital technology and therefore familiar with computers and the Internet from an early age" (Cambridge Dictionary, 2023, para. 1).

Networked Computer-assisted Classroom / Web-based Classroom Setting: An online setting where pencil and paper are replaced with a computer. Student-student and student-teacher interaction can take place in a web-based environment (Sullivan & Pratt, 1996).

Online Collaborative Writing: Learners carry out their collaborative writing work through CMC instead of meeting in person in the classroom or talking over the telephone (Coffin et al., 2003).

Web 2.0: "The Read/Write Web; the web technology that allows the users of the website to create, change, and share content" (Cambridge Dictionary, 2023, para. 1).

Wikis: In the Online Cambridge Dictionary (2023), wiki is defined as "a website that allows users to add, delete and edit (change) the contents" (Cambridge Dictionary, 2023, para. 1). Leuf and Cunningham (2001) define it as a "freely expandable collection of interlinked Web pages, a hypertext system for storing and modifying information" (p.14.). Basically, wiki is an asynchronous Web 2.0 tool of CMC.

CHAPTER 2

LITERATURE REVIEW

This chapter aims to give an outline of the theoretical framework of the dissertation in detail. First of all, the nature and importance of writing are introduced by supporting with research on writing. Secondly, writing skills are explained under three sub-categories: EFL *Collaborative writing*, *technology-mediated EFL writing using a wiki* and *EFL collaborative writing with technology* presented with some research. Thirdly, types of feedback are discussed at the end of the chapter.

2.1. Writing

2.1.1. The Nature and Importance of Writing

Writing is defined as "the skill or activity of producing words on a surface" in the Cambridge Advanced Learner's Dictionary Online. Writing is undoubtedly much more than this definition, it is a powerful tool and a very important skill for many reasons (Bazerman, 2013; Clay, 1983). The first reason, writing is much more than the transcription of speech and it brings speech to conscious awareness (Elashri, 2013; Vygotsky, 1978). It means that writing makes thoughts and ideas concrete, visible. The second reason is that writing helps the improvement of metalinguistic awareness on a large scale (Matre, & Solheim, 2016). Fontich and Camps (2013) also point out that "Writing is a sort of conscious metalinguistic activity, particularly while revising a written text." The third reason for emphasizing writing is that it is an important component of literacy and a significant reflection of one's language proficiency (Zhu et al, 2015). Writing, thus, develops a person's own understanding and makes the writer's intentions clear to readers.

Writing is also considered important for students at all levels of the education system. Mukulu et al. (2006) state that writing is the most important skill to enhance students' personal development and academic achievement. Similarly, Nyasimi (2009) highlights that being proficient in writing enables students to perform effectively in their disciplines and professional life. Additionally, Chiu (2006) also underlines that writing is a powerful tool for EFL students to communicate and to jot down their feelings and ideas apart from speaking skills. However, to transmit feelings and ideas from opinions to writing is rather difficult. According to Nunan (1999), writing is not acquired easily and it is definitely not a

spontaneous skill. This means students can learn to write with systematic instruction, they need to receive training, practice and proper lessons according to the type of writing task. If this does not occur students' writing skills will be probably be insufficient for them to produce an accurate, apropriate written product.

2.1.2. Teaching EFL Writing to EFL Learners

EFL writing is defined as any writing activity completed in a language other than of the writer's mother tongue (Shin, 2008). EFL writing skills and their development have been investigated in several dimensions, whereas some researchers take stock of writing development as strengthening vocabulary and grammar skills and developing EFL abilities overall.(Reichelt, 2005). Some researchers have reviewed writing skills in terms of overall language development, others have viewed this development regarding the evolution of meaning-making resources and focus on how language becomes text (Jakobs & Perrin, 2014). In both cases, learners need to get regular practice in writing and in addition devote more time to developing their writing own skills EFL

Richards and Renandya (2002) state that generating ideas, organizing them, conveying the sentences-text effectively and accurately to the readers are quite difficult for EFL learners. Silva (1993) revealed significant and remarkable differences between L1 and EFL writing in terms of *written text features* (e.g. writing fluency, accuracy, structure, quality) and the *composing process* (e.g. planning, transcribing, reviewing). His results showed that EFL writers' products were simpler and less effective than those of L1 writers. The EFL written texts had more errors (less accurate sentences) and had fewer words (less lexical density, and were less fluent). Additionally, their responses to prompts had a weaker discourse level. Producing a text as an EFL learner may be a multifaceted and rather complex activity. However, EFL learners' interest, enthusiasm, mental effort, purpose, background knowledge, scaffolding and engagement to EFL writing activity can guide them and they can determine their own EFL writing performance.

Prior research argued that engagement (behavioural, emotional, cognitive) and active participation in an EFL writing activity enhance learners' writing ability (Cho, 2019; Philp & Duchesne, 2016). This construction automatically affects EFL learners' writing performance and leads to engagement in languaging in various ways, such as learning writing fluency, linguistic accuracy, syntactic and lexical complexity (Ruiz-Funes, 2015).

The present study aims to affirm and develop these concepts, firstly to participants and then to reach EFL learners via conducted writing treatments.

2.1.3. Recent Research on EFL Writing

In this section, previous literature on relevant studies in EFL writing are reviewed to understand the results of recent existing research. To date, a considerable amount of research into EFL writing has focused on issues such as writing with technological tools; the skills of effective writing; the effects of feedback /online feedback in writing and the roles of affective, cognitive, and linguistic factors in writing skills.

Firstly, in recent years, to teach students how to write more efficiently and to improve existing writing ability, have been the goal of teachers of writing. Research on issues related to EFL writing has been increasingly focused on the mediation of technology in writing. Li, Dursun and Hegelheimer (2017) state that new information and computer-mediated communication (CMC) and communication technologies (ICT), and Web 2.0 platforms such as blogs, social-networking platforms, wikis would significantly change writing skills. Thanks to these new technological tools, schools and teachers are able to create new experiences for their students. They not only use these Web 2.0 platforms in online education but also they combine online education with face-to-face training. The following studies reviewed these learning models.

Dizon (2016) investigated the enhancement of EFL students' writing skills in grammatical accuracy, lexical richness and writing fluency by comparing Facebook and pen-paper writing. The results demonstrated that the use of Facebook in EFL writing promoted the development of writing skills with regard to the three areas, particularly in writing fluency. Sarre, Grosbois and Brudermann (2019) in a study of EFL writing in a blended-learning setting, analysed how online corrective feedback (CF) fosters EFL writing accuracy. The study which spanned two semesters (24 weeks) with 93 student teachers completed the EFL blended learning course. The researchers divided the 93 study participants into seven groups, six treatment groups studied online six CF types and one control group did not receive any CF. Regarding the accuracy between groups, a performance comparison investigated the effectuality of different CF types. The results revealed that any types of online CF reduced the rate of error and fostered a more valid text. Using the social networking sites and some pedagogical writing platforms such as Facebook,

Twitter, Google-docs, Criterion, Wiki, Edmodo and so on, researchers have recently investigated how these platforms help to enhance EFL learners' writing skills

The affective factors in EFL writing have a crucial effect on students, because emotional factors often influence learning. Recent research includes a multitude of methodologies to study questions about EFL learners' writing practices, perceptions, motivation, attitudes, strategies and their outcomes. Karaca and Inan (2020), Wei, Zhang and Zhang (2020) state that affective, cognitive, linguistic factors and rhetorical transfer have central roles in the development of EFL writing. Karaca (2018) also notes that affective and cognitive engagement in the EFL writing process is more challenging for students.

A growing body of research, mostly focused on the effects and roles of affective dimensions on EFL writing, EFL writing anxiety (Tahmouresi & Papi, 2021), EFL writing motivation, (Yu et al. 2019), EFL writing perception (Wei, Zhang & Zhang, 2020), EFL writing attitude (Kormos, 2012), and EFL writing self-efficacy (Golparvar & Khafi, 2021) are important for EFL learners to both set and achieve their writing goals. Affective factors (e.g. motivation, anxiety, perception, self-efficacy) have significant roles in writing skills. For example, keeping students highly motivated in writing is quite challenging or, similarly, decreasing students' writing anxiety requires huge effort. Researchers have underlined the importance of affective factors and studied writing motivation across diverse disciplines.

To consider the affective factors from a different angle, Wu et al. (2019) focused on demotivation in EFL writing. They investigated demotivating factors (teaching methods & content, writing difficulty, English proficiency & self-confidence, classroom atmosphere, teacher feedback, writing product and self-interest) and their effects on online flipped writing classroom settings. This study paired 48 Taiwanese EFL students with American college peers. The Taiwanese EFL participants completed pre and post-tests on argumentative and descriptive essay types in online flipped writing instruction over a one term period and American peers provided feedback to their written texts. The researchers explored students' perceptions by using (a) two essay types, (b) the Demotivation Scale, (c) group interviews, and (d) reflective journals. The results revealed that four demotivating factors (self-interest, teaching material, method and content, classroom atmosphere) should be taken into consideration to reduce demotivation. An online flipped writing classroom setting and peer-feedback encouraged participants and motivated them to engage with writing skills. In relation to this, Karaca and Inan (2020) underline that demotivation affects the quality of students' writing performance and certain external and internal demotivating

factors must be considered by teachers. Their results indicate that it is just as important to give a demotivated student the ability to write as it is to know how to motivate students.

2.2. EFL Collaborative Writing

2.2.1. What is EFL Collaborative Writing?

Writing has long been seen as an individual learning event in a traditional classroom setting (TCS) (Limbu & Markauskaite, 2015). Besides writing individually, students may also interact with one another collaboratively in a face to face classroom setting (Rivers, 1987). There are various definitions of collaborative writing in the related literature; however, in the most general sense, it can be defined as "multiple authorship" or "writing together" or "group writing" which involves a group of individuals studying and interacting together to get one final product (Lunsford, 1991; Louth, McAllister & McAllister,1993).

According to Bartram and Walton (1991), writing can also be achieved by sharing ideas involving pairs or small groups of students as an alternative of individual writing. Research shows that students can enhance community awareness and benefit from being exposed to a wide range of writing styles (Grabe & Kaplan, 1996). Moreover, during collaboration the students promote their knowledge about vocabulary, mechanics and grammar.

The Importance of EFL Collaborative Writing

Researchers have found that collaborative writing provides opportunities for EFL learners to write more accurate texts, to improve their writing in content, vocabulary, style and organization, to increase critical thinking, motivation. It also gives positive opportunities for higher quality writing, especially in peer-feedback sessions (Alshuraidah & Storch, 2019; Kowal & Swain, 1994; Rollinson, 2004; Shehadeh, 2011; Storch, 2005; Storch, 2013). Another potential benefit is peer-scaffolding. In the EFL collaborative writing process, particularly in terms of collaborative and expert-novice patterns (Storch, 2002), Yim and Warschauer (2017) indicate interactional patterns in collaborative writing tasks. Storch (2002) groups the patterns as (a) collaborative, (b) dominant–dominant, (c) dominant–passive, and (d) expert–novice.

There are four patterns (1) high mutuality (expert/novice; collaborative), (2) high equality (dominant/dominant; collaborative), (3) low mutuality (dominant/passive;

dominant/dominant) and (4) low equality (expert/novice; dominant/passive). While *equality* refers to equal contribution, *mutuality* means the engagement level and distribution of tasks (Storch, 2002). It is important to note that the 'collaborative' and 'expert-novice' patterns were found to be more effective in terms of interaction between participants on each of the tasks. In the former pattern participants were ready to discuss, engage with each other's opinions and make contributions to their joint written work. In the latter pattern, the participants completed the task in harmony: the participant who acted as the expert encouraged the other participant who needed the stimulus. The present study aims to imitate these patterns during the treatments among peers.

Challenges of EFL Collaborative Writing

There are some challenges to EFL collaborative writing such as unequal participation of group members, lack of English proficiency as well as students' limited ability to communicate in the English language (Dobao, 2012; Lin & Maarof, 2013; Yong, 2006). In addition to these difficulties, Storch (2002, 2019) explains the reason why peer-scaffolding or peer-support may not be preferred. He states that some students might prefer to write individually and assigning students to work in a group does not mean to scaffold one another's performance.

In the low mutuality pattern, 'dominant-dominant' and 'dominant-passive' are the terms used to represent participants' unwilling attitudes to collaborative writing. Particularly in the 'dominant-passive' pattern, there is little negotiation between participants and the passive participant provides fewer contributions in the presence of an authoritarian stance by the dominant partner. Collaborative writing may be a preference and some students may refuse to write collaboratively. Fernandez Dobao and Blum (2013) conducted a study of learners' attitudes and perceptions towards collaborative writing. During the collaborative writing process, some students requested to write individually instead of collaboratively as they found completing a group written product might cause conflict among peers in the group as everyone may have different ideas and a different working pace.

2.2.2. Types of EFL Collaborative Writing

Saunders (1989) categorizes collaborative writing into four types in terms of task-interaction relationship. (1) Co-writing (completely cooperative), (2) Co-publishing (cooperative), (3) Co-responding /Co-editing (helping obligatory), and (4) Helping (helping

permitted). The present study follows, the *co-writing* type, which means that all the group participants interact and contribute to each of the following stages: planning, composing, reviewing, and correcting. They collaborate on each task during the writing process. In the *co-publishing* model, group members produce individual written products although they interact with each other throughout the process. The *co-responding model* only includes the *reviewing* section, where members share their drafts in their groups and receive the group's responses such as suggestions, clarifications, interpretations, praise, and so on. In *co-editing*, members interact only while correcting the text. Lastly, *helping* is a kind of volunteer group work at any given time when needed.

2.2.3. Promoting Academic Integrity in EFL Collaborative Writing

Avoiding Collusion in EFL Collaborative Writing

The present study aims to raise awareness of academic integrity and decrease incidences of collusion while participants write their texts and contribute to their peers' writing during the collaborative group process. While completing a collaborative task, group members should study in an acceptable, appropriate, authorised and mutually acceptable collaboration. In the absence of these factors, collaboration becomes collusion. The term 'collusion' means "inappropriate or unauthorised collaboration by two or more students in the production and submission of assessment tasks" (Sutherland-Smith, 2013, p. 52). Velliaris (2015) carried out a study detailing collaboration versus collusion in which she gathered responses from 106 students to the question, *What is the difference between 'group work' and 'collusion'?* Some students' responses are below.

> -Group work is an aspect for students to focus everyone's knowledge to solve problems, however, collusion is just a way to finish some mission without working hard.
>
> -Group work means that you have an assignment, which the lecturer is telling you to do with a group, but collusion means students copying from each other.
>
> -Group work is the work available for students to do in a group. Collusion means students do some individual work in group (Velliaris, 2015, p. 6).

Students explained their knowledge about the difference between collaboration and collusion. It is essential to teach this differentiation to students before they embark on any collaborative work so that group members may complete their joint task acceptably and appropriately. Research underlines that students should know there is a transparent and clear

line between collusion and collaboration (Sutton & Taylor, 2011). To enforce this line and to create awareness, group work ethical rules need to be determined at the beginning of each collaborative study and should be explained in detail to the students.

According to Flowerdew (2000), unauthorised/illegitimate collaboration becomes collusion. Even though collusion is used for university policies within the area of academic integrity, as abovementioned, the present study aims that the participants avoid collusion and follow the culture of academic integrity while writing collaboratively in a high school writing classroom setting. Following the reccommendations of Flowerdew, to reach this aim, the researcher explained the differences between collaboration and collusion, what cheating is, why they must not fabricate and falsify data and must not collaborate without contribution in group work. In addition to these, she informed the participants what constitures academic integrity and its impact on their academic writing culture.

2.2.4 Recent Research on EFL Collaborative Writing

Over the last two decades, collaborative writing has gained more popularity and a considerable amount of research has claimed that collaborative writing tasks are useful pedagogical activities in the EFL classroom setting (Chen & Yu, 2019, Edabdali, 2021; Li & Kim, 2016; Zhai, 2021; Zhang, 2018, 2019, 2020). To guide future research and clarify the existing studies, Zhang and Plonsky (2020) examined a substantive and methodological review of 94 quantitative primary studies on face-to-face EFL collaborative writing conducted from 1992 to 2017. The researchers analysed various features of EFL collaborative writing, including the task completion process, writing development by focusing on peer interaction, discussions, revisions, and EFL written output (product-oriented studies). Their results revealed that studies mostly focused on adult learners, intermediate proficiency, and task-based activities. The results of their study also implied that collaborative writing is a student-centred activity and related to some significant research areas, such as EFL writing skills, foreign language learning, and task-based language learning. Similarly, Edabdali (2021) reviewed the meta-analysis synthesized 33 product-oriented studies of EFL writing and analysed the impact of EFL collaborative writing through rubric scores, grammar/vocabulary tests and complexity, accuracy, and fluency (CAF) measures. The accumulated results showed that individually written products. are less accurate than collaboratively written products. Moreover, there was a significant

difference in rubric scores in individually written texts after the collaborative writing experience.

In addition to these review studies, new studies into EFL learners' motivation, perceptions, beliefs and attitudes toward collaboration occupy a prominent place in recent research. According to Chen and Yu (2019), most attention has been given to investigating how EFL students' beliefs alter their attitudes towards collaborative writing. However, she focused on the significance of learning belief and the effects of prior experiences on students' attitudes towards collaborative writing. Her results suggest that students' learning experiences and their beliefs embody their behaviours and attitudes in the activity. For example, group dynamics (friendships) and peer-scaffolding jointly and independently can enhance (in the case of 'Lei'-one of the participants from Chen & Yu's research) or can diminish (in the case of 'Hao'- one of the participants from Chen & Yu's research) the students' positive attitudes towards collaborative writing.

With respect to concerns about students' motivational and perceptional fluctuations before and after collaborative writing tasks, Zhai (2021) surveyed these changes during a one-and-a-half month period in the context of Chinese as a foreign language in the United States. His results revealed that whereas students' perceptions towards collaborative writing plateaued before and after the progress of the experiment, their motivational responses to group writing declined compared to baseline. Various factors led to demotivation such as peer conflicts, time constraints, lack of language proficiency.

2.3. Technology-mediated EFL Writing

Recently, digital technologies have emerged which have allowed the evolution of forms and methods related to EFL writing skills both in and out of the classroom. Integrating writing and technology in an EFL setting may reveal both opportunities and obstacles for the learners of the 21st century who are accepted as digital natives: the instant messaging generation (Lenhart, Rainie & Lewis, 2001; Prensky, 2001). Even though this generation has digital competence in using ICT or digital media tools effectively, autonomously, and critically by managing information, collaborating, communicating, solving problems, and creating ideas (Ferrari, 2012), these factors affect their EFL writing skills in various ways. Studies on this subject will be discusses in detail below.

2.3.1. Theoretical Background in Process Approach and Wikis

The process approach to writing emerged as a reaction against the product approach which focuses mainly on the written product (Silva, 1994). Instead of the final outcome, the process approach in teaching writing means a series of steps that guide students to reach their final writing product. It provides students with planned learning stages, helping them to understand the nature of writing at every point and providing a kind of scaffold for writing. These stages comprise planning, drafting, writing, revising, editing, and publishing (Darayseh, 2003; Seow, 2002). Students are able to improve their writing skills step by step via the process approach: they learn how to think critically and explore ideas in the pre-writing, planning, drafting, review and revision stages (Coffin et al., 2003).

Despite the many benefits of this method, Badger and White (2000), Harmer (2004) argue that it takes time and students spend quite a long time to complete a piece of writing in the classroom. On the other hand, Freeman and Freeman (2004) note that it is time-consuming in larger classrooms. To use the time well, Badger and White (2000) suggest that students should follow certain stages, particularly pre-writing / planning, in small groups and teachers should train students to use this approach by practising with many examples.

To use time well and follow these certain stages in a writing task, many researchers have accepted the wiki as a useful collaborative writing tool with regard to process writing, particularly the editing function make it more practical to practice planning, drafting, peer review, and publishing (Mak & Coniam, 2008; Wang, 2014). Additionally, the wiki offers students a chance to save, rewrite, and re-edit their writing projects and their peer's written products without time and place constraints (Tzotzou, 2016). Previous studies have indicated that the wiki is able to be used as an alternative tool for the process approach because of its design and functions (Chin et al., 2015; Lamb, 2004). Similarly, Wang (2014) adapted the writing process so that it could be used with the wiki platform.

In the present study, the editing function of wiki gave the students a practical tool for the stages of practice drafting, revising, and editing. Using wiki and the writing process approach in a relaxed, collaborative environment may provide an opportunity to improve students' writing abilities in a Turkish EFL setting.

Constructivism / Social-Constructivist Learning Theory and Wikis

Constructivism is basically a theory how people reconcile and construct new knowledge with their previous experiences (Bereiter,1994). Piaget (1954) theorises that knowledge is actively constructed by the individual interacting with the environment which the individual, in turn, accommodates into his own self-constructed schema with new information. Piaget's theory has had a wide-ranging effect on teaching methods and learning theories in education. It creates a social and communicative classroom environment that emphasizes collaboration and exchange of ideas. Constructivist classrooms are predicated upon social-constructivist learning theory in which learning not only occurs directly from the teacher in a teacher-centred classroom setting, it also starts as a social process in a group who share and construct L2 knowledge to succeed in a joint task (Lee, 2005; Vygotsky, 1978). Tam (2000) explains that students' construction process provides the opportunity for active learning. Inside this learning environment, peers take on a more central role in social constructivism. The Zone of Proximal Development (ZPD) also explains how a learner can construct new knowledge with adult guidance or in collaboration with more capable peers (Vygotsky, 1978).

The social-constructivist environment helps students' analytical and critical writing skills (Nystrand,1989) so that students collaborate throughout the writing process and contribute to each other's decision making on all aspects of writing. A number of researchers have carried this theory to social network tools, such as wikis (Caruso, 2014; Storch, 2005). Social-constructivist learning theory underpins process writing in wikis with collaborative interaction (Lee, 2010). Augar, Raitman, Zhou (2004) and Chu, Capio, van Aalst, Cheng (2017) state that a wiki platform is a perfect asynchronous tool for the collaborative writing environment since it is student-centered and gives students shared authority and responsibility for their own knowledge. In other words, wikis allow learners to participate collaboratively in tasks, and encourages them to reflect on their knowledge and construct social and communal treatments through online discussion with peers (Parker & Chao, 2007). Additionally, wikis give learners an active role in knowledge presentation (Ruth & Hougton, 2009). Learning becomes an online collaborative process of a group via wikis.

2.3.2. Asynchronous EFL Writing Platforms

Wikis in EFL Learning and Teaching

A wiki was introduced in 1995 as a Web 2.0 tool -the read/write web- by Ward Cunningham, who defines wiki as a composition mechanism which contains specific features such as hyperlink texts, a mail system, and a collaborative writing and argument medium. Leuf and Cunningham, (2001) describe wiki as an easy and pleasant next-generation asynchronous network. Although at the start wikis might not have been originally designed for educational purposes in general and the development of writing skills in particular, they have been gaining significant ground in educational settings since 2004 (Elgort, Smith, & Toland, 2008).

What makes wikis different from other web-based platforms is the potential for *collaborative editing by the users* (LeBar, 2017). They provide democratic collaboration (Barton, 2004). They are efficient for group experiences, group testing or group feedback (Shirky, 2003). In addition, they are also suitable for group projects and support a cooperative, collaborative and constructivist learning environment (Gökçearslan & Özcan, 2011) and they are free: users do not need to pay. Alexander (2006) also states that unlike blog pages, wikis provide various opportunities such as writing, editing, deleting, and podcasting to authors. In short, wikis have some characteristics that separate them from other web-based social or collaborative platforms: they are collaborative, allow open-editing, use simple coding and are evolving (Lamb, 2004). There are a number of wiki platforms which have slightly different features to support collaboration. Whereas some wikis allow completely unrestricted access such as *Wikipedia* and *Wikibooks*, some others have restrictions in that they allow only group members to edit the text or page such as *Wikispaces*, *Wiki PBWorks.*

Wikis are thought of as an alternative, collaborative environment to the collaborative classroom settings for writing skills. According to Lamb and Johnson (2007) wikis provide a broader, deeper, and more interconnected environment among students than a traditional writing setting. Students can synthesize ideas, work on different aspects of a topic and wikis bring them together in a preferred working envionment. Augar et al. (2004) also state that a wiki platform is a perfect tool for the computer-based collaborative writing environment since it is student-centred and gives students shared authority and responsibility for their own knowledge. In other words, wikis allow learners to participate collaboratively in tasks,

encourage them to reflect on their knowledge while constructing social (collaborative) and communal treatments through online discussion with peers (Parker & Chao, 2007). (Ruth & Luke, 2009) Previous research results generally show that wikis facilitate online collaboration and students learn the process of writing with their group assignments in a university context. (Richardson, 2006; Wang, 2014).

Recent Research on Wikis in EFL Writing

The usage of wikis has grown for educational purposes more than ever, even though it is thought they have lost popularity and become out of date. Learning environments have evolved from in-person classrooms into virtual classrooms in the last decade, notably during the COVID 19 pandemic, when wikis gained acceptance as a powerful tool for supporting online learning platforms. Khan and Hameed (2021) utilized wiki to investigate its role in increasing collaborative writing events among EFL learners in a five-month process during the pandemic. Before 50 Saudi EFL students completed writing article projects in groups of 4 or 5 via *Wiki PBworks*, standardized writing tests were implemented in two phases (pre-writing and post-writing) Results of their analyses revealed that the wiki was a supportive tool which encouraged students to write collaboratively and participants produced better written products. Additionally, thanks to wiki's pedagogical aspects, the participants used this platform efficiently and intensively during the period of COVID-19-home-schooling.

Lin and Reigeluth (2021) investigated wiki usage during the COVID-19 pandemic describing how designed-based instructional theory can be enriched with wiki-supported collaborative learning. To bridge the gap between theory and practice, and to refine the instructional theory, they worked studiously gathering data. Both multiple individual and focus-group interviews were conducted, wiki collaborative written products were completed throughout the weekly classroom observation. The results revealed that wiki enhanced students' motivation and participation in groups as well as creating a learner-centred, community-centred and knowledge-centred environment during the pandemic. Because of ease of use and support, it was clear that wiki was of great benefit and support to students involved in distance education during the pandemic.

Along with the ease of use and support of an online learning environment of wikis, recent research on WCW has (a) addressed the effects of wikis in the EFL collaborative writing process (Aydın & Yildiz, 2014; Hsu & Lo, 2018), (b) considered students' collaborative dialogue and interaction among their peers (Hsu,2019; Lai, Lei & Liu, 2016;

Li &Zhu, 2017; Lin & Reigeluth, 2016, 2019; Yanguas, 2020), (c) investigated teacher-student interaction on wikis (Alghasab, Hardman & Handley, 2019; Asterhan,Schwarz & Gil, 2012), and (d) dealt with EFL students' motivation, perception and attitude towards wiki-mediated writing environment (Chen & Yu, 2019; Kennedy & Miceli, 2015; Vorobel & Kim, 2017). Additionally, wiki research states that other contextual factors, such as synchronous content discussion, asynchronous communication, and students' various linguistic performance may affect students' interactive relation and their written products (Li & Zhu, 2017).

2.4. EFL Collaborative Writing with Technology

2.4.1. Technology-mediated EFL Collaborative Writing

Since the 1980s, the pencil and paper writing environment has been largely replaced by text generation using a computer. Since then, the transition has accrued from word processing to the networked writing classroom texted-based virtual environments such as e-mail, wikis, blogs, podcasts, google-docs, and discussion forums (Godwin-Jones,2003; Kessler, 2020; Ogata, Yano, & Wakita, 1998). In contemporary EFL classrooms, collaborative writing can be done both synchronously and asynchronously; synchronous and asynchronous writing platforms have a number of benefits. The former enables students to have democratic, spontaneous and equal opportunities (Cho, 2017): the latter provides tele-collaboration settings which students can apply later whenever they are available (Gut & Helm, 2010; Wang, 2019).

Research into the use of digital platforms has begun to look at how networking allows a more equal participation among classmates either in or out of the classroom instead of a somewhat isolated, individual writing performance (Mayordomo & Onrubia, 2015; Sullivan & Pratt, 1996; Wang, 2019; Zhang, 2009). They have also offered new opportunities to work in groups that encompass various thoughts and ideas (Hanjerrouit, 2014). Additionally, this environment potentially enhances collaborative social interaction among students within an unlimited workspace while they engage knowledge sharing, idea generation, and problem-solving activities during the peer-feedback sessions (Attaran, Attaran, &Çelik, 2017). Cho (2017) details four main topics regarding technology-based collaborative EFL writing (a) collaborative group writing quality, (b) EFL students' attitudes and perceptions towards online collaboration, (c) writing process, and (d) interaction issues. Studies in this area are given in detail in the next section.

2.4.2. Recent Research on EFL Collaborative Writing Technology

As mentioned above, technology and digital platforms are a reality of today. A wide range of studies have been investigated and continue to be done on online EFL collaborative writing. Most of the results show that the effectiveness of technology on EFL jointly written texts has positive factors in terms of promoting collaboration and receiving various evaluations from peers (Lopez-Pellisa, Rotger, & Rodríguez-Gallego, 2021; Liu, Liu, & Liu, 2018; Du et al., 2016).

Chu et al. (2017) investigated asynchronous wiki to ascertain whether there is a positive integration between collaboration and the quality of joint texts. To be more precise, the results revealed that there was a direct correlation between collaboration and the quality of writing. The more engagement in collaborative tasks, the more quality written texts are produced. Kessler (2020) studied students' writing processes and their strategies. His findings indicated various factors but he categorized them (a) rule-mediated, (b) community-mediated, and (c) artifact-mediated and he focused on *artifact-mediated factors* (e.g. multimodal, tool-mediated strategies). The results showed that the digital platforms both assisted students' writing ability and their capability of using these platforms.

Similarly, Wang (2019) focused on interaction dynamics among peers in synchronous and asynchronous contexts, respectively. He researched how technology-based writing contexts affect students' writing interactions by assessing degrees of mutuality and equality. The researcher explored the group members' exchanged ideas and how they composed the final draft. His results suggested that the synchronous writing context enabled more effective interaction among group members so they could easily ask and give instant responses to each other. Even though the asynchronous writing context also promoted students' interactions, it was not as efficient as synchronous writing contexts. It is certain that both contexts have a positive effect on EFL collaborative writing. Another synchronous text-based computer-mediated context study was done by Yanguas (2020). He examined EFL written texts regarding to complexity and accuracy and also compared text-based interaction between groups (L1 chat group / EFL chat group). The results of this study revealed that an L1 interact group used a synchronous writing platform more frequently than the EFL interact group and their written texts were more accurate. Briefly, L1 usage and its effects on the EFL writing process has a significant role, but it should be explored in potential new studies.

Beyond the use of some digital workspaces, Elola and Oskoz (2017) argue new digital genres and literacies such as digital storytelling, online journal writing, and video logging (vlogging) in EFL writing classrooms. They re-evaluated and re-defined 21st century online EFL writing pedagogy and aimed to guide for fellow researchers, teachers who want to improve EFL writing in a dramatically changing digital age. The researchers listed their suggestions as follows: (a) new digital genres/tools should moderate between language and the usage of expressions, (b) they should reflect the promotion of digital language to educational contexts, and (c) to accept the new digital genres/tools, curriculum innovation needs to be made.

2.5. Feedback on EFL Writing in TCS and TMCS

Feedback has been seen as a significant developmental step establishing students' future writing process. Over the past two decades, research literature related to feedback has focused on the importance of feedback on students' writing skills and discussed the ways of delivering types of feedback. However, there was little co-decision about which feedback types are more efficient in the long-term. (Hyland, & Hyland, 2006).

To start with *corrective feedback (CF)* which will be discussed in detail below, it is the most frequently used type by most teachers in most classrooms. Even though a wide range of studies suggested that *CF* facilitates EFL writing development, Truscott (1996) and Biber, Nekrasova and Horn (2011) criticize *CF* types and they indicate that focusing only on form, (grammar) should definitely be abandoned and that making comments is more effective than error correction. *CF* can impact negatively on students' feelings and can be harmful to student's language learning in the long term. Storch and Wigglesworth (2010) emphasize the significance of affective factors, such as students' motivations, beliefs, attitudes and goals while giving feedback to a written text. Since students' behavioural response to be given feedback indicates their acceptance and retaining the feedback. This affective engagement between feedback-givers (e.g. a teacher, lecturer, instructor, peer) and a student's trusting relationship is quite important. *CF* is substantially engaged with form-focused feedback. However, focusing on both accuracy and content bring greater gains in students' writing skills (Biber, Nekrasova & Horn, 2011). Even though *CF* is the most common type of feedback given by most teachers in most classrooms, types of '*Traditional Classroom Setting Feedback'* and '*Technology-mediated Classroom Setting Feedback'* are also presented in this section.

2.5.1. Feedback Types in Traditional Classroom Setting (TCS)

Feedback-givers have used various types of feedback while scoring written products and it is a key process in EFL writing (Hyland & Hyland, 2019). The types have been broadened over the past decades. Based on the data gathered from EFL writing research, the researcher categorized the feedback types in pairs and lastly explained computer-generated feedback (Automated Writing Evaluation -AWE). The review begins with a *written* and *oral feedback* pair. The second pair is *direct (explicit) feedback* and *indirect (implicit) feedback,* these pairs are also known as techniques for *corrective feedback*. Also *constructive feedback* is taken as a subheading under indirect feedback. The third type is *coded feedback* and *uncoded feedback.* The last comparison is *peer feedback* and *self-evaluation*.

Written and Oral Feedback

The review begins with the *written* and *oral feedback* pair, since these feedback types cover almost all types. Whereas *written feedback* provides students with a piece of writing after a task about what they are doing well and where they still need to improve, *oral feedback* is a verbal interaction between teacher and students mostly during a task or after a task and is also known as interactional feedback (Hadzic, 2016). The main role of written feedback is to facilitate student learning by providing concrete explanations and bridging from the current performance to future performances. Thus, students can improve their performance on the next assessment (McDonald, 1991). Whereas previous studies stated that EFL students generally preferred teacher written feedback to other types such as oral feedback (Hedgcock & Lefkowitz, 1996; Zhang, 1995), recent research showed that oral feedback had an essential role to fill the void between EFL students' problematic interlanguage forms and their EFL development (Erlam, Ellis & Batstone, 2013; Yu, Wang & Teo, 2018). Student-teacher conferences, teacher-groups conferences are the most known forms of oral feedback.

Yu, Wang and Teo (2018) reviewed forty-two oral feedback studies published from 1997 to 2017. They used five criteria to examine the reviewed studies, the first criterion is *the subject of the study was oral feedback*, the second one is *the field of the study was EFL setting,* third is *empirical data was used*, fourth and the last criteria were *the study was published in English* and *focused on teacher and students' perceptions and responses to oral feedback.* Under the guidance of reviewed oral feedback studies, the researchers noted three major categories of factors: (1) feedback timing, (2) linguistic focus, and (3) feedback type.

This conceptual framework showed that contextual, individual and linguistic factors were significant in the oral feedback process. In terms of linguistic level, both teachers and students' perceptions interconnected to timing and linguistic focus (e.g. pronunciation, grammar, vocabulary). Emotion and cultural background, students' proficiency level, and their working memory were viewed for individual factors. Lastly, oral feedback was noted as instructional, interactional, and interpersonal in context.

Even though research has shown the importance of both types, written feedback has a much more crucial role in the writing process (Weaver, 2006). Research has shown that written feedback focuses on how feedback is given to the students and how the students receive and perceive it (Jahin, 2012). The following sections will explain various written feedback in a detailed manner.

The second pairing is *direct (explicit) feedback* and *indirect (implicit) feedback*, these pairs are also known as techniques for *corrective feedback*. The former includes explicit correction where the teacher provides students the correct form of the error and the latter involves not providing a correction, the teacher only indicating that there is an error with a mark in the margin leaving the student to infer the error (Bitchener, Young & Cameron, 2005). Ellis (2008) argues that even though direct feedback can be more effective and helpful for low level proficiency students, it may be problematic for long-term learning. Contrary to this review, the studies by Lalande (1982), Ferris and Helt (2000) reveal that indirect feedback led to higher levels of accuracy over time.

To contribute to the need for corrective feedback literature, Bitchener, Young and Cameron (2005) investigated corrective feedback types (a) direct written feedback with 5 minutes' student-feedback giver conference, (b) only direct written feedback, and (c) no feedback at all with 53 post-intermediate migrant ESOL students' grammatical errors (the definite article, prepositions, the past simple tense). Their results showed that direct written feedback in combination with oral feedback was much more effective than direct written feedback only. This combination also increased use of accuracy over time. According to Bitchener (2018), there are two significant points when corrective feedback has a potential to improve EFL writing ability, (a) is there any theoretical case supporting written corrective feedback in general? and (b) the outcomes of the research evidence. He finalized his research with this suggestion: While simple structure-based forms and some idiosyncratic forms can be developed via written corrective feedback, more complex structure-based forms exact the decoding more than one function.

In general, providing corrective feedback can contribute to students' EFL writing ability, however, emotional impacts cannot be ignored. Han and Hyland (2019) suggest that reducing potential negative emotions to avoid student demoralization while giving corrective feedback, constructive feedback could be a good option for feedback-givers. Thus, it transforms the negative effect to the given feedback into a positive effect and encourages students to write more accurate and meaningful texts. The following *constructive feedback* could be added to corrective feedback types.

Constructive Feedback

Constructive feedback gives clear information about students' performance and encourages students to maintain positive attitude towards themselves and their product (Bee & Bee, 1996). It concisely provides and constructs successful skills that keep students on target for achievement. Most students believe that the feedback-giver is a competent person focusing on critical and significant points, however; after receiving feedback, some students feel inadequate or weak in terms of their language proficiency.

Hertzberg (2020) states that it is quite essential to know how to give constructive feedback to a written product without crushing and deflating. She notes the importance of constructive feedback and highlighted some strategies for feedback-giver. Being empathetic, reading deeply, taking notes, and asking questions lead the student in the right direction and expand his potential in writing skills (Hertzberg, 2020).

Weaver's (2006) qualitative and quantitative study of 44 undergraduate students discovered attitudes, beliefs and perceptions of students towards written feedback. The results of the study suggested that tutors need to provide a better balance between critical feedback and positive feedback, instead of giving general or vague feedback. The researcher also explored that tutors set assessment criteria that help the students to understand their mistakes. Participants' responses demonstrated that tutors' comments could be more helpful and clear, therefore, tutors should ensure to give constructive feedback.

Coded and Uncoded Feedback

The third type is *coded feedback* and *uncoded feedback.* Teachers use *correction codes* or *markers* while providing feedback to students' work. Whereas *coded feedback* indicates and points the error with a code (such as 'WO' for word order, 'T' for use of tense), the teacher circles or underlines an error without writing any codes in *uncoded feedback* type

(Bitchener, Young & Cameron, 2005). Each type leaves and encourages the student to self-correction, the student discovers correct usages via cognitive error analysing process and thanks to this conscious input processing, students' long-term writing ability enhances (Sampson, 2012; Tang & Liu,2018). However, Ferris (2002) argues that using *coded or uncoded feedback* can be confusing for some students. To prevent the confusion, Sampson's (2012) findings suggested that codes can be given with detailed written comments and also can be adapted to students to show error types. A wide range of studies investigated these types and their results explored that how coded and uncoded signs provided scaffolding help and supported instructional communication between students and the feedback-giver (Ene & Kosobucki, 2016, Lee, 2004, 2020; Truscott, 2007).

Peer Feedback and Self-evaluation

The last comparison is *peer feedback* and *self-evaluation*. While *peer feedback* is seen as an editing received from the peer reviewers or group partners, student writers are able to make their own revisions and correct their mistakes in *self-evaluation* (Hyland, & Hyland, 2006). Learners may expect that feedback would be given only by a better writer (a teacher or a native speaker) who is qualified. However, receiving feedback from a classmate(s) have more affective advantages because they are seen to be friendlier, less authoritarian, and more supportive (Rollinson, 2005). If the classroom is set up properly and the learners receive useful feedback, it means that the peer response process is underway (Rollinson, 2005).

Some studies showed that peer revisers gave valid, useful and more specific feedback on their partners' writing (Berg, 1999; Caulk,1994; Rollinson, 1998, 2005). Yu, Jiand and Zhou (2020) examined how EFL writing feedback types affect the motivation and engagement of EFL students. The data gathered from 1190 Chinese EFL students from 35 universities in China and (a) peer and self-feedback, (b) process-oriented feedback, (c) scoring feedback, (d) expressive feedback, and (e)written corrective feedback were analysed. Their results mainly focused on writing motivation from which it was seen that while some feedback types were motivational, others could be demotivating. Expanded search results showed that whereas peer and self-feedback, scoring and expressive feedback increased writing motivation and engagement, two feedback types –written corrective feedback and process-oriented feedback led to discouragement. Therefore, it may be clearly

seen that that when students participate in assessment, there is a significant improvement in their writing skills.

Becker (2016) notes that EFL students are rarely involved in the writing assessment process (e.g. providing peer and self-feedback) and they are unaware of how rubrics are used and how feedback is given. To fill the void, he constructed a classroom-based study and focused on the nature of feedback in peer and self-assessment while using rubrics. Four classroom-groups completed two summary writing assignments and provided feedback via rubrics, each had different rubrics; one classroom-group created a rubric (co-creating group), another used a scoring rubric (practising-group), the third classroom-group only saw the rubric and the last classroom-group served as a control group. The results of his study reflected that co-creating and practicing classroom group students' assessment of performance was significantly better than the other two classroom-groups. The findings increased awareness about the importance of active involvement of students in assessment process.

As abovementioned, some research has suggested that peer feedback and self-evaluation are concomitant with an increase the receiver's writing skills and performance in particular; grammar, spelling and generating ideas (Ferris, Evans & Kurzer, 2017; Lee & Coniam, 2013; Yang, 2016; Yu, Jiand & Zhou, 2020). On the other hand, these feedback types are criticized due to their concentration on surface-level revision features such as vocabulary, spelling, and grammar (Beason, 1993). Furthermore, as Lehtinen and Yates (2008) state that students' rapid mood swings may change their assessment, leading to an underestimation or overestimation of their peer's writing. In order to minimize these drawbacks, the teacher may follow up individuals (in self-evaluation feedback process) and groups (in peer-feedback process) in a controlled manner.

Computer-generated Feedback

Computer-based educational technology provides automatic feedback to students' work, more commonly known Automated Writing Evaluation (AWE) (Stevenson & Phakiti, 2014) or Automated Essay Evaluation (AEE) (Shermis & Burstein, 2013). There is a wide range of both commercial and non-commercial AWE systems. Some have been designed for classroom use and they have currently been used at all levels of education. For example, *Criterion, My Access, Write to Learn and Summary Street, QBL* are AWE systems providing

feedback and focusing on language use (grammatical mistakes, mechanics), content knowledge and global writing skills (Stevenson & Phakiti, 2014).

Research on computer-generated feedback has been primarily concerned with its effects such as holistic scores, error frequencies, validity and reliability issues on students' written product (Li, Link, & Hegelmeimer, 2015; Li et al., 2014). The use of computer-generated feedback by students and feedback-givers and also their perceptions and attitudes towards AWE are among the topics studied by various researchers (Roscoe, Wilson, Johnson, & Mayra, 2017; Wang et al., 2020; Wang, Shang, & Briody, 2012). To examine possible considerable implications, Stevenson and Phakiti (2014) investigated the impacts of AWE feedback on written output and concentrated on AWE systems providing formative evaluation rather than summative assessment in the writing classroom. They preferred to use formative evaluation, because this evaluation type involves assessment for learning by informing students both about their achievement and about their strengths and weaknesses. The results of their study revealed that whereas the AWE feedback increased the quality of the texts, there was almost no evidence on general improvements in writing proficiency. Similarly, Li, Link and Hegelheimer (2015) found that AWE feedback led to improve accuracy and quality, however; there was relatively little impact on students' language proficiency. Even though this feedback type includes some inadequacies, it could have a practical application for students and teachers.

2.5.2. Feedback Types in Technology-mediated Classroom Setting (TMCS)

All feedback types given in the traditional classroom setting can be used in technology-mediated classroom settings. Indeed, with the rapid advances in technology, there has been a significant change to facilitate the provision of feedback on students' writing skills.

In the last twenty years, there has been a dramatic increase in the numbers of students in English classrooms, either fully online or blended. Meanwhile, the number of technological platforms and tools have also risen equally, their availability allowing feedback to be much faster and easier. As any suggestions for particular platforms might be out of date in a few months, this study will provide only more general evaluations in terms of feedback issues. According to Storch and Aldossary (2019), even though it is unclear who will benefit more from feedback, it can be useful not only for the receiver but the feedback-giver as well.

CHAPTER 3

METHODOLOGY

3.1. Research Design

The case study followed a quasi-experimental design with a mixed method approach with two intact classrooms: using a specifically explanatory research to examine the impact of WCW treatments on the development of upper-intermediate level Turkish EFL students' individual writing performances and how this WCW experience affected their perceptions of their EFL writing performance. Table 1 shows the overall design of the study. Using a mixed method research approach, learners completed their individual writing samples before and after (pre-tests/post-tests) the treatments. Both the experimental and control group received treatments. However, while the experimental group engaged in WCW treatments in a computer and technology-assisted classroom setting, the control group completed all collaborative writing treatments in a traditional learning environment. Table 1 shows the writing topics and Figure 1 shows the overall design of the present study.

Table 1

Overall Design and Writing Topics

Experimental Group	**Control Group**
WCW intervention	TMCW intervention
Pre-test Writing Tasks Individually composed 2 writing tasks (same topics for both groups*)	
Treatment 1 Orientation/wiki training session – **WCW** activity and practice argumentative essay **– *The role of women & men in the work place.***	**Treatment 1** Orientation/wiki training session – **TMCW** activity and practice argumentative essay **– *The role of women & men in the work place.***
Treatment 2 WCW activity and practice argumentative essay **– *Online shopping.***	**Treatment 2 TMCW** activity and practice argumentative essay **– *Online shopping.***
Treatment 3 WCW activity and practice argumentative essay **– *Ready-made meals*.**	**Treatment 3 TMCW** activity and practice argumentative essay **– *Ready-made meals*.**

Treatment 4 WCW activity and practice argumentative essay – ***Our lifestyles are less healthy than our grandparents'.***	**Treatment 4 TMCW** activity and practice argumentative essay – ***Our lifestyles are less healthy than our grandparents'.***
Treatment 5 WCW activity and practice argumentative essay – ***Being a celebrity.***	**Treatment 5 TMCW** activity and practice argumentative essay – ***Being a celebrity.***
Treatment 6 WCW activity and practice argumentative essay – ***Regrets***.	**Treatment 6 TMCW** activity and practice argumentative essay – ***Regrets***.
Treatment 7 WCW activity and practice argumentative essay – ***Music.***	**Treatment 7 TMCW** activity and practice argumentative essay – ***Music.***
Treatment 8 WCW activity and practice argumentative essay – ***Insufficient respect is given to older people these days.***	**Treatment 8 TMCW** activity and practice argumentative essay – ***Insufficient respect is given to older people these days.***
Post-test Writing Tasks	Individually composed 2 writing tasks

*****Topics were adapted from English File, Upper-Intermediate Coursebook, (Latham-Koenig, & Oxenden, 2015)

Figure 1 summarizes the research design and shows the whole procedure of the study.

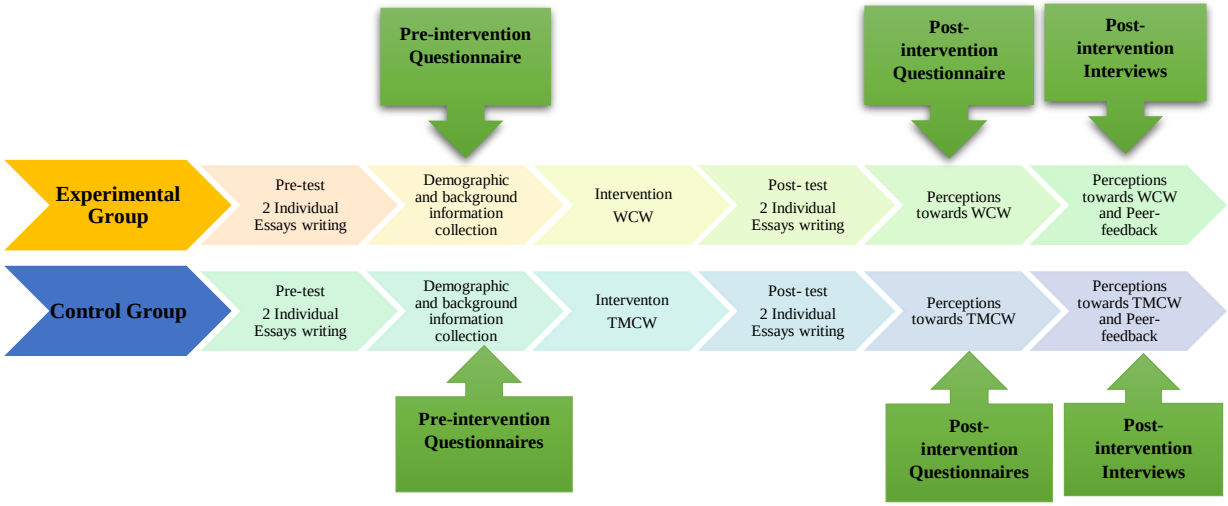

Figure 1. *Research Design*

These samples were quantitatively analysed by raters who assigned scores to the EFL papers (Han 2013, Huang 2008). The two participating raters of the study were selected through the convenience sampling method from volunteer teachers who have BA or MA degree in the field of EFL. The two raters, one a native and the other a non-native English language teacher (BK, LJM), have more than 10 years' experience in EFL teaching. A rater profile from adapted from a previous study (Han, 2013) was completed by the two raters to collect data about their background (see Appendix 2). Table 2 provides a summary of the background information about the two raters participated in the study.

Table 2

Summary of Rater Background Information

Rater Background		Rater Gender	
		Female	Male
Age	31-40	1	0
	40-70	1	0
Level of education	B.A	1	0
	M.A (+CELTA)	1	0
EFL teaching experience	5 to 10 years	0	0
	10 to more years	2	0
EFL writing experience	5 to 10 years	0	0
	10 to more years	2	0
Experience in marking essays (classroom)	5 to 10 years	0	0
	10 to more years	2	0
Experience in marking essays (large-scale)	5 to 10 years	1	0
	10 to more years	1	0
Former training in scoring essays	Yes	1	0
	No	1	0
Scoring method frequently used in marking essays	Holistic	2	0
	Analytic	0	0

The raters were oriented to use the analytic rubric before scoring the papers. They attended one online training session lasted approximately 30 minutes. As an experienced rater trainer, who is the co-advisor of this study, and an Associate Professor of an ELT Department at a state university in Turkiye, ran the online training session on the use of the

analytic scoring by following a rater training plan. The procedures and the criteria were explained painstakingly while training the raters who then used this analytic rubric for scoring participants' pre-test, post-test individual writing performances and also all collaborative writing treatments. After scoring, intra-rater and inter-rater reliability was calculated and given in results chapter.

Qualitatively, face-to-face interview protocol with students was used to gauge their perception towards WCW instruction and contribution of collaborative writing and peer-editing activities to their individual writing performance giving the participants an opportunity to explain their opinions. Five-point Likert-scale items provided the participants with the ability to agree or disagree with a particular statement related to the research. Briefly, whereas data obtained from the Likert-scale, yes/no questionnaires (see Appendix 3) were analysed using descriptive statistics, interview protocols (see Appendix 4) were analysed qualitatively.

3.2. Working Group

3.2.1. Sampling for Student Participants

The participants were all high school students at a private school in Central Anatolia, Turkiye who had an upper-intermediate level of English Language (CEFR-level B1). The participants were placed at this level based on a placement test at the outset of the term which was administered by the Turkish Education Association Coordinatorship of Foreign Languages to demonstrate their language level. The placement test is designed for students with upper-intermediate English skills and it includes three sections; the first section tests *reading comprehension, vocabulary, and grammar*; the second section tests *writing skills*; and the last section, *listening comprehension.* The students were assigned classrooms according to institutional norm references framework assessment. Among the 39 participants, 19 were female students and 20 were male. The convenience sampling technique was used because the participants were easily accessible to the researcher (Etikan, Musa, & Alkassim, 2016).

The experimental group comprised 19 students (10 females, 9 males) aged from 14-16 years. They were formed into five groups comprising three members each, and one group of four members. The control group, 20 students (9 females, 11 males) aged from 14-16 years. They were grouped into three members for four groups, and four members for two

groups. For ease of control, the smaller groups (($n_{\text{control group}} = 20$, $n_{\text{experimental group}} = 19$) were designated as both groups.

The background information of the experimental and control group students gathered through the Pre-intervention questionnaires, are dispalyed in Table 3 and Table 4.

Table 3

Background Information of the Experimental Group

Gender	Age	English Proficiency	Computer Use	Wiki Experience	Attitude to Group Work
M	14	High level	Comfortable	No	Positive
M	14	High level	Comfortable	No	Very positive
M	14	High level	Very Comfortable	No	Very positive
M	14	High level	Comfortable	No	Positive
F	14	Int-high level	Comfortable	No	Neutral
M	14	High level	Comfortable	No	Positive
M	14	High level	Neutral	No	Neutral
M	14	High level	Comfortable	No	Neutral
F	14	Int-high level	Neutral	No	Very positive
M	16	High level	Very comfortable	No	Very positive
F	14	High level	Comfortable	Yes	Very positive
M	15	Int-high level	Comfortable	No	Neutral
F	14	Int-high level	Comfortable	No	Very positive
F	14	High level	Neutral	No	Positive
F	14	High level	Comfortable	No	Positive
F	15	High level	Very comfortable	No	Positive
F	14	High level	Comfortable	No	Positive
F	14	High level	Comfortable	No	Positive
F	14	High level	Comfortable	No	Positive

Table 4

Background Information of the Control Group

Gender	Age	English Proficiency	Group work	Group Work Experience	Attitude to Group Work
F	15	High level	Neutral	Yes	Neutral
M	14	High level	Neutral	Yes	Positive
F	14	High level	Comfortable	Yes	Positive
M	15	High level	Comfortable	Yes	Positive
M	14	Int-high level	Very comfortable	Yes	Very positive
M	14	Int-high level	Comfortable	Yes	Positive
M	14	Int-high level	Neutral	Yes	Neutral
M	14	Int-high level	Neutral	Yes	Neutral
F	14	Int-high level	Neutral	Yes	Positive
M	15	High level	Negative	Yes	Neutral
M	14	High level	Comfortable	Yes	Very positive
M	15	Int-high level	Very comfortable	Yes	Very positive
F	14	Int-high level	Comfortable	Yes	Positive
F	16	Int-high level	Neutral	Yes	Positive
F	14	Int-high level	Comfortable	Yes	Positive
M	14	Int-high level	Very comfortable	Yes	Positive
M	14	High level	Comfortable	Yes	Positive
F	14	High level	Neutral	Yes	Neutral
F	14	High level	Comfortable	Yes	Positive
F	15	High level	Comfortable	Yes	Positive

Table 5 and Table 6 show participants' English learning background, individual group work experiences, work style and peer familiarities for both groups.

Table 5

*Descriptive Statistics of Pre-intervention Questionnaire for Experimental Group *Items*

*	***N***	***M***	***SD***
Your experience of learning English is	19	**4.44**	0.61
Your English proficiency	19	**4.05**	0.23
How often do you use computer?	19	3.00	***1.53**
Are you comfortable using computer programs?	19	3.33	***1.02**
Have you worked on a group work using wiki before?	19	1.94	0.23

As can be seen in Table 5, the experimental group participants are proficient EFL learners and feel comfortable using computer programs, however they are not familiar with wiki.

Table 6

*Descriptive Statistics of Pre-intervention Questionnaire for Control Group *Items*

*	***N***	***M***	***SD***
Your experience of learning English is	20	**3.70**	0.77
Your English proficiency	20	**3.76**	0.75
How often do you study within a group in your classroom?	20	2.23	0.56
Do you feel comfortable while studying collaboratively?	20	**3.35**	0.70
Have you worked on a group writing skills work before?	20	1.41	**1.00**

As can be seen Table 6, control group participants have high English level proficiency. Even though they have not had any similar collaborative writing experience before, they have experienced with this study and in general, they feel comfortable while studying collaboratively.

3.3. Description of the Data Set / Data Collection Instruments

Multiple instruments were employed in this study including questionnaires, interview questions, an analytic scoring rubric, and a rater profile form.

3.3.1. Quantitative Data Collection Instruments

Questionnaires

The questionnaires were conducted as *'Pre-intervention and Post-intervention questionnaires'* and *'peer-feedback questionnaires'* for both groups. Their details are described below.

Pre-intervention questionnaires

In the Pre-intervention questionnaires, (see Appendix 3) all experimental group participants (n = 19) and control group participants (n = 20) were asked to answer 17 items concerning their demographic information, prior English learning, individual/group work experiences, work style, and peer familiarities. In addition, questions relating to technological experience were also asked to the experimental group participants. Briefly, Pre-intervention questionnaires were background questionnaires that provided data concerning the profiles of the participants which were given more detailed above.

Post-intervention questionnaires

Post-intervention questionnaires were adapted from Li (2014) and Yong's (2006) studies. According to Yong (2006), questionnaires provides the quantitative data for studies. In this present study, the questionnaires were used to validate the findings from the students' WCW and TMCW process. Each questionnaire *included* 18 items *measured* on a *5-point Likert scale*: 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree and 5 = Strongly agree.

The *Post-intervention questionnaire* items for the WCW setting were categorized; items 1 to 8 addressed participants' general experience with the WCW; items 9 to 13 related to WCW process; 14 to 18 concerned participants' perceptions of using wikis for essay writing and their interaction with group members. On the other hand, Post-intervention questionnaire items for the TMCWsetting were categorized similar to the wiki-based one. Items 1 to 7 addressed participants' general experience with the TMCW; items 8 to 14 were related to the TMCW process; 15 to 18 were concerned participants' perceptions of collaborative essay writing and their experiences. Data are obtained from the Likert scale questionnaire items are analysed using descriptive statistics (such as frequency counts).

Whereas a Post-intervention questionnaire for the experimental group (See Appendix

3 -2a) explored the participants' perceptions about wiki tasks, WCW, their online group interactions, and control group Post-intervention questionnaire (See Appendix 3 -2b) was concerned with their perceptions about TMCW experiences, and group interactions they encountered during the treatments.

The internal consistency and reliability of the questionnaires were tested. The reliability analysis revealed a Cronbach's alpha score of $\alpha = .81$ for experimental group Post-intervention questionnaire and $\alpha = .86$ for control group Post-intervention questionnaire over 18 items. This score was acceptable to use the instruments in the present study (Dörnyei 2007; Taber, 2018). This score was also consistent with Li's (2014) questionnaire from which it was adapted.

The 10-point Analytic Scoring Rubric

In order to provide reliable results and get the same standards of scoring, the raters received a basic orientation session to use *the 10-point analytic scoring rubric* (see Appendix 1) before scoring the written works. As an experienced rater trainer, Han ran the orientation on the use of the analytic scoring by following a rater training plan. Han (2013) adapted a rater training plan from Barkaoui (2008) and Johnson, Penny and Gordon's (2009) studies and used it for his dissertation. Additionally, he studied rating methods and completed rater training education at Niagara University.

The 10-point analytic scoring rubric was chosen to separate "the whole into parts" (Johnson, Penny, & Gordon 2009, p. 159) and also it "provides more detailed information about a test taker's performance in different aspects of writing and are for this reason preferred over holistic schemes by many specialists" (Weigle, 2002, p.114-115). In other words, it allowed raters to make a judgement in detail about each of the component parts (grammar *'min:01-max:3.0'*, content *'min:0-max:2.0'*, organization *'min:0-max:2.0'*, style & quality of expression *'min:0-max:1.5'*, mechanics '*min:0-max:1.5'*). According to Han (2013), whereas a score between 0-2 indicates the lowest writing performance, a score of 8-10 points shows the highest writing performance of the participants.

The values of some component parts (e.g. grammar, content, organization) are higher, as Güler (2012) states that analytic rubric score evaluations for each category may be weighted if there is not an essential distribution among some of the performance levels.

Therefore, the researcher and raters decided to give emphasis to grammar, content and organization in assessing participants' essays. Table 7 shows the percentage of the point values and weighting of five categories in the 10-point analytic rubric.

Table 7

The Score Weightings of Five Categories in the 10-point Analytic Rubric

Category	**Weighting Percentage**
Grammar	30 %
Content	20 %
Organization	20 %
Style and quality of expression	15 %
Mechanics	15 %

In order to score each student's pre-test and post-test individual writing performances, this 10-point analytic rubric was used by two different raters (L. J. M. & B. K.). In this part of the study, firstly, internal validity results of the scoring rubric are represented. Then, after scoring, intra and inter-rater reliability were calculated, and findings are given below.

The reason the results of 10-Point Analytic Rubric Statistical Analytics (intra and inter-rater reliability) are given first is to show that the participants' pre-test and post-test individual written essay scores were determined as a result of a reliable process.

Results of Internal Criterion Construct Validity

One of the item validity methods can be carried out by comparing the extreme values –27 % – group averages. Accordingly, if the test scores are in a continuous data type, the difference between the group averages of top 27% and bottom 27% is tested based on the total scores of the test. Statistically significant results indicate that the scale applies to internal criterion validity. The analysis results for the 10-Point Analytic Rubric test tool and sub-sections used in the present study are provided in Table 8 for Essay 1 and Table 9 for Essay 2.

Table 8

Item Discrimination Results According to the Top 27% and the Bottom 27% Values (Essay 1)

***n* = 11, For Each Group**	**Essay 1**				
	M	*SD*	*U*	S_Z	*p*

Pre-test	GRAMMAR	Up%27	1.60	0.31	0.00	-3.98	.001**
		Down%27	0.69	0.15			
	CONTENT	Up%27	1.22	0.09	0.00	-4.03	.001**
		Down%27	0.71	0.13			
	ORGANIZATION	Up%27	1.30	0.08	0.00	-4.01	.001**
		Down%27	0.74	0.11			
	STYLE &QUALITY EXPRESSION	Up%27	0.96	0.08	0.00	-4.13	.001**
		Down%27	0.54	0.05			
	MECHANICS	Up%27	0.93	0.10	0.00	-4.12	.001**
		Down%27	0.54	0.02			
	TOTAL	Up%27	5.81	0.54	0.00	-3.98	.001**
		Down%27	3.46	0.42			
Post-test	GRAMMAR	Up%27	2.30	0.29	0.00	-3.98	.001**
		Down%27	0.66	0.19			
	CONTENT	Up%27	1.72	0.12	0.00	-3.98	.001**
		Down%27	0.75	0.17			
	ORGANIZATION	Up%27	1.74	0.13	0.00	-3.98	.001**
		Down%27	0.82	0.31			
	STYLE &QUALITY EXPRESSION	Up%27	1.27	0.10	0.00	-4.00	.001**
		Down%27	0.58	0.15			
	MECHANICS	Up%27	1.25	0.11	0.00	-4.01	.001**
		Down%27	0.52	0.11			
	TOTAL	Up%27	8.21	0.69	0.00	-3.98	.001**
		Down%27	3.47	0.88			

MW_U: Mann Whitney U test statistic, S_Z: Standardized test statistic

****: significant at .01 level**

Table 9

Item Discrimination Results According to the Top 27% and the Bottom 27% value (Essay 2)

***n* = 11, For Each Group**			**Essay 2**				
			M	*SD*	*U*	S_Z	*p*
Pre-test	GRAMMAR	Up%27	1.62	0.25	0.00	-3.99	.001**
		Down%27	0.68	0.08			
	CONTENT	Up%27	1.26	0.12	0.00	-4.00	.001**
		Down%27	0.71	0.07			
	ORGANIZATION	Up%27	1.34	0.09	0.00	-4.01	.001**
		Down%27	0.74	0.11			
	STYLE &QUALITY EXPRESSION	Up%27	0.97	0.15	0.00	-4.01	.001**
		Down%27	0.58	0.05			
	MECHANICS	Up%27	0.94	0.13	0.00	-4.05	.001**
		Down%27	0.58	0.06			
	TOTAL	Up%27	5.98	0.68	0.00	-3.98	.001**
		Down%27	3.38	0.25			
Post-test	GRAMMAR	Up%27	2.50	0.27	0.00	-4.00	.001**
		Down%27	0.88	0.16			
	CONTENT	Up%27	1.80	0.10	0.00	-3.99	.001**
		Down%27	0.91	0.13			
	ORGANIZATION	Up%27	1.77	0.16	0.00	-3.98	.00**
		Down%27	0.89	0.23			
	STYLE &QUALITY EXPRESSION	Up%27	1.35	0.14	0.00	-4.01	.001**
		Down%27	0.72	0.15			
	MECHANICS	Up%27	1.33	0.14	0.00	-3.99	.001**
		Down%27	0.73	0.11			
	TOTAL	Up%27	8.65	0.77	0.00	-3.98	.001**
		Down%27	4.33	0.71			
***MW_U* : Mann Whitney U test statistic, *S_Z* : Standardizied test statistic**							
****: significant at .01 level**							

Item discrimination results according to the top 27% and the bottom 27% formed on the basis of sub-dimension and total scores of 10-point Analytic Rubric. According to Table 16 and Table 17 results, it was observed that statistically significant differences between the lower dimensions and the sum of the 10-point Analytic Rubric between the lower and upper 27% groups of the scores obtained from both essays (p<.001).

Results of Intra-rater Reliability Analyses

The 10-point analytic scoring rubric was used to make a judgement in detail about each of the component parts (grammar, content, organization, style and quality of expression, mechanics). The internal consistency values of the scores given by the two-raters were calculated by Cronbach alpha confidence coefficient.

Table 10

Cronbach alpha Values of Rubric Test as an Indication for Intra-rater Reliability

Number of items = 5		**Traditional Based (Control Group)**		**Wiki Based (Experimental Group)**	
		Essay 1	Essay 2	Essay 1	Essay 2
Pre-test	Rater1	0.78	0.87	0.89	0.83
	Rater2	0.86	0.86	0.77	0.82
Post-test	Rater1	0.93	0.92	0.95	0.94
	Rater2	0.92	0.86	0.94	0.91

The results regarding the relevant analyses carried out in this study are presented in Table 10. The results showed that the scores given by the two-raters for each test were highly consistent within themselves.

Results of Inter-rater Reliability Analyses

In this part, the results of the non-parametric correlation analysis Kendall's tau-*b* test are given to evaluate the inter-rater reliability between two-raters. In this regard, according to total and sub-components of the 10-point analytic scoring rubric results, the compliance values for both essays are showed in Table 11.

Table 11

Correlations (Kendall's tau-b) between the Scores Given by Rater 1 and Rater 2

	Traditional Based (Control Group)					
	GRAMMAR	CONTENT	ORGANIZATION	STYLE &QUALITY EXPRESSION	MECHANICS	TOTAL
Essay 1	.18 ^{ns}	-0.0^{ns}	-.14 ^{ns}	.10 ^{ns}	-.07 ^{ns}	.01^{ns}

Pre-test	Essay 2	.03 ns	0.2 ns	.20ns	-.30 ns	.20 ns	.17 ns
Post-test	Essay 1	.49**	.46**	.43*	.32 ns	.25 ns	.43**
	Essay 2	.36*	.32 ns	.69**	.34 ns	.36 ns	.40*

Wiki Based (Experimental Group)

		GRAMMAR	CONTENT	ORGANIZATION	STYLE &QUALITY EXPRESSION	MECHANICS	TOTAL
Pre-test	Essay 1	.55**	.04ns	-.12 ns	.28 ns	.32 ns	.32 ns
	Essay 2	.14 ns	.24ns	.04 ns	.34 ns	.05 ns	.21 ns
Post-test	Essay 1	.39*	.42*	.45*	.49**	.41*	.41*
	Essay 2	.54**	.53**	.61**	.41*	.74**	.70**

ns : Correlation is nonsignificant,

*** : significant at the 0.05 level,**

As abovementioned, Kendall's tau-*b* test has been conducted to determine the relationship between two raters. Table 11 indicates that there is no statistically significant correlation between the two-raters regarding the pre-test scores for both groups ($p>.05$). On the other hand, there is a statistically significant and moderately positive correlation between the post-test scores of the two-raters at the .01 significance level ($p<.001$).

Selection of the Argumentative Essay Prompts

In addition to the above instruments, the argumentative essay prompts for the collaborative writing treatments were designated and adapted from the textbook (English File, Upper-Intermediate, Latham-Koenig & Oxenden, 2015) by considering the findings on argumentative essays. According to Lee (2010) and Lund (2008), selecting an appropriate task has a crucial role and the previous research findings have stated the value of design and task type in relation to educational practice. Caruso (2014) reviewed more than 20 studies and reported that the majority of the research used persuasive or argumentative essay topics in their writing skills studies.

The following topics were selected according to participants' familiarity with both concepts and vocabulary in the related units. Therefore, they could easily develop their essays and elaborate their ideas and opinions. Using various topics/prompts for both the treatments and pre-test and post-test individual written essays was an effort to control for the

unexpected factors that might potentially reduce the internal validity of the present study.

Collaborative Writing Treatments and Tasks

1. *Many aspects of life have changed over the last 30 years. These include **the role of women & men in work place.** Write an essay about how this situation has changed in your country and say whether you think these changes are positive or negative.*

2. *Nowadays **online shopping** has become more popular than in-store shopping. The growth of online-shopping has greatly improved life for the customer. Do you agree or disagree with the statement? Give your reasons and examples.*

3. *Nowadays food has become easier to prepare. Has this change improved the way people live? Some believe that "**ready-made meals**, which are bought frozen or canned form the shops, are the great lifesaver" Do you agree or disagree with the statement? Give your reasons and examples.*

4. ***Our lifestyles are less healthy than our grandparents'. Give reasons for your answer using your own ideas and experience.***

5. ***Being a celebrity** - such as famous film star or sports personality - brings problems as well as benefits. Do you think that being a celebrity brings more benefits or more problems?*

6. *A recent survey has shown that people spend almost three-quarters of an hour every week dwelling on their **regrets**. Did you ever regret not doing or saying something? Or vice versa? Would you react another way if this would happen to you now?*

7. *Some people believe that **music** can help a person mediate and find the greater purpose of life, other argue music may not always be a positive thing. What do you think about music? Give your reasons and examples.*

8. *In many countries today **insufficient respect** is shown **to older people**. What do you think may be the reasons for this? How can it be solved? Give your reasons and examples.*

Additionally, the participants were asked to write on four of the argumentative writing tasks listed below (Essay Topics, 2018) for their pre-test (2 prompts) and post-test (2 prompts) individual writing tasks.

Pre-test individual writing tasks

1. *Foreign language instruction should begin in kindergarten. Do you agree or disagree? Use specific reasons and examples to develop your essay.*

2. *We are becoming increasingly dependent on computers. They are used in business, hospitals, crime detection and even fly planes. What things will they be used for in the future? Is this independence on computers a good thing or should we be more suspicious of their benefits? Use specific reasons and examples to develop your essay.*

Post-test individual writing tasks

1. *Does modern technology make life more convenient, or was a life better when technology was simpler? Use specific reasons and details to explain your answer.*

2. *What are factors which are related to academic success in high school students? Use specific details and examples in your answer.*

As mentioned above, two different argumentative essay topics were chosen as both pre-test and post-test samples to decrease topic effect and to provide more reliable results (Han, 2013).

3.3.2. Qualitative Data Collection Instruments

Interviews

Face-to-face interviews were conducted with both groups' participants after all the group treatments and individual pre-test / post-test writing tasks. For the interviews, the researcher used '*Post-intervention and peer feedback interviews'* to explore more deeply the participants' perceptions about the use of WCW and TMCW challenges and facilities, additionally the evaluation of the peer feedback process was done in-depth.

From the Post-intervention interviews, the researcher could elicit the participants' perceptions about WCW and TMCW experiences, their personal learning outcomes, their contribution to their groups, the wiki and online writing process and its effects on their writing performance. Peer-feedback interviews provided information about participants' perceptions to providing and receiving feedback.

Post-intervention Interviews

Post-intervention interview questions were adapted from Mei-Lin (2009) and Shehadeh (2011) studies (See Appendix 4). Post-intervention interviews included 10 questions for each group. For the experimental group participants, 4 questions focused on how they perceived technology use in the writing process, 4 questions concerning wiki and

collaborative learning and its effect on their writing performance, 2 questions were related to the benefits and challenges of WCW. The 8 questions for control group participants contained their perception of the TMCW process and its effects on their writing performance and 2 questions were related to the benefits and challenges of TMCW.

Peer feedback Interview

The current study has also focused two points, one is *peer-feedback* and the other is *participants' perceptions towards their group members' feedback* to their writing Thus, peer-feedback interview questions were written by the researcher and were asked in the pilot study. The researcher then revised and rewrote them (See Appendix 4). Both groups answered four interview questions. The purpose was to assess the effects of peers on the the collaborative writing process and the perception of the interviewee both as a feedback provider and receiver.

3.3.3. Data Reliability and Validity

Bengtsson (2016) hightlights whereas validity means that the findings really do demonstrate what they are expected to assess, reliability attets to the regularity of an assessment, requiring the same results when the study is replicated. To minimize results' invalidity and misunderstanding, the classical type of combining qualitative and quantitative studies uses data triangulation (Denzin, 1978; Hussein, 2009; Işık & Semerci, 2019). Data triangulation refers the use of multiple data sources (e.g. group interviews, individual interviews and observations, questionnaires) for data collection as a way to increase trustworthiness and validity (Rolfe, 2006). Additionally, Creswell and Miller (2000) define triangulation as "a validity procedure where researchers look for convergence among multiple and different sources of information to form themes or categories in a study" (p. 126). In this sense, the present study used multiple and different sources for the purpose of increasing credibility and validity of the present study.

Similarly, to develop both reliability and validity of the writing assessment process and to standardize writing performance are the major aims of the test developers (Shaw, 2002). In order to minimize unreliable scores in this present study, two raters assessed and scored the participants' pre-test and post-test individual written essays. In addition to this, two different argumentative essay topics were chosen as both pre-test and post-test samples to decrease topic effect and to provide more reliable results (Han, 2013).

The validity of the substance for the 10-point analytic scoring rubric tool, intra-rater reliability and inter-rater consistency were calculated and findings are given in the results part.

3.3.4. Preparation for WCW and TMCW Model: Pilot Study

The researcher applied a pilot study to test and verify the reliability and validity of research instruments and feasibility of the research design.

The pilot study proceeded 4 weeks, the participants were different from the experimental and control group participants. The groups were intact classrooms and their total number was 23 students ($n_{\text{control group}} = 12$, $n_{\text{experimental group}} = 11$). The essay prompts for these 2 weeks for the collaborative writing treatments were designated and adapted from the textbook (English File, Upper-Intermediate, Latham-Koenig & Oxenden, 2015). Therefore, the participants of the pilot study were familiar with the prompts, it was valid in terms of writing task familiarity.

Before collecting the data, the first week a wiki instruction guide seminar was organized by the researcher to the pilot experimental group students, therefore they learned basic facilities of wiki. The pilot study continued with the implementation of pre-intervention questionnaires and the pre-test process (2 different individual essays writing), followed by 2 weeks of the collaborative writing treatment process. Both group students studied collaboratively throughout 2 weeks, while the experimental group students wrote their essay in the school computer laboratory and continued after school if they could not finish their group essays, the control group students completed their essays length of classroom time in their own classroom. During these 2 weekly interventions both group students focused on the process writing steps and the researcher following the lesson plans which can show all the lesson process(e.g. warm-up, the process writing approach steps, peer feedback sessions) (see Appendix 6). The last week the post-test process (2 different individual essays writing) was conducted and two-raters evaluated the pilot groups students' pre-test individual essays. Finally, the procedure was completed by implementation of post-intervention questionnaires and by conducting Post-intervention and peer-feedback interviews.

The pilot study helped to identify the design of the present study and led to find solutions to problems that may have occurred during the study. Firstly, in the pilot study, the

original questionnaires and interviews were done in English. However, the pilot study students had some difficulties in comprehending and answering the questions efficiently. Therefore, back translation into Turkish was made and the translations of the responses were checked by a bilingual teacher. Additionally, self-assessment and feedback questionaires were not used in the main study, because the pilot study participants noted that they could not have been objective on their own writing and their peers' writing parts. The question five in the peer-feedback interview were also omitted after the pilot study since it reiterated similar points to the first two questions. Briefly, conducting the pilot study was helpful in the design of the present study and to avoid negative unforeseen consequences.

3.3.5. The Descriptive Statistics

The mean and standard deviation were performed for descriptive statistical analyses. These statistical analyses aimed to survey if any specific mean score differences subsisted between the experimental group and the control group in participants' writing scores, and their writing skills development and also to examine whether any significant mean score differences existed in the same groups concerning participants' pre-test and post-test individual writing scores.

3.4. Data Collection Procedure

This section provides detailed information on the data collection procedures. Firstly, a brief explanation about what a wiki is and its design was given followed by the sequencing of the present study. Then wiki training section procedure for experimental group participants was explained. Permission for data collection instruments were received from the school administration and participants' parents and completed before the treatments.

The most important part began with the implementation of Pre-intervention questionnaires and the pre-tests process (individual essay writing), followed by 10 weeks of the collaborative writing treatment process and then the post-test process (individual essay writing). Finally, the procedure was completed by implementation of Post-intervention questionnaires and by conducting Post-intervention and peer-feedback interviews.

Wiki and Design Procedure

The wiki was chosen as the platform for the technology-based collaborative writing tasks based on its convenience for group projects and support of a cooperative, collaborative

and constructivist learning environment. Unlike blog pages, wiki has unique characteristics and provides various opportunities such as collaborative/multi-authorship writing, editing, deleting, podcasting to authors and page history feature that shows the time and order in which edits (peer feedback in this present study) were made by the users. The wiki used for the present study is hosted by *wikiPBworks* and available at http://collaborativewriting.pbworks.com/.

Another reason for the selection of *wikiPBworks* was that it provides its users, free of charge, unlimited page revision, page history and user-friendly interface and functions. As seen in Figure 2, the wiki main page has hypertext systems including significant information on *wikiPBwork* usage, the structure of collaborative writing tasks. While the tool bar (at the top of the main page) shows wiki, pages and files, users and settings, along the right side of the main page is the navigator bar containing folders where writers can save their collaboratively written tasks and word counting facility.

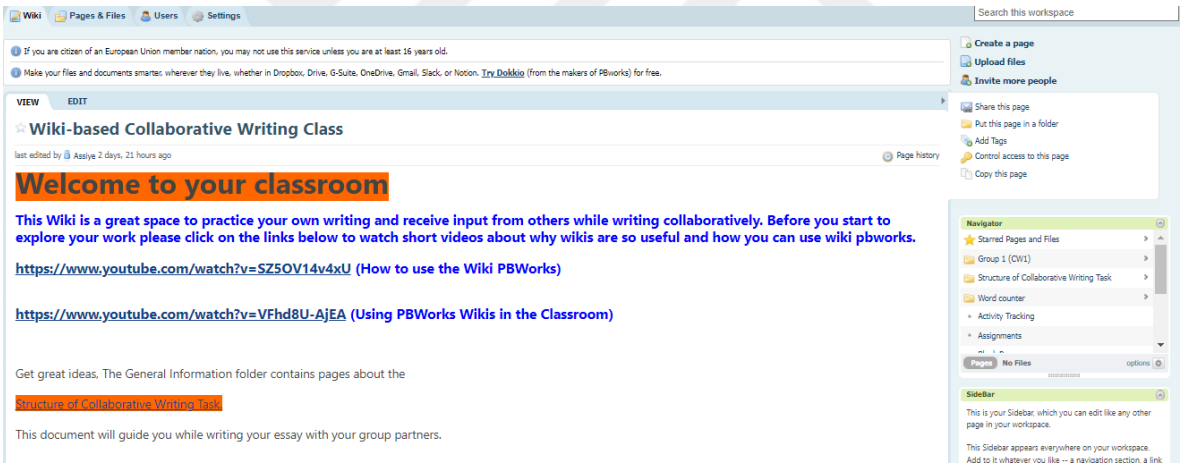

Figure 2. *Screen Capture of the Wiki Main Page*

Sequencing of the Present Study

The study spanned approximately fourteen weeks. The timing arrangement and procedure of data collection procedure are scheduled. Table 12 summarizes the procedure.

Table 12

Data Collection Procedure

Time	Data gathered	Instrument	*RQ

One week	Wiki training section (Experimental group)	*WikiPBwork* user guide	
	Demographic information and participants' background and interests related to language skills, collaborative learning and technology.	Pre-intervention questionnaires	2
Ten weeks	Pre-tests process	Two different pre-test (individual writing) prompts	1
	Collaborative writing process (Implementation of peer feedback process)	Eight different writing prompts adapted from subjects' course book '*English File'.*	1a 1b
		Feedback questionnaire	1c 1d 1e
	Post-tests process	Two different post-test (individual writing) prompts	3
			1
One week	Participants' perceptions and review towards technology use in the writing process, collaborative writing and writing performance.	Post-intervention questionnaires	2
	The perceptions of the participants towards WCW and TMCW.	Post-intervention interviews	2a-b-c-d
	Participants' review on peer feedback process on their writing performance.	Peer feedback interview	3a-b-c

*Research Questions

Wiki Training Section Procedure

Prior to the treatments, to avoid misunderstanding and clarify the procedure for the students, the researcher also provided training (length of classroom time) related to 'WCW' to the experimental group.

To make students aware of the web-based platforms in an educational setting and to make sure how *wikiPBwork* may be used, the researcher created a *wikiPBwork* user guide (Appendix 5) in PDF form, printed it for each student and introduced the tool (*wikiPBwork*) to the classroom via a Power-point presentation. Students got some beneficial information related to *wikiPBwork* such as how to join the *wikiPBwork* site, how to use a variety of tabs and functions in the tool, and particularly how to use the '*edit', 'view', 'save', 'navigator', 'page history'* modules under their group tabs for collaborative writing activities. The in-classroom orientation allowed the students to learn about *wikiPBwork* and how to use and practice it.

Ethical Approval and Permissions

To obtain the data set for both groups, researcher followed multiple stages. In the first stage, permissions were received from the school administration and participants' parents. The researcher gave consent documents to the participants to ensure the awareness in terms of their legal rights and any potential risks the research could place on them. By obtaining ethical approval the reseacher showed that she adhered to the accepted ethical standards of the present study (see Apendix 9). Used instruments permission were also taken from the writers/owners of the instruments by the researcher (see Appendix 10).

Implementation of Pre-intervention Questionnaires

In the second stage, the groups were organized and students were allocated roles according to the information taken from the questionnaires at the beginning of the study. The Pre-intervention questionnaire included students' demographic information, their English learning background, individual/group work experiences, work style and peer familiarities for both groups. To the experimental group participants, additional questions were asked related to their interests, language skills and knowledge of technology. Therefore, the group contained students with different expertise.

Conducting Pre-tests (Individual essay writing)

In the third stage, the pre-test writing samples were applied as a baseline for comparison, participants wrote two different argumentative essays to decrease the topic effect. According to Coffman (1971), assessing writing skills with several topics provides more reliable results. They wrote the two essays within an interval of four days. The time on pre-test writing samples was specified at 40 minutes for each.

Additionally, a 10-point analytic scoring rubric was used to make a judgement in detail about each of the component parts (grammar, content, organization, style & quality of expression, mechanics). The researcher was not included in the assessing stage. The two raters used this analytic rubric for scoring participants' pre-test, post-test individual writing performances and also all collaborative writing treatments. After scoring, intra and inter-rater reliability were calculated and findings are given in the results part.

Applying the Collaborative Writing Design Procedure

Following the pre-test individual essay writing samples, students formed small groups of three or four, the optimum number for successful collaboration (Dobao, 2012; Morgan, Allen, Moore, Atkinson & Snow, 1987). This stage of data collection included the actual treatments of the WCW and TMCW which took place in the fall semester of 2018-2019 academic years. The treatments were included for practical purposes on TMCW (length of classroom time) and WCW (length of classroom time and continued after school hours) as well as to support writing strategies and motivate learners. Table 13 briefly contains a list of each topic, duration and demonstrates when it was used during the study.

Table 13

Collaborative Writing Treatments, Duration and Writing Topics for the Pre/Post-test Interventions

	Task	**Time**	**Writing Prompt**
Week 1	Pretest Writing Tasks Individually composed 2 writing tasks	Each task 40 min.	*TASK 1. Foreign language instruction should begin in kindergarten. Do you agree or disagree? Use specific reasons and examples to develop your essay.* *TASK 2. We are becoming increasingly dependent on computers. They used in business, hospitals, crime detection and even fly planes. What things will they be used for in the future? Is this independence on computers a good thing or should we be more suspicious of their benefits? Use specific reasons and examples to develop your essay*
Week 2	Collaborative writing treatment	80 min.	*Many aspects of life have changed over the last 30 years. These include* ***the role of women & men in work place.*** *Write an essay about how this situation has changed in your country and say whether you think these changes are positive or negative.*

Week 3	Collaborative writing treatment	80 min.	*Nowadays **online shopping** has become more popular than in-store shopping. The growth of online-shopping has greatly improved life for the customer. Do you agree or disagree with the statement? Give your reasons and examples*
Week 4	Collaborative writing treatment	80 min.	*Nowadays food has become easier to prepare. Has this change improved the way people live? Some believe that "**ready-made meals**, which are bought frozen or canned form the shops, are the great lifesaver" Do you agree or disagree with the statement? Give your reasons and examples*
Week 5	Collaborative writing treatment	80 min.	***Our lifestyles are less healthy than our grandparents. Give reasons for your answer using your own ideas and experience.***
Week 6	Collaborative writing treatment	80 min.	***Being a celebrity** - such as famous film star or sports personality - brings problems as well as benefits. Do you think that being a celebrity brings more benefits or more problems*
Week 7	Collaborative writing treatment	80 min.	*A recent survey has shown that people spend almost three-quarters of an hour every week dwelling on their **regrets**. Did you ever regret not doing or saying something? Or vice versa? Would you react another way if this would happen to you now?*
Week 8	Collaborative writing treatment	80 min.	*Some people believe that **music** can help a person mediate and find the greater purpose of life, other argue music may not always be a positive thing. What do you think about music? Give your reasons and examples*
Week 9	Collaborative writing treatment	80 min.	*In many countries today **insufficient respect** is shown **to older people**. What do you think may be the reasons for this? How can it be solved? Give your reasons and examples*
Week 10	Post-test Writing Task Individually composed 2 writing tasks	Each task 40 min.	*TASK 1. Does modern technology make life more convenient, or was a life better when technology was simpler? Use specific reasons and details to explain your answer.* *TASK 2. What are factors which are related to academic success in high school students? Use specific details and examples in your answer.*

Weekly interventions focused on the process writing steps, the researcher following the lesson plans listed below. Please refer to Appendix 6 for detailed lesson plans, screen captures displaying the content created for WCW treatments (See Appendix 7). The students in both groups also gave feedback to their group members in peer feedback sessions in the drafting and editing step. First of all, they wrote their body paragraphs and then editted their partners' writings by using the correction symbols table (same table for both groups, see Appendix 6 and 7) and also they added their comments and completed the peer feedback session.

Additionally, as time progressed, the experimental group students gained experience about *wikiPBwork* and students in both groups became more skilled in collaborative writing.

Conducting Post-tests (Individual Essay Writing)

The fifth stage was completed via post-test individual writing performances. In the same manner as the pre-test, participants were allowed 40 minutes to compose their essays. The same two raters assessed post-test individual essay samples by using the 10-point analytic scoring rubric.

Conducting Post-intervention Interviews

In the last stage, face-to-face follow-up interviews (Post-intervention interview, peer feedback interviews concerning participants' perceptions towards WCW / TMCW and peer-feedback) were conducted immediately after the post-test individual essay writing process. The researcher interviewed each participant individually in a 10-15 (approximately) minute interview.

3.5. Data Analysis

Prior to data analysis for pre-test and post-test, a test of normality check was conducted. It was observed that the Kolmogorov-Smirnov test results showed that the significance levels for both groups of students over .05, indicating that the data was distributed normally.

3.5.1. Quantitative Data Analysis

Research Question 1

The questionnaires were analysed using descriptive statistics, and will help to identify the number of (frequencies) and the percent of (percentages) students responding to each item (and the responses will inform us the overall trends of subjects' perceptions of WCW / TMCW).

Quantitative data were collected through pre-test and post-test design, treatments and questionnaires (Pre-intervention questionnaire and Post-intervention wiki writing questionnaire), and qualitative data were collected from face-to-face follow-up interviews (Post-intervention interviews, peer-checking interview) concerning participants' perceptions towards WCW and peer-feedback. Mixed methods were used to receive the related results in the present study.

The analytic scoring rubric was used for evaluating pre-test/post-test individual writing performances and collaborative writing treatments. Intra-rater reliability for the 10-point analytic scoring rubric used in the study was evaluated using the Cronbach alpha value, while inter-rater consistency was evaluated over Kendall's tau-*b* correlation coefficient. The validity of the substance for the 10-point analytic scoring rubric tool was maintained by comparing the group averages of the lower to upper 27% and was evaluated using the Mann-Whitney U test statistic.

To analyse the quantitative data, the current study followed a paired samples *t*-test and one-way analysis of covariance (ANCOVA). Whereas the paired samples *t*-test statistic was used to compare pre-test and post-test, individual writing scores in the same group (e.g. control and experimental group separately), the differences between the post-test mean scores in the pre-test control were found using one-way ANCOVA analysis. The effect size for the groups was determined by using the partial eta squared value. In addition, homogeneity of variances related to the experimental and control groups was determined using Levene's test statistics. Considering the existing assumptions, the paired samples *t*-test statistic was determined between the participants' pre-test and post-test individual writing scores. On the other hand, the differences between the post-test mean scores in the pre-test control were found using one-way ANCOVA analysis. The effect size for the groups was determined by using the partial eta squared value. ANCOVA model assumptions are given below for the present study.

a. The data set must be quantitative. It should not be sequential or categorized.
b. Data is expected to be distributed close to normal. For any variance analysis model, including covariance analysis, the results obtained are consistent and robust, even if normal distribution is not observed, the data is over-skewed. (Pituch & Stevens, 2015).
c. Among independent groups, variance is expected to be homogeneous and homogeneity is tested with Levene test statistics.
d. For each level of the independent variable, participants are expected to have a linear relationship between their final score (dependent variable) and their pre-score (covariate). It is also expected that the regression lines that explain the relationship are parallel. In the present study, this assumption has also been reviewed graphically and analytically (see Appendix 8). The analytical review process is again based on the variance analysis F test and is maintained by incorporating the co-effect of the co-changeling and the group in the model. The common effect is expected not to be statistically significant (Howell, 1992).
e. Abovementioned the 2nd and 3rd assumptions, Pituch and Stevens (2015) reported that if the largest number of instances for independent groups is <1.5 ratio to the smallest number of instances, the violation of these assumptions is still consistent with ANCOVA results. (In this study, the groups are split in two (coequally). Therefore, test statistics were presented in the Appendix 8 and the contrary assumptions were not considered as a violation for some groups).

The statistical significance level for all the results was accepted as 5% unless otherwise stated, and the analyses were carried out using SPSS v24 and Amos v24 programmes.

3.5.2. Qualitative Data Analysis

Credibility and Trustworthiness

Research Questions 2 and 3

To analyse the qualitative data, the interview transcripts were read/transcribed verbatim and followed a deductive, iterative and a cyclical model. Firstly, to see how accurate the data were (Guba & Lincoln, 1989), the researcher followed the member-checking, and peer-debriefing stage which is the verification process translated Turkish into

English data set. (Guba & Lincoln, 1989; McMahon, & Winch, 2018). Then, the researcher formed the transcripts then formed the categories, then revisited the emerging categories, which is called data-driven approach to qualitative analysis (Merriam, 1988). After categorization, the researcher followed manual coding due to perceived higher accuracy and a small amount of data (Bodine, 2021). To accomplish manual coding, the researcher followed both the following steps and Tesch (1990) and Creswell's (2007) categorization and coding process.

The manual coding steps: (1) First Pass: This step is aim to learn an overall comprehension of what the data is about. (2) Line-by-line Coding: The data were scanned line-by-line to identify common words and expression at the first glance (Guba & Lincoln, 1994) and the second round of this step was about getting close to the concepts, finding patterns, renaming, reanalysing and merging codes. (3) Creating sub-categories: this step was related to group codes into sub-categories (Bodine, 2021).

Tesch (1990) and Creswell's (2007) categorization and coding process. The Eight-step of categorization and coding process is (1) Read the transcription and understand the whole text, (2) Choose one of the interview, ask, 'What is it about?' and jot down the topics, (3) List the similar topics, (4) Organize the topics and obtain the codes, (5) Reduce the topics and condense into categories, (6) Decide final categories, (7) Gather data for the first analysis, and (8) Recode the data if required (Tesch,1990). The data were reduced through coding and categorizing the text fragments based on recurring themes and the research focus

Data analysis started by entirely organizing the data according to chronological order. The data set included completed *the pre-test / post-test* (individual writing essays) which the raters scored each student's essays using the analytic scoring rubric and then the scores were calculated by averaging the results, *transcripts of the interviews* and *statistical results of questionnaires.*

CHAPTER 4

RESULTS

4.1. Introduction

The overall aim of the present study was to obtain information on the efficacy of collaborative writing on students' individual writing development by analysing the pre-test/post-test of the participants in both the control group and the experimental group: specifically, to ascertain whether the use of wiki-technology may improve a learner's individual writing performance in an EFL context. A secondary aim was to determine the participants' perceptions of two models of collaborative writing in each group. Additionally, peer-feedback, suggestions, self-assessment perceptions were elicited in the present study. In the light of research questions, this chapter presents the basic findings and key discussion points were given followed by a clear conclusion and suggestions.

4.2. Results of Research Questions

4.2.3. Results from Research Question 1

RQ1: Is there any significant difference between WCW classroom EFL students' writing performance improvement and TCMW classroom EFL students' writing performance improvement?

Basically, this research question investigates the significant differences between WCW and traditional-based collaborative writing on individual writing development. While the *a* and *b* sub-questions below inquire participants' individual writing development for both groups, the c and d sub-questions reveal the significant differences between each group participants' pre-test and post-test scores respectively. The last sub-question examines the impact of WCW on experimental group participants' writing development compared to traditional EFL writing classroom.

Results of Descriptive Statistics

Table 14 shows the post-test individual essays results of descriptive statistics regarding the total scores obtained by the students for both essays separately.

Table 14

Descriptive Statistics for Control and Experimental Groups

		Essay 1			Essay 2			
Collaborative Writing	**Tests**	***M***	***SD***	M_d	***M***	***SD***	M_d	
Traditional (n = 20)	Pre-test	4.32	0.82	0.22	4.17	0.95	1.25	
	Post-test	4.54	1.50		5.42	1.46		
Wiki-based (n = 19)	Pre-test	4.66	1.16	2.30	5.06	1.06	2.09*	
	Post-test	6.96	1.62		7.15	1.68		
Total (n = 39)	Pre-test	4.48	1.00	1.23	4.60	1.08	1.66	
	Post-test	5.72	1.97		6.26	1.78		

M_d : Mean differences

As is seen from Table 14, the mean score difference of WCW is greater than TMCW (M_D = 2.09). The results reveal that the experimental group participants' individual writing development was higher than control group participants'. The detailed significant differences are given below.

RQ1a: To what extent does TCMW affect EFL students' individual writing performance?

The first sub-research (*RQ1a*) question aimed to identify the effect of TMCW on control group participants' individual writing development by assessing their pre-test/post-test individual writing scores. The paired samples *t*-test results of control group participants' pre and post individual writing scores explored for this question. Table 15 shows paired samples *t*-test results of control group of participants' pre and post scores.

According to these results, whereas higher scores obtained from the second post-test individual writing essays of control group participants after TMCW treatments, there was no effect of this TMCW process on the scores obtained by the participants from the first post-test individual written essay (p>.05). Table 15 indicates there was a significant difference between the second individual written essays pre-test scores and the post-test scores (regarding sub-components: *grammar, content, organization, style & quality expression, mechanics*) obtained by the students. For all participants, it was observed that there was a statistically high difference between the mean scores (p<.05).

Table 15

Control Group Paired Samples t-Test Results of Pre and Post Individual Writing Essays Scores

Essay 1	***n = 20***	*M*	*SD*	*SE*	*t-*	*p*	*Cohen's d*
GRAMMAR	Pre-test	1.02	0.28	0.06	0.53	.60	0.11
	Post-test	0.98	0.46	0.10			
CONTENT	Pre-test	0.95	0.18	0.04	-0.90	.37	0.20
	Post-test	1.01	0.34	0.08			
ORGANIZATION	Pre-test	0.99	0.19	0.04	-0.99	.33	0.22
	Post-test	1.07	0.35	0.08			
STYLE &QUALITY EXPRESSION	Pre-test	0.70	0.18	0.04	-1.17	.25	0.26
	Post-test	0.76	0.25	0.06			
MECHANICS	Pre-test	0.68	0.17	0.04	-0.46	.64	0.10
	Post-test	0.71	0.25	0.06			
TOTAL	Pre-test	4.32	0.82	0.18	-0.81	.42*	0.18
	Post-test	4.55	1.50	0.34			
Essay 2	***n = 20***	*M*	*SD*	*SE*	*t-*	*p*	*Cohen's d*
GRAMMAR	Pre-test	0.95	0.36	0.08	-2.43	.02	0.54
	Post-test	1.23	0.46	0.10			
CONTENT	Pre-test	0.88	0.21	0.05	-4.00	.001	0.89
	Post-test	1.22	0.36	0.08			
ORGANIZATION	Pre-test	0.97	0.24	0.05	-3.07	.001	0.68
	Post-test	1.16	0.34	0.08			
STYLE &QUALITY EXPRESSION	Pre-test	0.70	0.11	0.02	-3.71	.001	0.82
	Post-test	0.91	0.26	0.06			
MECHANICS	Pre-test	0.68	0.12	0.03		.001	1.06

	Post-test	0.91	0.23	0.05	-4.77		
TOTAL	Pre-test	4.18	0.95	0.21	-3.91	**.001***	0.87
	Post-test	5.43	1.46	0.33			

RQ1b. To what extent does WCW affect EFL students' individual writing performance?

For the second sub-research (*RQ1b*), the effect of WCW treatments on the scores obtained by the experimental group participants, pre-test/post-test individual essays written separately from the control group of the study was investigated. Table 22 shows paired samples *t*-test results of experimental group of participants on pre and post individual writing essays.

When the results were examined, there was a statistically high difference between the pre-test mean scores obtained from both in general and sub-categories 'grammar, content, organization, style and quality expression, mechanics' and the post-test mean scores for both essays ($p<.001$).

Table 22

Experimental Group Paired Samples t-Test Results of Pre and Post Individual Writing Essays Scores

Essay 1	***n = 19***	*M*	*SD*	*SE*	*t-*	*p*	*Cohen's d*
GRAMMAR	Pre-test	1.19	0.49	0.11	-7.84	.001	1.80
	Post-test	1.92	0.52	0.12			
CONTENT	Pre-test	0.96	0.25	0.06	-7.46	.001	1.71
	Post-test	1.47	0.33	0.08			
ORGANIZATION	Pre-test	1.09	0.26	0.06	-5.95	.001	1.36
	Post-test	1.51	0.31	0.07			
STYLE &QUALITY EXPRESSION	Pre-test	0.77	0.17	0.04	-5.41	.001	1.24
	Post-test	1.03	0.26	0.06			
MECHANICS	Pre-test	0.72	0.18	0.04	-8.51	.001	1.95

	Post-test	1.02	0.26	0.06			
TOTAL	Pre-test	4.66	1.16	0.27	-9.59	.001*	2.20
	Post-test	6.96	1.63	0.37			
Essay 2	***n = 19***	*M*	*SD*	*SE*	*t-*	*p*	*Cohen's d*
GRAMMAR	Pre-test	1.26	0.37	0.09	-7.78	.001	1.17
	Post-test	2.06	0.57	0.13			
CONTENT	Pre-test	1.09	0.20	0.05	-4.76	.001	0.84
	Post-test	1.43	0.35	0.08			
ORGANIZATION	Pre-test	1.13	0.24	0.05	-3.96	.001	0.76
	Post-test	1.46	0.35	0.08			
STYLE &QUALITY	Pre-test	0.81	0.21	0.05	-7.71	.001	0.99
EXPRESSION	Post-test	1.12	0.24	0.05			
MECHANICS	Pre-test	0.79	0.18	0.04	-7.41	.001	0.97
	Post-test	1.09	0.25	0.06			
TOTAL	Pre-test	5.06	1.06	0.24	-6.99	.001*	1.05
	Post-test	7.16	1.68	0.39			

RQ1c. Is there any significant difference between each EFL student's pre-test and post-test writing scores in a WCW classroom?

The third sub-research (*RQ1c*) aimed to reveal whether there was any significant difference between each experimental group participant's pre-test/post-test individual writing scores. Figure 3 and 4 show paired samples *t*-test results of each experimental group participants' regarding the component parts of the 10-point analytic scoring rubric - *grammar* (min:01-max:3.0), *content* (min:0-max:2.0), *organization* (min:0-max:2.0), *style & quality of expression* (min:0-max:1.5), *mechanics* (min:0-max:1.5)- and compares each participant's pre-test/post-test scores. Each point on the pre/post-test vertical lines represents one student.

WCW instruction effect for pre-test& post-test (Essay 1)

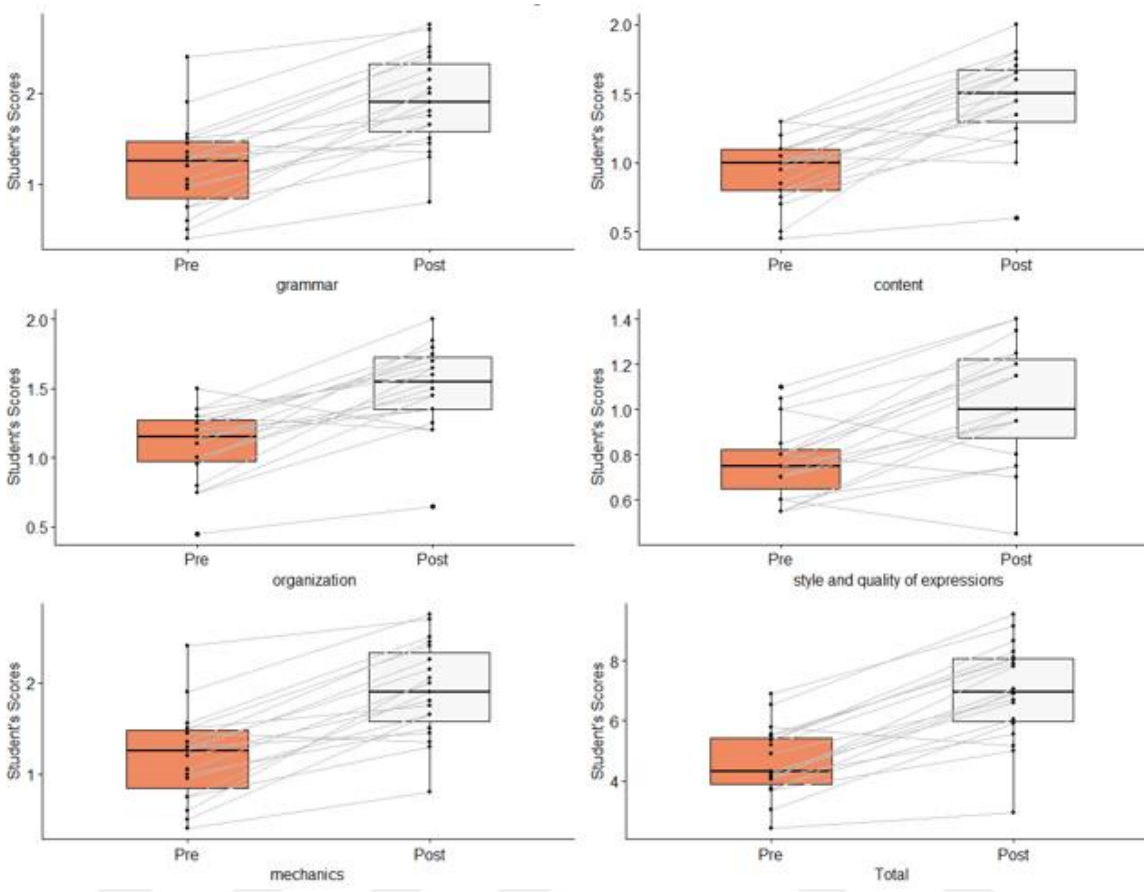

Figure 3. *Experimental Group Participant's Pre-test and Post-test Essay 1 Scores*

Based on the results of each experimental group participant's pre-test/post-test Essay 1 presented in Figure 3, there was a significant difference between pre-test /post-test results. Even though few participants scores fell slightly, almost all participants increased their total writing scores steadily in the first post-test individual written essay (Essay 1). The range of the highest total score and the lowest total score is 2 to 10. Among the component parts of the 10-point analytic scoring rubric, the scores in '*content'* and '*style and quality of expressions'* value increased significantly.

Similarly, for both post-test Essay 2s, as shown in Figure 4, the results of post-test Essay 2s are considerably higher than pre-test Essay 2s. While a rapid increased is seen in most participants' scores for each component, there are slight decrease in scores of few participants.

WCW instruction effect for pre-test& post-test (Essay 2)

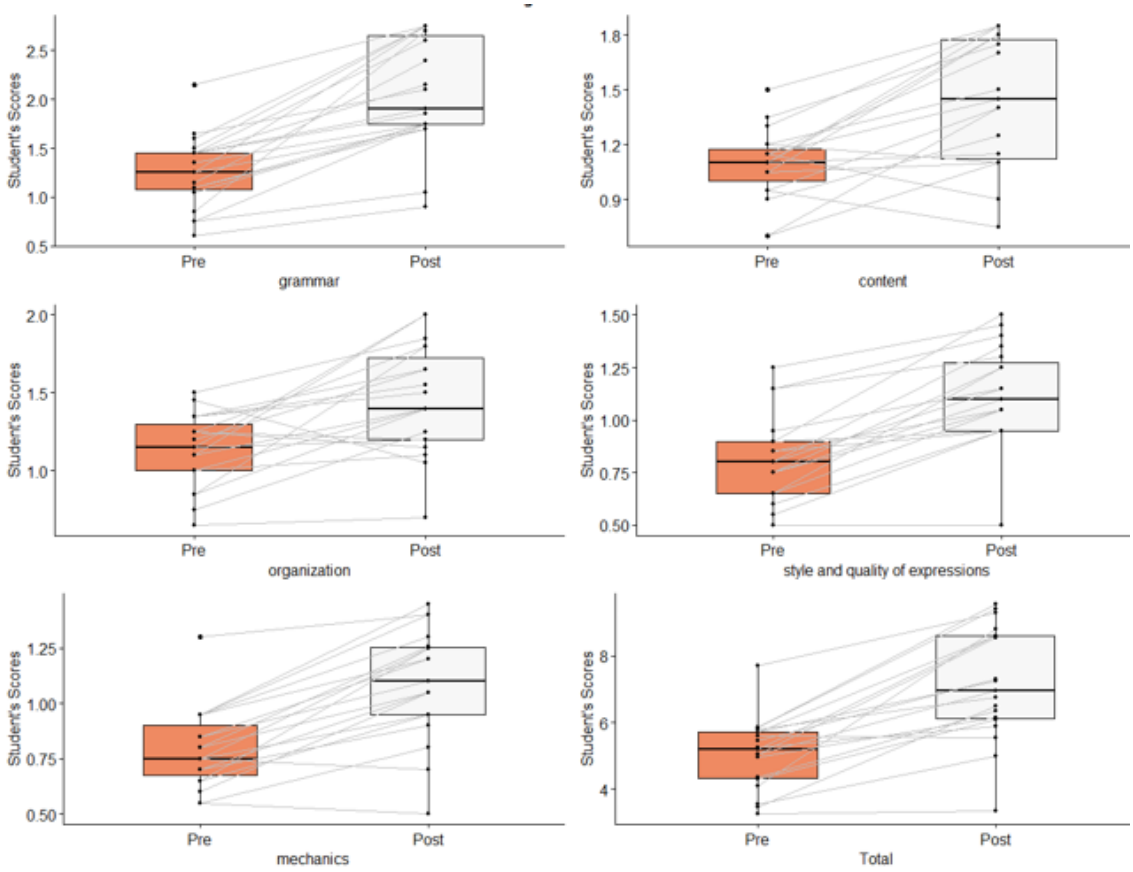

Figure 4. *Experimental Group Participant's Pre-test and Post-test Essay 2 Scores*

In summary, compared to pre-test and post-test individual writing scores, post-test Essay 2 scores are significantly higher than pre-test Essay 1 scores. It may be clearly seen that each experimental group participant significantly increased their writing scores and performances totally.

RQ1d. Is there any significant difference between each EFL student's pre-test and post-test writing scores in a TCMW classroom?

The fourth sub-research (*RQ1d*) aimed to reveal whether there was any significant difference between each control group participant's pre-test/post-test individual writing scores. Figure 5 and 6 shows paired samples *t*-test results of each experimental group participants' regarding the component parts of the 10-point analytic scoring rubric - *grammar* (min:01-max:3.0), *content* (min:0-max:2.0), *organization* (min:0-max:2.0), *style & quality of expression* (min:0-max:1.5), *mechanics* (min:0-max:1.5), and compares each participant's pre-test/post-test scores.

Figure 5 shows each control group participant's both all components (*grammar, content, organization, style & quality of expression, mechanics*) and total pre and post-test individual writing scores, respectively.

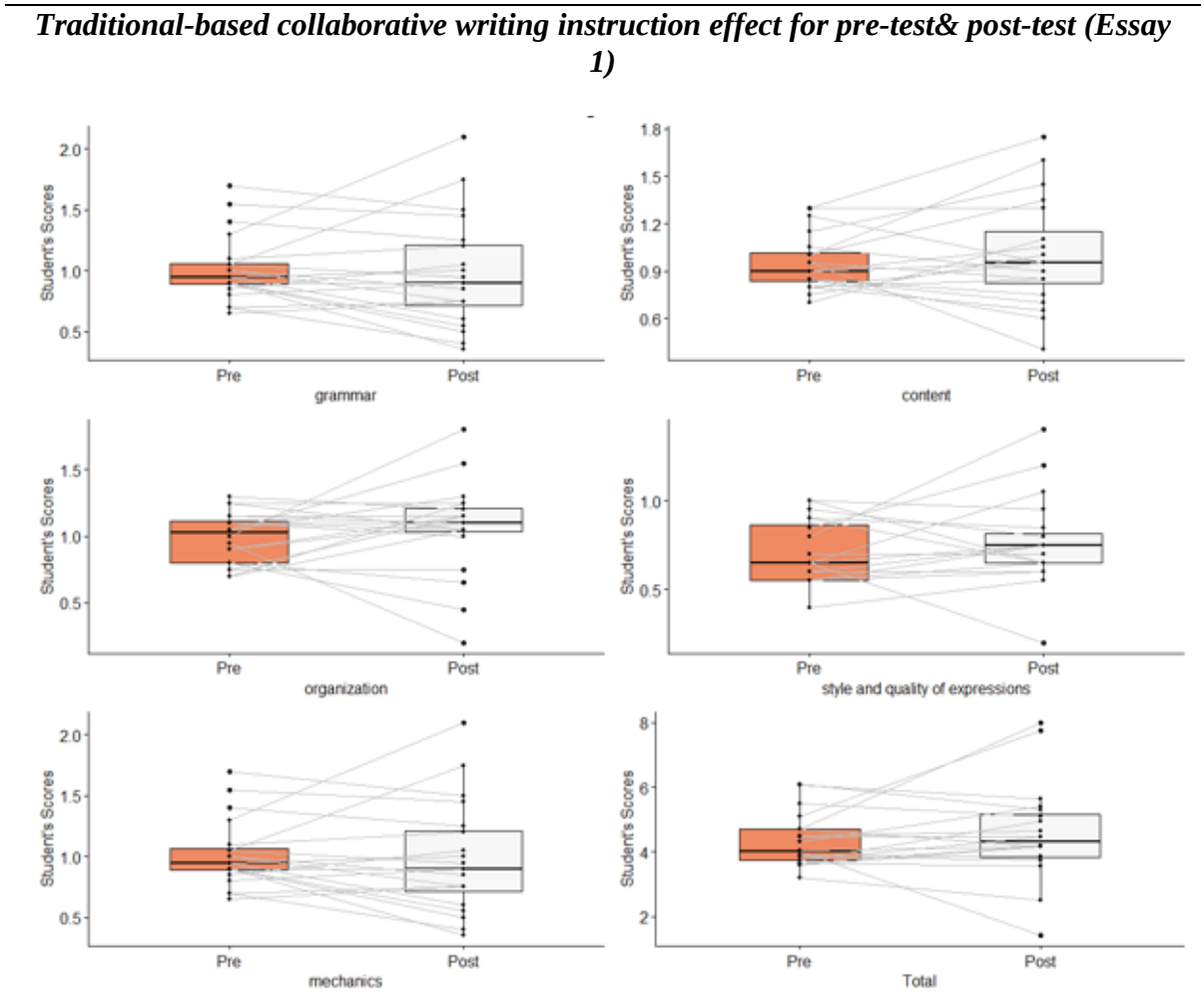

Figure 5. *Control Group Participant's Pre-test and Post-test Essay 1 Score*

According to these results, there was no effect of this TMCW process on the scores obtained by the participants from the first post-test individual written essay (Essay 1). When the total scores were analysed, the scores mostly fluctuated slightly, only a few participants increased their scores, and there was a sharp decrease in one participant's score.

On the other hand, Figure 6 indicates that there was a gradual difference between the second individual written essay pre-test scores and post-test total scores (Essay 2).

When each participant's scores are analysed separately, the most important detail is that the participants who increased their post-test total scores also increased their scores in each component (*grammar, content, organization, style & quality of expression, mechanics*) at the same rate.

Traditional-based collaborative writing instruction effect for pre-test& post-test (Essay 2)

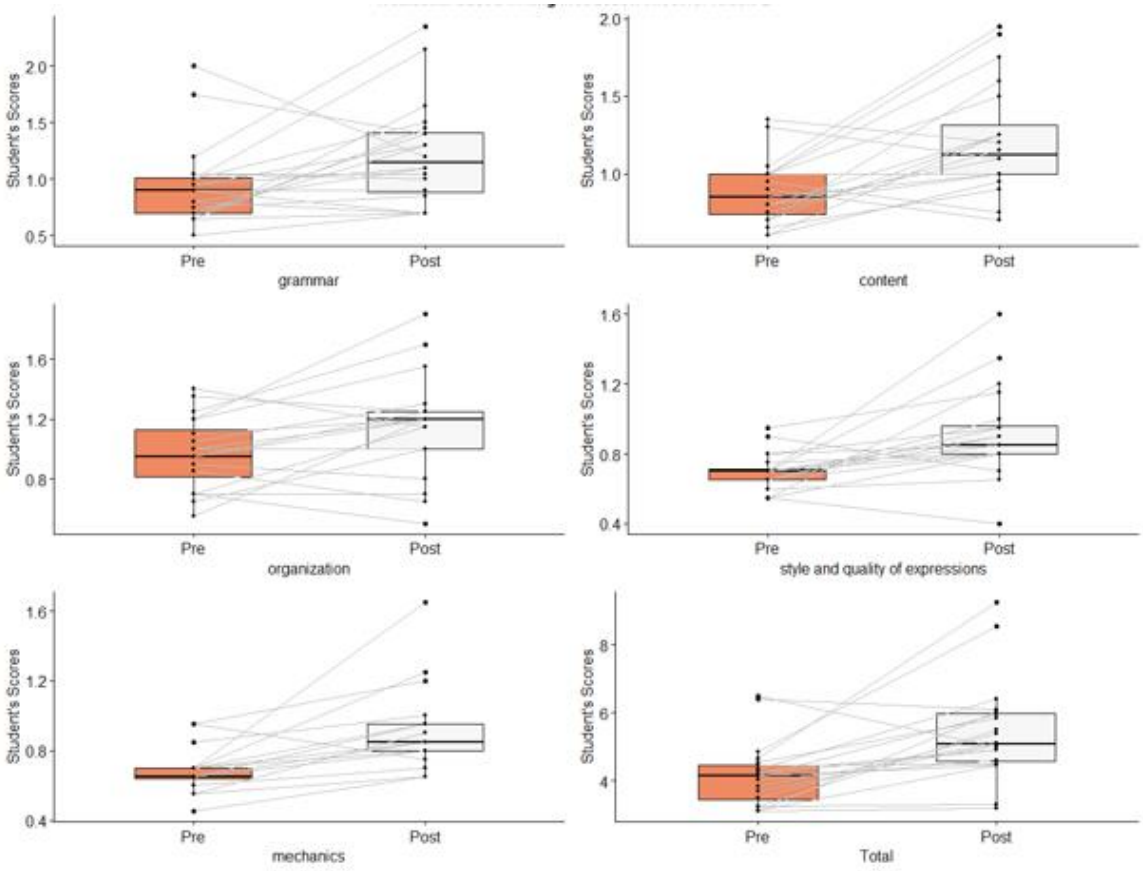

Figure 6. *Control Group Participant's Pre-test and Post-test Essay 2 Scores*

In summary, compared to pre-test and post-test individual writing scores of each control group participant, whereas the first post-test individual written essay scores were not different from the first pre-test individual written essay scores, there was a gradual difference between the second pre-test and post-test individual written essay scores.

RQ1e. Is there any significant difference between pre-test writing scores assigned to WCW classroom and pre-test scores assigned to TCMW classroom?

To answer the fifth sub-research question (*RQ1e*), the total pre-test individual writing scores obtained by the participants for each essay were taken as covariate. The scores were examined using one-way analysis of covariance (one-way ANCOVA) analysis whether the post-test individual writing scores differed in terms of WCW versus the TMCW process.

Table 16 presents the mean and standard deviation of the results of participants' both pre/post-tests individual writing essay scores, respectively and post-test individual writing scores adjusted under the control of pre-test individual writing scores.

Table 16

Means of Pre/Post test Scores and ANCOVA-Adjusted Post-test Scores of the Experimental and Control Groups

	Collaborative writing process		*Pre-test Scores*		*Post-test Scores initial*		*Post-test Scores adjusted by covariate*	
		N	*M*	*SE*	*M*	*SE*	M_{adj}	SE_{adj}
Essay 1	Traditional(Control group)	20	4.32	0.18	4.54	0.33	4.72	0.26
	Wiki-based(Experimental group)	19	4.66	0.26	6.96	0.37	6.78	0.27
Essay 2	Traditional(Control group)	20	4.17	0.95	5.42	1.46	5.76	0.32
	Wiki-based(Experimental group)	19	5.06	1.06	7.15	1.68	6.79	0.33

Note: The post-test scores were adjusted via ANCOVA for differences on the pre-test scores.

Table 17 also indicates the results of one-way ANCOVA carried out under the control of assumptions for both essays.

Table 17

Analysis of Covariance for the Overall Post-test Scores by Instruction Type with Pre-test Scores as Covariate

Essay 1						
Source of Variations	*SS*	*df*	*MS*	*F*	*p.*	η^2
Pre-Test Scores	41.77	1	41.77	30.82	.001	.46
Instruction type (Wiki vs Traditional-based method of collaborative writing)	40.03	1	40.03	29.54	.001	.45

Error	48.78	36	1.35			
R Squared = .669 (Adjusted R Squared = .651)						

$p<0.05$

Essay 2

Source of Variations	*SS*	*df*	*MS*	*F*	*P*	η^2
Pre-Test Scores	23.60	1	23.60	12.52	.001	.25
Instruction type (Wiki vs Traditional-based method of collaborative writing)	8.53	1	8.53	4.52	.04	.11
Error	67.84	36	1.88			
R Squared = .438 (Adjusted R Squared = .406)						

$p<0.05$

As Table 17 shows, for Essay 1, the post-test mean score of the experimental group under the pre-test control (M = 6.78, SE = 0.27) was compared to the mean score of the control group (M = 4.72, SE = 0.26). There are statistically significant and high differences between the experimental and control groups [F (1, 36) = 29.54, $p < .001$].

According to the results of one-way ANCOVA on group differences with reference to wiki-based versus TMCW instruction, statistically significant differences revealed between the post-test individual writing scores in the control of the covariance of pre-test and individual writing scores in each essay.

Additionally, the effect of the type of instruction (WCW & TMCW process) was examined over the partial eta square value and it was observed that a large part of the variability observed in the mean scores of the participants, such as 45%, was related to the type of instruction ($\eta^2 = .451$).

Again, Table 17 shows similar results for Essay 2, there are significant differences between the post-test mean score (M = 6.79, SE = 0.33) of the experimental group who experienced the WCW process under the pre-test control and the post-test mean score (M =

5.76, *SE* = 0.32) of the control group who experienced traditional-based collaborative writing process [*F* (1, 36) = 4.53, *p* = .04].

Similarly, on the basis of Essay 2, the rate of explaining the variability in the mean score of the instruction type was observed as 11% this time (η^2 = .11).

4.3. Results Related to Qualitative Data

The interview transcripts were read/transcribed verbatim and analysed through Tesch (1990) and Creswell's (2007) categorization and coding process. The Eight-step of categorization and coding process is (1) Read transcription and understand the whole text, (2) Choose one of the interview, ask 'what is it about?' and jot down the topics, (3) List the similar topics, (4) Organize the topics and obtain the codes, (5) Reduce the topics and condense into categories, (6) Decide final categories, (7) Gather data for the first analysis, and (8) Recode the data if required (Tesch,1990).

The data were reduced through coding and categorizing the text fragments based on recurring themes and the research focus. Additionally, the categorical word count procedure was carried out by the researcher who created categories and sub-categories that serve as indicators to identify qualitative data analysis.

4.3.1. Results of Research Question 2

As described in the chapter on methodology, in order to find EFL students' perceptions before and after undertaking the WCW and TMCW process, the researcher conducted the pre-test, post-test questionnaires and face-to face follow-up Post-intervention and peer-feedback interviews, which were transcribed verbatim, between the researcher and both groups participants.

Research Question 2: What are EFL students' perceptions before and after undertaking the WCW and TMCW process?

Experimental Group Students' Perceptions

To reveal *experimental group* students' perceptions before undertaking the WCW process whereas some *Pre-intervention questionnaire items* concern the participants' wiki knowledge, individual/group work experiences, work style and peer familiarities, *Post-intervention questionnaire* explores the participants' perceptions about wiki tasks, their online group interactions (Li, 2014).

Table 18

*Descriptive Statistics of Pre-intervention Questionnaire for Experimental Group (2) *Items*

*	*N*	***M***	*SD*
Your attitude toward individual work	19	**3.74**	0.82
Your attitude toward small group work	19	**3.92**	0.80
Are you familiar with your group partners in this wiki work	19	***1.33**	0.48

Table 18 shows that experimental group students' attitudes toward small group work are higher than individual work. Their familiarity with their group partners is low (*M* = 1.33).

Experimental group students' perceptions after undertaking the WCW process were evaluated via the Post-intervention questionnaire.The Post-intervention questionnaire comprised eighteen 5-point Likert scale questionnaire items, First, the researcher measured each eighteen questionnaire items' average point within each small group. Scores in relation to the questionnaire responses informed me of the overall trends of students' perceptions about WCW.

Items 1 to 8 addressed participants' general experience with the WCW. Collaborative writing of argumentative essay was found suitable in wiki platform and participants improved their writing skills and language use. However, some participants still prefer traditional way of writing. Table 19 shows participants' general experiences.

Table 19

*Descriptive Statistics of Post-intervention Questionnaire - General Experiences of Experimental Group *Items 1 to 8*

*	***N***	***M***	***SD***
I enjoy using wikis for collaborative writing.	19	3.66	0.84
Wiki is suited for the collaborative writing of argumentative essay.	19	**4.50**	0.51
My experience with the wiki project is positive.	19	3.88	0.83
I prefer using wikis to traditional way.	19	3.38	**1.48**
WCW improves my writing skills.	19	**4.11**	0.83

Wiki collaborative writing helps me attend to contend development.	19	3.94	0.87
WCW helps me attend to language use.	19	**4.22**	0.64
Wiki collaborative writing helps me attend to essay structure/organization.	19	3.83	**1.23**

As can be seen Table 20, items 9 to 13 related to WCW process. Even though participants think that they make important contributions to their groups in terms of their writing ability, there is a significant difference among participants' experiences throughout the process, particularly the modules in wiki platforms (e.g. Comment module, revision process).

Table 20

*Descriptive Statistics of Post-intervention Questionnaire - WCW Process *Items 9 to 13*

*	*N*	*M*	*SD*
I found the group wiki "Comment" module useful for negotiating language with group partners.	19	3.00	**1.08**
I enjoy the revision process in the wiki.	19	3.50	**1.42**
My group partners and I engaged in communication/discussion using the wiki.	19	3.38	**1.14**
My group partners and I often discussed the group writing outside the wiki (e.g. via face-to-face conversations, emails, online chat, etc.)	19	3.61	**1.14**
I was able to make important contributions to the wiki collaborative writing project.	19	**3.94**	0.63

Table 21 shows the items 14 to 18 and participants' perceptions of using wiki for essay writing and their interaction with group members. Whereas participants accept their partners' comments respectfully and use them in the essay, it is seen significant difference on assessing phase of their contributions.

Table 21

*Descriptive Statistics of Post-intervention Questionnaire - Participants' Perceptions of Wiki *Items 14 to 18*

*	*N*	*M*	*SD*
I do not think my group partners valued my contributions.	19	2.66	**1.45**
I valued the insights that my group partners brought to this project.	19	**3.77**	0.87
My group partners and I did not reach consensus on the final products easily.	19	3.00	**1.37**
All the members in my group contributed to this project equally.	19	3.55	**1.19**

Control Group Students' Perceptions

To reveal *control group* students' perceptions before undertaking the TMCW process whereas some *Pre-intervention questionnaire items* concern the participants' individual/group work experiences, work style and peer familiarities, *Post-intervention questionnaire* explores the participants' perceptions about collaborative work, their group interactions (Yong, 2014).

Table 22

*Descriptive Statistics of Pre-intervention Questionnaire for Control Group (2) *Items*

*	*N*	*M*	*SD*
Have you worked on a group work before?	20	1.41	**1.00**
Do you feel comfortable while studying collaboratively?	20	**3.35**	0.70
Your attitude toward individual work	20	**3.47**	0.79
Your attitude toward small group work	20	**3.52**	0.51
Are you familiar with your group partners in this wiki work	20	**4.58**	0.94

As can be seen Table 22, control group students' attitudes small group work is higher than avarage and they are familiar with their group partners. In addition They have not had any similar collaborative writing experience before and they have experienced with this study.

Control group students' perceptions after undertaking the TMCW process were evaluated via the Post-intervention questionnaire. Table 23 shows items 1 to 7 and addressed participants' general experience with the TCW. There were few participants who found collaborative writing was challenging, most of them had positive experiences from the treatments.

Table 23

*Descriptive Statistics of Post-intervention Questionnaire - General Experiences with TCW *Items 1 to 7*

*	*N*	*M*	*SD*
I prefer to write alone rather than in a group.	20	2.47	**1.50**
I learned new ways to plan my essay from the group.	20	**4.41**	0.71
I have the chance to express my ideas in the group.	20	**4.29**	0.77
Writing together, we spent more time planning than I do when I write alone	20	**4.23**	0.90
Group members listened to each other's ideas.	20	**4.41**	**1.00**
I learned the new ways to support my points from the group.	20	**4.23**	0.90
Writing together, we spent more generating ideas than I do when I write alone.	20	3.82	1.01

As can be seen Table 24, items 8 to 14 related to TCW process. Participants thought that they put the same amount of effort and wrote their ideas into the essays and reached consensus in the final product. However, it is seen few different views during writing process in terms of language use and mechanics.

Table 24

*Descriptive Statistics of Post-intervention Questionnaire for Control Group *Items 8 to 14*

*	*N*	*M*	*SD*
My ideas got into the essays we wrote.	20	**4.05**	0.89
Every member of the group put about the same amount of effort into writing the essays.	20	3.94	0.01

Group members sometimes disagreed about what to say or how to express their ideas in the essay.	20	3.70	0.98
Writing together, we spent time checking grammar than I do when I write alone.	20	3.29	**1.10**
I learned new ways to organize essay from the group.	20	3.64	**1.27**
Writing together, we spent more time spelling and punctuation than I do when I write alone.	20	3.64	**1.11**
Despite disagreement, the group was able to reach consensus.	20	**4.05**	1.14
The group produces a better essay compared to individual writing.	20	3.76	1.14
I learned the new ways to support my points from the group.	20	**4.23**	0.90

Table 25 shows 15 to 18 and concerned participants' perceptions of collaborative essay writing and their experiences. There are significant differences among participants' perceptions. However, most of them found collaborative writing enjoyable.

Table 25

*Descriptive Statistics of Post-intervention Questionnaire -Participants' Perceptions towards TCW in TCW *Items 15 to 18*

*	*N*	*M*	*SD*
The group produces a better essay compared to individual writing.	20	3.76	**1.14**
Writing together, we spent more time revising essays than I do when I write alone.	20	3.23	**1.20**
I enjoy writing more than I did before due to collaborative writing.	20	**3.88**	**1.11**
All the members in my group contributed to the essays equally.	20	3.11	**1.11**

Relevant interview responses in terms of benefits and challences that EFL students experience in both intervebtions were used to answer the following sub-questions:

RQ2a. What are the benefits that EFL students experience in WCW classroom?

RQ2b. What are the benefits that EFL students experience in TMCW classroom?

RQ2c. What are the challenges that EFL students experience in WCW classroom?

RQ2d. What are the challenges that EFL students experience in TMCW classroom?

Results Related to the Benefits and Challenges of WCW (*RQ2a- RQ2c)*

The analysis of the data derived from the participant reflections resulted in two themes (e.g., positive perceptions (usefulness/strengths/attractive steps of WCW) and negative perceptions (weaknesses & difficult steps of WCW), 4 categories and 22 sub-categories. Each category and sub-category is presented in Table 26 below with representative quotations taken from the participants' interview responses.

Table 26

WCW Process, Frequencies and Percentages

	Categories	**Sub-categories**	**Frequency &percentage of sub-categories**
Benefits	Strengths of WCW	"Group writing"	*19 – 42%*
		"Collaborative learning"	*9 – 19%*
		"Self-confidence"	*9 – 19%*
		"Short discussion"	*8 – 18%*
		Total	***45***
	Usefulness of WCW	"Enjoyable"	*19 – 28%*
		"Helpful"	*14 – 21%*
		"Useful"	*10 – 15%*
		"User friendly"	*9 – 14%*
		"Positive"	*8 – 13%*
		"No dull moment"	*6 – 11%*
		Total	***66***
	The most attractive step(s):	"Writing-Revising (Collaborative writing)"	*11 – 58%*
		"Editing(Peer-feedback)"	*7 – 36%*
		"Prewriting(Brainstorming)"	*1 – 5 %*
		"Planning(Outline)"	*0*
		"Publishing (Final copy)"	*0*
		Total	***19***
Challen		"Planning(Outline)"	*13 – %68*
		"Publishing (Final copy)"	*5 – 26%*

The most difficult step(s):	"Pre-writing(Brainstorming)"	*1 – 5 %*
	"Writing-Revising (Collaborative writing)"	*0*
	"Editing(Peer-feedback)"	*0*
	Total	***19***
Weaknesses of WCW	"Some peers"	*11 – 55 %*
	"Time-management"	*9 – 45 %*
	Total	***20***

Participants' responses were mostly positive regarding WCW. Before their pre-test individual writing performances, they received WCW treatments in a computer and technology-assisted classroom setting (n = 19). First of all, the participants found wiki and collaborative writing enjoyable (n = 19) and they stated that it was better, more useful than writing by hand (n = 24). These points were made clear by the following statements provided by the participants:

> *I found it good, enjoyable, I love working with myself, but in this study I really enjoy studying collaboratively.* [Student C2]

> *It has a very good side, because I love writing, it improves your writing skills and group working skills, I definitely recommend it and also I wrote faster than hand-writing.* [Student C13]

> *Normally, I don't like writing, but I found group writing very useful and better than normal writing. It became very easy to write with technology, even easier with friends. It was quite positive for me. Now I like writing, it is really enjoyable.* [Student C9]

When the most attractive and difficult steps are compared, participants found 'writing-revising step (collaborative writing part) (n = 11) and editing (peer-feedback) (n = 7) were the most interesting, enjoyable and instructive. On the other hand, planning (outline) was found the most challenging step for them. These points were made clear by the following statements provided by the participants:

> *The parts where we did collaboratively, it began normally but then I realized writing collaboratively was so instructive and informative. In collaborative writing, we thought together.* [Student C4]

Actually all parts, but working collaboratively is the most useful part for me, I did not think it would help us but I learnt many things than I expected. [Student C7]

Editing part, it was interesting, because you had that chance, it was interesting and instructive, it helped me, improved my thinking style. [Student C12]

Outline and technical words are challenging. Writing thesis statement was difficult. And then we solved it by giving ideas to each other, for example, knowing what to talk about in the introduction solved the problem. [Student C9]

Outline part, some don't agree, some agree, find the common way to negotiate was difficult. [Student C1]

Participants also stated that the most effective side of wiki and collaborative writing was that group writing via a web-page, it was immediate and easy to access. Asking and learning from friends gave them new meaning to writing skills and enhanced permanent learning. On this point, one of the participants expressed his thoughts through the following words:

Using technology and producing things together affected my perception a lot. It actually improved my perception towards writing skills, I discovered aspects of myself that I hadn't noticed, additionally, I could contribute to someone's writing. Now, I feel more confident about it. [Student C16]

Time-management and studying with some peers in the same group throughout the treatments were found to be the weakest aspects of WCW. They asserted that even though they had extra time to finish their essays at home, because of some peers, they sometimes did not manage the time properly.

Results Related to the Benefits and Challenges of TMCW (*RQ2b- RQ2d)*

The analysis of the data derived from the participant reflections resulted in 2 themes (e.g., positive perceptions (usefulness/strengths/attractive steps of TMCW) and negative perceptions (weaknesses &difficult steps), 4 categories and 16 sub-categories. Each category and sub-category is presented with their frequency and percentages in Table 27 below with representative quotations taken from the participants' interview responses.

Table 27

TMCW Process, Frequencies and Percentages

	Categories	Sub-categories	Frequency &percentage of sub-categories
Benefits	Strengths of TMCW	"Group writing"	*25 – 40%*
		"Asking partners"	*18 – 29%*
		"Collaborative learning"	*10 – 16%*
		"Exchanging ideas"	*9 – 15%*
		Total	***62***
	Usefulness of TMCW	"Good"	*19 – 37%*
		"Effective"	*13 – 25%*
		"Preferable"	*11 – 21%*
		"Enjoyable"	*8 – 15%*
		Total	***51***
	The most attractive step(s)	"Prewriting(Brainstorming)"	*11 – 42%*
		"Writing-Revising (Collaborative writing)"	*8 – 30%*
		"Editing(Peer-feedback)"	*5 – 19%*
		"Publishing (Final copy)"	*1 – 3%*
		"Planning(Outline)"	*1 – 3%*
		Total	***26***
Challenges	The most difficult step(s)	"Planning(Outline)"	*10 – 50%*
		"Writing-Revising (Collaborative writing)"	*6 – 30%*
		"Publishing (Final copy)"	*4 – 20%*
		Total	***20***
	Weaknesses of TMCW	"No problem"	*11 – 57%*
		"Some peers"	*8 – 42%*
		Total	***19***

Participants mostly reported positive perceptions regarding the TMCW process received in their writing treatments (n = 51). The participants found TMCW good (n = 19) and effective (n = 13) for their writing performance. Some stated that it was better than individual writing (n = 11) and they had enjoyable moments with their group members. These points were made clear by the following statements provided by the participants:

Since we are used to writing individually, it was good for me to write as a group, if I

didn't know the word, my other friend would know it, or if there was a problem with tenses, another friend helped me. I found group writing much easier and effective. [Student B1]

It was a positive experience, I kept in touch with my friends that I was not in contact with in the classroom, everyone had different opinions and I learned a lot about it. [Student B4]

It was a fun and productive study. If I worked myself, I could not see my deficiencies, but when I worked as a group, I saw my mistakes. So, it is better than individual writing. [Student B10]

When the steps are compared, whereas the pre-writing(brainstorming) step was found the most attractive by the participants (n = 11), they found that planning(outline) was the most difficult step (n = 10). In addition, some participants stated that merging ideas in collaborative writing process was difficult. On this point, one of the participants expressed her thoughts through the following words:

We had difficulties in choosing ideas after brain storming and combining them in the planning part. However, we came up with a solution by merging both ideas of the person who suggested the idea and the ideas of the other group members, so we reached a compromise. [Student B12]

In general, there were a few challenges such as some peers who did not contribute to some steps during the treatments and some participants found the worki boring and difficult. On this point, one of the participants expressed her thoughts in the following words:

Working and writing together were good but if there was someone who did not work in the group, it was really difficult. Unfortunately, we experienced it, I tried to convince him to write, I encouraged him. But, it totally wasted my time. [Student B1]

4.3.2. Results of Research Question 3

The researcher conducted face-to face follow-up peer-feedback interviews, which were transcribed verbatim, between the researcher and both groups participants. Relevant interview responses were used to answer the following research question and sub-questions:

Research Question 3: What are EFL students' perceptions towards peer-feedback exchange?

RQ3a. What are EFL students' perceptions towards peer-feedback in WCW classroom?

RQ3b. What are EFL students' perceptions towards peer-feedback in TMCW classroom?

RQ3c. How do EFL students feel while acting as feedback provider and as receiver during peer feedback sessions (e.g., wiki-based and traditional-based writing)?

The data obtained from peer-feedback interviews were categorized into the following 2 categories (positive and negative perceptions) for both groups and each sub-category is presented below with representative quotations taken from participants' answers.

RQ3a: What are EFL students' perceptions towards peer-feedback in the WCW classroom?

Participants mostly reported positive perceptions regarding peer-feedback in WCW treatments (n = 22). First of all, the students found peer-feedback useful (n = 18), working with same partners was instructive and enjoyable (n = 7) for their writing performance (n = 6) as they did collaborative work with their peers. Table 28 shows participants' positive and negative perceptions towards peer-feedback.

They stated that the most effective side of peer feedback was that it was useful to almost all group members. The page history facility of wiki made it easy to check for who gave feedback or did not and it showed who logged in, time of entry and what s/he added to the essay.

Table 28

Peer-feedback in WCW Process, Frequencies and Percentages

Categories	**Sub-categories**	**Frequency &percentage of sub-categories**
Positive perceptions	"Useful"	*18 – 58%*
	Studying with same partners:	
	"Instructive"	*7 – 22%*
	"Enjoyable"	*6 – 20%*
	Total	***31***
Negative perceptions	"No problem"	*13 – 63%*
	Studying with same partners:	
	"Challenging"	*6 – 42%*

Total	***19***

Additionally, the participants expressed that peer feedback smoothed the way to find their mistakes, particularly when the thoughts and structures they wrote for their writing were still fresh in their minds. They also stated that learning from their peers reinforced permanent learning. These points were given via the following statements provided by participants:

> *I found it very useful and it is quite fun, trying to write and help instead of your own way, discussing with your partners, I have learnt some structures, new words. So, peer -feedback was very nice and instructive.* [Student C6]

> *It was a different and very instructive experience for me. I learned a lot from getting feedback from my friends. After school, I may have contributed technologically to my partners' parts.* [Student C16]

> *Actually, we were sometimes stuck, but then we gave feedback when we were side by side, we completed the feedback session after school and I still remember some parts which I gave as a feedback.* [Student C4]

Most participants did not encounter any problem while giving feedback to their group members' writings (*n* = 13). while some participants found peer-feedback a bit difficult (*n* = 7). Even though their EFL proficiency level is upper-intermediate, correcting someone's mistakes was hard and challenging for them. One participant stated:

> *Our English level is similar, for this reason, when we give feedback we need someone whose English is better than mine or ours. Because, I did not understand some parts and could not give them feedback.* [Student C19]

RQ3b: What are EFL students' perceptions towards peer-feedback in TMCW classroom?

The control group participants, similarly as in experimental group, had a positive perception towards peer-feedback. Table 29 gives the details of participants' positive and negative perceptions towards peer-feedback.

The participants in the control group thought that peer-feedback was enjoyable (*n* = 11) because it provided them detailed and useful thoughts which made their writing more accurate (*n* = 10). They believed that it helped them understand the source of their errors and how to correct them. Exchanging ideas was also found to be quite effective (*n* = 5). The

participants made their writing richer thanks to receiving various points of view. These points were made clear by the following statements provided by participants:

> *Exchanging ideas, cooperation and giving feedback were useful for me. I saw my mistakes thanks to my partners and I did not repeat the same mistakes.* [Student B17]

> *I found peer-feedback very useful, it helped me to see my spelling and grammar mistakes.* [Student B11]

> *To receive feedback from my partners was a different experience for me, until now, teachers have always corrected my mistakes. I enjoyed and learned a lot during peer-feedback session.* [Student B5]

Table 29

Peer-feedback in TMCW Process, Frequencies and Percentages

Categories	**Sub-categories**	**Frequency &percentage of sub-categories**
Positive perceptions	"Enjoyable"	*11 – 55%*
	Studying with same partners:	
	"Useful"	*10 – 53%*
	"Exchanging ideas"	*5 – 28%*
	Total	***26***
Negative perceptions	*Studying with same partners:*	
	"Risky"	*8 – 40%*
	"Difficult"	*6 – 30%*
	"Boring"	*6 – 30%*
	Total	***20***

When the two categories are compared, it is obvious that the participants' negative perceptions are much less (n = 20). Even though most of them agreed with and held a positive perception towards studying with the same partners in all treatments, some found that studying with same partners throughout 10 weeks risky (n = 8), difficult (n = 6) and boring (n = 6).

The risky and difficult aspects of working with the same group members were some peers hardly gave feedback in the group. Preventing this situation was quite difficult. This point was made clear by the following statements provided by one participant:

I think; it is not good to continue with same partners unless you are in harmony. It is risky, I mean, if there is someone who does not work in group, does not give feedback, it is difficult. We had this problem and we did not change it and prove it. It shouldn't have been the same peers in all study. I am not happy about this point. [Student B4]

Some participants suggested that groups could be replaced every three weeks or once a month. One of them stated:

Maybe, the groups could have changed, however there is a period of getting used to a group, it is difficult to quit once you get used to it, it is difficult in terms of adaptation. Therefore, it can change every 2 or 3 weeks, because there will be different ideas and people, new and good essays may come out. [Student B10]

Some participants had no problem or negative perception on peer-feedback, but they found being in the same group was boring. One stated:

Giving feedback and group work could be okay, everyone has different ideas, but when partners are the same people, it sometimes becomes boring, same corrections, similar ideas and no improvement. [Student B8]

RQ3c: How do EFL students feel while acting as feedback provider and as receiver during peer feedback sessions (both wiki-based and traditional-based writing)?

The analysis of the data derived from the participants' replies of peer-feedback interview resulted in 2 categories (e.g. acting as feedback provider and acting as feedback receiver) and sub-categories for both groups (see Table 30 and Table 31). Each category and sub-category are presented below with representative quotations taken from the peer-feedback interview.

Both groups participants mostly reported that both being a feedback provider and receiver significantly affected their writing skills positively. This positive contribution reflected credit on their essays.

Table 30

Feedback Provider and Receiver in WCW Process, Frequencies and Percentages

Categories	**Sub-categories**	**Frequency &percentage of sub-categories**
	"Notice my English"	*16 – 41%*

Feedback provider	"Ensure some structures"	*12 – 31%*
	"Create new ideas"	*11 –29%*
	Total	***39***
Feedback receiver	"Learning new structures, spelling, grammar from my peers"	*41 – 68%*
	"Notice my incompetency on writing skills and English"	*19 – 31%*
	Total	***60****

As shown in Table 30, experimental group participants asserted that while providing feedback to their partners, they became aware of their own English level (*n* = 16). They independently revised their background knowledge of English language structure and consolidated some structures (*n* = 12), and additionally, they provided various ideas to their partners in terms of content contribution. (*n* = 11). Participants, additionally, learned new structures, spelling and grammar from their partners (*n* = 41) and as feedback receivers they noticed some deficiencies in their own writing (*n* = 19)

Table 31

Feedback Provider and Receiver in TMCW process, Frequencies and Percentages

Categories	**Sub-categories**	**Frequency &percentage of sub-categories**
Feedback provider	"Revise & consolidate some structures"	*12 – 57%*
	"Notice my English"	*5 – 23%*
	"Create new ideas"	*4 – 19%*
	Total	***21***
Feedback receiver	"Learning spelling, vocabulary and grammar from my peers"	*27 – 65%*
	"Notice my inadequacy in writing and English"	*14 – 34%*
	Total	***41****

Table 31 shows control group participants' perceptions as a feedback provider and receiver. In the same manner as the experimental group participants, as a provider they revised their background English knowledge and consolidate it (*n* = 12). Therefore, they noticed their English language level (*n* = 5). They also give different point of views to their

partners and contributed new ideas to their writing parts (*n* = 4). The control group participants wrote more accurately by practising and correcting their spelling, grammar mistakes and enriched their content with new vocabulary given by their partners. (*n* = 27). Consequently, they noticed their inadequacy in English writing skills (*n* = 14).

When the two categories are compared, it is obvious that the participants' perceptions of acting as a feedback receiver are much higher in both groups (Experimental group (*n* = 60*), control group (*n* = 41*).

CHAPTER 5

DISCUSSION, CONCLUSION and IMPLICATIONS

This chapter aims to provide a brief summary of the present study and then discusses the major findings by referring to the literature. The discussion will continue with a conclusion based on these findings. The researcher presents pedagogical implications and suggests potential WCW applications in the last part of this chapter. The final aim of this chapter is to offer recommendations for further research.

5.1. Summary of Research Questions

To answer the research questions, the quantitative and qualitative data analyses were used in the current study. As is seen from Table 32 research questions, data sources, analysis procedures, and purposes of data analyses were summarised.

Table 32

Summary of Research Questions, Data Sources, Analysis Procedures and Purposes

Research Questions	Data Sources	Analysis Procedures	Purposes of Analysis
Quantitative Component of Study			
RQ1: Is there any significant difference between WCW classroom EFL students' writing performance improvement and TCMW classroom EFL students' writing performance improvement?	Two raters rated participants' pre& post-test individual written argumentative essays on two topics with a 10-point analytic rubric.	Descriptive statistics	To examine the mean and standard deviation as well as significant mean difference between WCW and TMCW
RQ1a. To what extent does TCMW affect EFL students' individual writing performance?		Paired samples *t*-test results	To identify the effect of TMCW on control group participants' individual writing development by

			assessing their pre-test/post-test individual writing scores.
RQ1b. To what extent does WCW affect EFL students' individual writing performance?		Paired samples *t*-test results	To examine the effect of WCW treatments on the scores obtained by the experimental group participants' pre-test/post-test individual writing scores.
RQ1c. Is there any significant difference between each EFL student's pre-test and post-test writing scores in a WCW classroom?		Paired samples *t*-test results	To show whether there is any significant difference between each experimental group participant's pre-test/post-test individual writing scores.
RQ1d. Is there any significant difference between each EFL student's pre-test and post-test writing scores in a TCMW classroom?		Paired samples *t*-test results	To show whether there is any significant difference between each control group participant's pre-test/post-test individual writing scores
RQ1e. Is there any significant difference between pre-test writing scores assigned to WCW classroom and pre-test scores assigned to TCMW classroom?		One-way analysis of covariance (one-way ANCOVA) results	To compare the effect of the type of instruction (WCW vs TMCW) process on participants' writing performances

Qualitative Component of Study			
RQ2: What are EFL students' perceptions before and after undertaking the WCW and TMCW process?	Pre-intervention questionnaires Post-intervention questionnaires	Descriptive statistics	To examine the mean and standard deviation as well as significant mean difference between both groups participants' perceptions
RQ2a. What are the benefits that EFL students' experience in WCW classroom?	Face-to-face follow-up interviews (Post-intervention interviews)	A coding and classifying approach	To describe WCW process in terms of its benefits and to what extent this instruction affects their perceptions towards writing skills.
RQ2b. What are the benefits that EFL students' experience in TMCW classroom?			To describe TMCW process in terms of its benefits and to what extent this instruction affects their perceptions towards writing skills.
RQ2c. What are the challenges that EFL students' experience in WCW classroom?			To describe WCW process in terms of its challenges and to what extent this instruction affects their perceptions towards writing skills.
RQ2d. What are the challenges that EFL students' experience in TMCW classroom?			To describe TMCW process in terms of its challenges and to what extent this instruction affects their perceptions

			towards writing skills.
RQ3: What are EFL students' perceptions towards peer-feedback exchange?	Face-to-face follow-up interviews (Peer-feedback interview)	A coding and classifying approach	To describe participants' perceptions towards peer-feedback process
RQ3a. What are EFL students' perceptions towards peer-feedback in WCW classroom?			To describe participants' perceptions towards peer-feedback process in wiki classroom
RQ3b. What are EFL students' perceptions towards peer-feedback in TMCW classroom?			To describe participants' perceptions towards peer-feedback process in traditional classroom
RQ3c. How do EFL students feel while acting as feedback providers and as receivers during peer feedback sessions in WCW and TCMW?			To describe participants' perceptions on being a feedback provider and a receiver during peer-feedback process in both groups

5.2. Discussion

5.2.1. Discussion of Results from Research Question 1

The first main research question attempted to determine if there would be any significant differences between WCW and traditional-based collaborative writing on individual writing development. Descriptive statistics were conducted to answer this question in both the experimental and control groups. The mean score difference WCW is greater than TMCW (*MD* = 2.09). The results show that experimental group participants' individual writing development was higher than the control group participants' writing performances. The detailed significant differences are given via sub-research questions.

Previous literature indicates that integrating writing and technology in an EFL setting reveals opportunities and obstacles for the learners of the 21st century who are accepted as digital natives: the instant messaging generation (Lenhart, Rainie & Lewis, 2001; Prensky, 2001). The first research question results connoted that participants in the experiment group showed a significant improvement in their writing skills by turning the WCW opportunity to the advantage. Thus, wiki is able to be used as an alternative tool in writing classrooms. This result appears to be consistent with the previous studies (Chin et al., 2015; Lamb, 2004). Using wiki in a relaxed collaborative environment provided an opportunity to improve students' writing abilities in a Turkish EFL setting.

Research Question 1a

The first sub-research (*RQ1a*) question aimed to identify the effect of TMCW on control group participants' individual writing development by assessing their pre-test/post-test individual writing scores. First, a paired samples *t*-test was conducted. For the control group, it seemed that there was no effect of this TMCW process on the scores obtained by the participants from the first post-test individual written essay ($p>.05$). However, their second post-test individual writing scores were higher than their pre-test scores ($p<.05$). These results revealed that using two different essay topics for both pre-test and post-test samples decreased topic effect and provided more reliable results (Han, 2013).

Quantitative analysis of control group participants' individual written products before and after a series of traditional-based collaborative writing treatments indicate these conclusions. First, although participants' first post-test essay scores were not higher than their pre-test essay scores, the participants felt that writing collaboratively helped improve their content knowledge, grammar and organization of essay parts. Therefore, the results of the RQ1a provide evidence on how collaborative writing enables EFL learners to write more accurate texts, to improve their writing both in content and organization (Alshuraidah & Storch, 2019; Koval & Swain, 1994; Rollinson, 2004; Shehadeh, 2011; Storch, 2005; Storch, 2013).

Second, this experience with traditional-based collaborative writing reflected positively particularly on some learners who were less confident about their writing ability. With respect to this, while the participants were writing their parts and contributing to their peers' writing during the collaborative group work, they studied in an 'acceptable', 'appropriate', 'authorised' collaboration (Sutherland-Smith, 2013). This means that they

collaborated rather than colluded. Since the current study followed the *co-writing collaborative type* (Saunders, 1989), meaning that all group members interacted and contributed to each of the following stages: planning, composing, reviewing, and correcting. They all studied equally and constructed their joint written products. This construction process provided the opportunity for active learning (Tam, 2000).

Research Question 1b

The second sub-research (*RQ1b*) question aimed to identify the effect of WCW treatments on the scores obtained by the experimental group participants pre-test/post-test individual essays students wrote separately from the control group of the study. A paired samples *t*-test was conducted. The result revealed that there was a statistically high difference between the pre-test mean scores both in general and sub-categories 'grammar, content, organization, style and quality expression, mechanics' and the post-test mean scores for both essays ($p<.05$). This result appears to be consistent with previous studies (Aydın & Yildiz, 2014; Hsu & Lo, 2018; Khan & Hameed, 2021).

Additionally, instead of the (final) outcome, participants of both groups experienced the process writing steps (*Pre-writing (brainstorming), planning (outcome), writing-revising (collaborative writing), drafting & editing (peer-feedback, publishing (final copy*) during the treatments-training. This training, conducted online for experimental group participants on the wiki, guided students to reach their final writing product both step by step and collaboratively. It provided students with online planned learning stages, helping them to understand the nature of writing at every point and providing a kind of scaffold for writing. Previous literature indicated that there was a direct correlation between asynchronous writing via wiki-based collaboration and quality of writing (Chu et al., 2017; Du, Chu, Chan & He, 2016; Liu, Liu, & Liu, 2018; Lopez-Pellisa, Rotger, & Rodríguez-Gallego, 2021). To be more precise**,** generating ideas, organizing them, conveying the sentences-text effectively and accurately to the readers are quite difficult for EFL learners (Richards & Renandya, 2002). However, the results indicated that active participation in an EFL writing activity consolidated learners' writing ability and the gains (writing fluency, accuracy, structure, quality) were certainly positive and consistent for the experimental group. Each learner's improvement is discussed in detailed the third sub-question.

Research Question 1c

The third sub-research (*RQ1c*) aimed to reveal whether there would be any significant difference between each experimental group participant's pre-test/post-test individual writing scores. The scores of post-test essays (1 & 2) are considerably higher than those of the pre-test essays (1 & 2) for each participant in that group. Each experimental group participant significantly increased his or her writing scores and performances totally.

Among the component parts of the 10-point analytic scoring rubric, the scores in '*content'* and '*style and quality of expressions'* value increased significantly for each participant. This result indicated that despite their writing proficiency level, they improved their existing writing ability, gained lexical richness and writing fluency. This result appears to be consistent with the previous studies (Dizon, 2016; Wei, Zhang & Zhang, 2020).

Additionally, this environment potentially enhanced collaborative social interaction among almost all participants within an unlimited workspace while they engaged in knowledge sharing, idea generation, problem-solving activities, during the peer-feedback sessions (Attaran, Attaran, & Çelik, 2017). The literature reported that digital platforms have a direct impact on EFL writing for EFL learners allowing a more equal participation among classmates either in or out of the classroom instead of a somewhat isolated, individual writing performance (Mayordomo & Onrubia, 2015; Sullivan & Pratt, 1996; Wang, 2019; Zhang, 2009).

Research Question 1d

The fourth sub-research question (*RQ1d*) attempted to determine if there would be any difference between each control group participant's pre-test/post-test individual writing scores. When each participant's pre-test and post-test scores (Essay 1 & Essay 2) were analysed separately, pre-test and post-test Essay 1 scores mostly fluctuated slightly. Only a few participants increased their scores, particularly in the *content* and *organization* components which rose dramatically. There were also sharp decreases in some participants' scores. These results showed that there was a significant difference between the first individual written essay pre-test scores and post-test total scores (Essay 1).

There was, however, a significant difference between pre-test /post-test results for Essay 2. When each participant's second individual essay scores were analysed separately, the most important detail was that the participants who increased their post-test total scores

also increased their scores in each component (*grammar, content, organization, style & quality of expression, mechanics*) at the same rate. Moreover, during collaboration the students promoted their knowledge about vocabulary, mechanics and grammar. This development of EFL learners' writing ability regarding various components showed how regular training and devoting more time to EFL writing skills improved their writing ability. This result appears to be consistent with the previous studies (Jakobs & Perrin, 2014; Reichelt, 2005).

As previously mentioned, these results revealed that using two different essay topics for both pre-test and post-test samples decreased topic effect and provided more reliable results (Han, 2013).

Research Question 1e

RQ1e aimed to explain the total pre-test individual writing scores obtained by the participants for each essay taken as covariate. The scores were examined using one-way analysis of covariance (one-way ANCOVA) analysis whether the post-test individual writing scores differed in terms of WCW versus TMCW process. The mean and standard deviation of the results of participants' both pre/post-tests individual writing essay scores, respectively and post-test individual writing scores adjusted under the control of pre-test individual writing scores.

One-way ANCOVA on groups differences with reference to WCW versus TMCW instruction results showed that there were statistically significant differences between the post-test individual writing scores in the control of the covariance of pre-test individual writing scores in each essay (Essay 1: [F (1, 36) = 29.54, $p < .001$], and Essay 2: [F (1, 36) = 4.53. $p < .040$]. This result appears to be consistent with the previous studies (Richardson, 2006; Wang, 2014). WCW affected participants' interactive relation and their written products There was a positive integration between online collaboration and the quality of joint texts (Li & Zhu, 2017). Additionally, even though experimental group participants' scores were higher than the control group participants', collaborative writing treatments had allowed some control group participants to develop their writing performances.

5.2.2. Discussion of Results from Research Question 2

RQ2 aimed to identify the qualitative findings obtained from face-to face follow-up Post-intervention interviews and Post-intervention questionnaires. The interviews were conducted immediately after treatments, they were transcribed verbatim, between the researcher and both groups participants. This section includes the discussions of benefits and challenges of the wiki-based process (RQ2a & RQ2c) *RQ2a: What are the benefits that EFL students experience in WCW classroom? RQ2c: What are the challenges that EFL students experience in WCW classroom?* and traditional-based (RQ2b & RQ2d) collaborative writing process. *RQ2b: What are the benefits that EFL students experience in TMCW classroom? RQ2d: What are the challenges that EFL students experience in TMCW classroom?*

The Benefits and Challenges of WCW (RQ2a&c)

Research Question 2a

The first sub-research question (*RQ2a*) attempted to determine the benefits that EFL students experience in WCW classroom. The results of face-to face follow-up Post-intervention interviews and Post-intervention questionnaires obtained in WCW classroom indicated that participants' responses mostly positive regarding WCW process. They found wiki and collaborative writing enjoyable. Writing via wiki was better and more useful than writing by hand. Writing collaboratively via a digital platform made the participants more positive and motivated towards writing skills.

With respect to concerns about students' motivational and perceptional fluctuations before and after collaborative writing tasks, previous literature indicated that group dynamics (e.g. friendships) and peer-scaffolding jointly and independently can enhance or can diminish students' positive attitudes towards writing (Chen & Yu, 2019). The results mostly supported positive enhancement towards the WCW process, so WCW treatments enhanced participants' positive attitudes towards writing and motivated them. Additionally, the participants stated that the wiki was immediate and easy to access and it gave them new meaning to writing skills and enhanced permanent learning. These positive comments from the participants supports Leuf and Cunningham's (2001), Barton's (2004), Gökçearslan and Özcan's (2011) claim that wiki is an easy and pleasant, next-generation, asynchronous network. It provides democratic collaboration, is highly suitable for group projects and supports a cooperative, collaborative and constructivist learning environment. Briefly, wiki

has brought an alternative collaborative environment to collaborative classroom settings in writing skills in this study.

Research Question 2c

RQ2c aimed to answer the challenges that EFL students experience in WCW classroom. The results of face to face follow-up Post-intervention interviews and Post-intervention questionnaires showed that the difficult sides of wiki and collaborative writing were those of time-management and studying with some peers in the same group throughout the treatments. Some participants asserted that even though they had extra time to finish their essays at home, because of some peers, they sometimes did not manage the time properly. So it affected the collaborative writing process as well as their group writing performances. Although the qualitative results of this study mostly support the benefits of WCW, integrating writing and technology in an EFL setting revealed some obstacles for the learners of the 21st century who are accepted as digital natives: instant messaging generation (Lenhart, Rainie & Lewis, 2001; Prensky, 2001).

Previous wiki research indicates that other contextual factors, such as synchronous content discussion, asynchronous communication, students' various linguistic performance may affect students' interactive relations and their written products (Li & Zhu, 2017). The lack of time management and the sometimes unequal contribution of some students to the writing activity impacted asynchronous communication on the wiki in this study. However, the '*page history'* facility of wiki made it easy to check who added any new writing part or did not and it showed those who logged in, time of entry and what s/he added to the essay. With this function of wiki, some groups overcame this obstacle easily.

The Benefits and Challenges of TMCW (RQ2b&d)

Research Question 2b

The *RQ2b* intended to explain the benefits that EFL students experience in TMCW classroom. Similar to the WCW face-to-face, follow-up, Post-intervention interviews and Post-intervention questionnaires results, the control group participants mostly reported positive perceptions regarding the TMCW process received in their writing treatments. They stated that it was better than individual writing and they had informative interactions and enjoyable moments with their group members.

As Davis (1993) states, one of the most efficient learning methods for improving writing skills is to engage actively in the process. Group work activities also reinforce students' learning and retention. Participants' responses clearly showed that most of them felt the collaborative working experience in small groups not only increased their self-confidence but enhanced their writing both perceptually and academically, as well. This result appears to be consistent with the previous studies.The participants with low self-confidence in writing stated that they gained self-confidence through collaborative writing activities in this study.

Research Question 2d

The last sub-research question (*RQ2d*) aimed to find out the challenges that EFL students experience in TMCW classroom. Even though most participants had similar positive perceptions in terms of being a part of small groups, some of them stated that changing the group members fortnightly could be a much better organisation to see different ideas, to discuss the topic from various angles and generate the text collaboratively but with different peers.

Face to face follow-up Post-intervention interviews and Post-intervention questionnaire results show that there are few challenges such as some peers who did not contribute to some steps during the treatments and working with the same peers was found boring and difficult by some participants. Tam (2000) explained that students' construction process provides the opportunity for active learning. Inside this learning environment, peers take on a more central role in social constructivism. However, if a long-term writing study was conducted, changing students in the group at regular intervals would positively affect writing performance.

5.2.3. Discussion of Results from Research Question 3

RQ3 aimed to explain the qualitative findings obtained from face-to face follow-up peer-feedback interviews. The interviews were conducted immediately after treatments, and were transcribed verbatim, between the researcher and both groups' participants. This section includes the discussions of EFL students' perceptions towards peer-feedback exchange and third research question and its sub-questions (RQ3a, RQ3b, RQ3c). *RQ3a. What are EFL students' perceptions towards peer-feedback in WCW classroom? RQ3b. What are EFL students' perceptions towards peer-feedback in TMCW classroom? RQ3c.*

How do EFL students feel while acting as feedback provider and as receiver during peer feedback sessions (e.g., WCW &TMCW)?

Research Question 3a

The *RQ3a* intended to explain EFL students' perceptions towards peer-feedback in WCW classroom. The results of face to face follow-up peer-feedback interviews indicated that participants mostly reported positive perceptions regarding peer-feedback in WCW treatments. They found peer-feedback useful and working with the same partners was instructive for their writing performance, since they received feedback from their peers. The participants highligted that peer feedback smoothed the way to find their mistakes, particularly when the thoughts and structures they wrote for their writing were still fresh in their minds. They asserted that learning from their peers enhanced permanent learning. These results appear to be consistent with the previous studies.

Learners may expect that feedback would be given only by a better writer (a teacher or a native speaker) who is qualified. However, receiving feedback from a classmate(s) have more affective advantages; they are friendlier, less authoritarian, more supportive (Rollinson, 2005). If the classroom is set up properly and the learners receive useful feedback, it means that the peer response process is underway (Rollinson, 2005). Some studies showed that peer revisers gave valid, useful and more specific feedback on their partners' writing (Berg, 1999; Caulk,1994; Rollinson, 1998, 2005). Additionally, EFL writing feedback types affect the motivation and engagement of EFL students (Zhou, 2020). Therefore, previous literature and the present study results indicate that when students participate in assessment, there is a significant improvement in their writing skills.

While most participants did not encounter any problems while giving feedback to their group members' writing, some participants found peer-feedback a bit difficult, even though their EFL proficiency level is upper-intermediate and correcting someone's mistakes was hard and challenging for them. As abovementioned, learners may expect that a teacher or a native speaker should give feedback to their written products, because they always get feedback from their teachers and sometimes, moving out of the comfort zone made some students a little uneasy.

Research Question 3b

The second sub-research question *(RQ3b)* aimed to find out EFL students' perceptions towards peer-feedback in TMCW classroom. The control group participants, similarly as in experimental group, have a positive perception towards peer-feedback.

The participants in control group thought that peer-feedback was enjoyable, because it provided them detailed and useful thoughts which made their writings more accurate. That is, it helped them understand the source of their errors and how to correct them. Exchanging their ideas was also found quite effective. The participants made their writing richer thanks to receiving various points of views. Previous studies support these results. According to Becker (2016), peer-feedback increases awareness of the importance of active involvement of students in assessment process.

Lehtinen and Yates (2008) also highlight the risky and difficult aspects of peer-feedback as they claim that students' rapid mood swings may change their assessment, leading to underestimating or overestimating their peer's writing. In this present study, studying with same partners for 10 weeks was found to be risky, difficult and boring. Some participants stated that some peers hardly gave feedback in group sessions and these peers' mood affected their assessment.

Research Question 3c

The last sub-research question (*RQ3c*) aimed to find out EFL students' perceptions while acting as feedback providers and as receivers during peer feedback sessions in both WCW and TMCW classrooms. Even though EFL students are rarely involved in the writing assessment process (e.g. providing or receiving feedback from peers) and they are unaware of how rubrics are used and how feedback is given (Becker, 2016), in the present study, both groups participants mostly reported that both being a feedback provider and receiver significantly affected their writing skills positively.

In terms of providing feedback, the participants asserted that they became aware their English level, revised their background knowledge on English language structure and consolidated some structures. In regard to content contribution some group members provided various ideas to their partners. Previous studies support these results, according to Berg (1999), Caulk (1994) and Rollinson (1998, 2005), peer revisers gave valid, useful and more specific feedback on their partners' writing. Therefore, providing feedback affects EFL

students' writing ability by engaging and motivating them to improve their writing skills.

Conversely while receiving feedback, members of both groups stated that they noticed some deficiencies in their writing as feedback receivers in that their English writing skills were somewhat inadequate. They learned new structures, spelling and grammar from their partners in both groups. These results appear to be consistent with the previous literature. Some research suggested that peer feedback is concomitant with an increase the receiver's writing skills and performance, in particular grammar, spelling and generating ideas (Ferris, Evans & Kurzer, 2017; Lee & Coniam, 2013; Yang, 2016; Yu, Jiand & Zhou, 2020). When the two categories are compared, it is obvious that the participants' perceptions of acting as a feedback receiver are much higher in both groups.

This feedback type is criticized due to its surface-level revision features such as vocabulary, spelling and grammar (Beason, 1993). Furthermore, as Lehtinen and Yates (2008) indicate that students' rapid mood swings may change their assessment and they could underestimate or overestimate their peer's writing. In order to minimize these drawbacks, the teacher followed up each control group in a controlled manner throughout the peer-feedback process in the classroom, to control experimental groups, the teacher monitored the *editing* function of wiki.

5.3. Limitations of the Study

There are three or four limitations of this study that need to be acknowledged. The first limitation is related to the grouping method. The participants studied with same peers in the same group throughout the treatments in both groups. However, this method caused difficulties. Some peers who did not contribute some steps during the treatments and working same peers were found boring and difficult by some of the participants in the present study. Whereas collaborative writing environment enhances social interaction, knowledge sharing, idea generation, problem-solving activities among students (Attaran, Attaran, & Çelik, 2017) and develop their EFL writing skills, the change of group members should never be ignored in long-term studies.

Secondly, since the present study analysed EFL learners' writing performance on only one type of essay, the *argumentative essay*, it may cause some challenges among peers. Even if it is the most preferred type of essay in collaborative group studies (Hirvela, 2017), different essay types (e.g. opinion essays, persuasive essays, etc.) may be used. Since,

different writing tasks affect the scoring reliability and variability of EFL written essays (Huang, 2008; Lee & Kantor, 2005).

Third, the study was not conducted over a long time period. All procedures were finalised within ten weeks during one school semester. Even though the benefits and challenges of the WCW and TMCW processes as well as participants' individual EFL writing performances have been described, further research into these two EFL collaborative writing procedures could be done over a longer period of time, preferentially with a larger population (EFL adults learners) in a university setting.

The final limitation is related to the self-assessment questionnaire and peer-feedback assessment check list. These two instruments were used in the pilot study, but because of the participants' reactions to these assessments, they were removed. The participants shared their views during peer feedback interview sessions and jotted down their opinions under the self-assessment questionnare and peer-feedback assessment check list. However, if these two instruments are studied and developed, more detailed results for suggestions on how to improve EFL writing skills might be available.

5.4. Conclusions

In this section, the basic conclusions have been drawn about the effect of wiki on developing writing skills among EFL students. In light of the findings, discussions and limitations, the following conclusions were reached for each research question.

First, the participants of the experimental group showed a significant improvement in their writing skills by turning the WCW instruction opportunity to their advantage. Briefly, WCW seems to have had a positive effect on EFL students' writing skills and so is a feasible alternative technique in writing classrooms. Additionally, instead of product writing, the wiki was found as a useful collaborative writing tool with regard to process writing in the present study.

The design and functions of process writing could easily be adapted to a wiki. The present study adapted process writing to both groups' collaborative writing treatments. It provided students with online and offline planned learning stages, helping them to understand the nature of writing at every point and providing a kind of scaffold for writing. In the experimental group, the editing function of wiki also gave the students a practical tool

for the stages of practice drafting, revising and editing. Using wiki and process approach in a relaxed collaborative environment provided an opportunity to improve students' writing abilities in a Turkish EFL setting. In the control group, studying collaboratively during the treatments was considerable, but not as much as the experimental group enhancement. However, the control group participants also enhanced their individual EFL writing skills without wiki.

Second, although there was little difference between the experimental group and control group participants' perceptions, both were mostly positive regarding the WCW and TMCW process. The experimental group students stated that the most effective side of wiki and collaborative writing was that group writing, via a web-page, was immediate and easy to access. Using technology and producing things together affected and improved their perception towards writing skills. Similarly, the control group students stated that writing collaboratively in a group was better than writing individually and they had shared enjoyable moments with their group members. Most of them were willing to engage with each other's opinions while merging their ideas and their EFL wiriting skills progressed faster because they studied collaboratively, generated their ideas together and wrote a valuable joint, written product. At the end of the process, they realised that almost each member increased his individual writing score.

In general, there are few challenges for both groups that affected participants' perception negatively. First, working with the same peers was found boring and difficult by some participants and it could be accepted as the weakest aspect of WCW and TMCW classrooms. In the control-group collaborative writing process, it was reported that some peers did not contribute to some steps during the treatments which caused some difficulties during the writing process. The control group members' degree of contribution and collectiveness were not as stable as the experimental group members'. While some control group members made greater contributions than others and took more control over the process, some other members made almost no contribution. This tended to spoil the harmony of the expert-novice collaboration. This result indicated that some control group students were unwilling to complete their writing tasks and did not want to engage with others' parts. Based on these results, some control groups could be defined as *'Collective* and *active/withdrawn'.*

This weakness was solved easily in WCW classroom, because the *'page history'* facility of wiki made it easy to check who had completed his/her duty, who gave feedback or did not and also this function showed who logged in, the time of entry and what s/he added to the essay. Thus, each experimental group member showed their attendance via this function and the teacher controlled all the steps and participations easily. Interaction between students, *collaborative* and *expert/novice* patterns that experimental group indicated was similar to the previous literature. According to the interactional patterns of feedback '*authoritative/responsive, collaborative, expert/novice'* in collaborative writing, these tasks increase critical thinking, motivation and improve students' writing in content, organization and vocabulary and also give positive opportunities for higher quality of writing to the students.

This study also discussed students' peer-feedback performances and perceptions and its effect on their writing development and written tasks. As abovementioned, peer-feedback and writing performances among group members strengthen group solidarity. In the present study, participants in both groups mostly reported that being both a feedback provider and receiver significantly affected their writing skills positively. This positive contribution reflected credit on their essays. Transforming this scaffold to peer-feedback action made a joint contribution to conduct group work and actively engaged with others' writing products. Most participants restated that peer feedback smoothed the way to find their mistakes, particularly when the thoughts and structures they wrote were still fresh in their minds. They also asserted that learning from their peers enhanced permanent learning and the participants made their writing richer thanks to receiving various points of view. However, some found peer-feedback a bit difficult, even though their EFL proficiency level was upper-intermediate, correcting someone's mistakes was hard and challenging for them. Becker (2016) explains this difficulty in this way, according to him, EFL students are rarely involved in writing assessment process (e.g. providing peer and self-feedback) and they are unaware of how rubrics are used and how feedback is given. Therefore, students' peer-feedback knowledge needs to be fostered via some related training or presentations.

5.5. Implications

The present study provides additional evidence on the impact of WCW on EFL learners' writing development. The implications will be discussed under the two categories of theoretical, methodological and pedagogical implications.

Theoretical Implications

The present study allowed EFL students to write an essay using the process approach method which provides students with planned learning stages (*planning, drafting, writing, revising, editing and publishing*, Coffin et al., 2003), helping them to understand the nature of writing at every point and providing a kind of scaffold for writing. EFL students are able to improve their writing skills step by step via the process approach while they learn how to think critically and explore ideas in the pre-writing, planning, drafting, review and revision stages.

The students completed these stages collaboratively in constructivist classrooms informed by social-constructivist learning theory (Vygotsky, 1978),where learning not only occurs directly from teacher in a teacher-centred classroom setting, but starts as a social process in a group who share and construct EFL knowledge so as to succeed a joint task. The students collaborated throughout the writing process and contribute each other's decision making on all aspects of writing in this study. Tam (20ed00) explained that students' construction process provides the opportunity for active learning. Inside this learning environment, peers take on a more central role in social constructivism.

Methodological Implications

The present study has raised worrying questions about how to improve individual EFL writing skills by applying collaborative writing settings (wiki vs traditional) in Turkiye. Should WCW have an effect on EFL writing skills? How are EFL students' perceptions towards wiki and peer-feedback process throughtout the treatments? Is there any significance difference betweenWCW and TMCW? Based on the results of the study, some recommendations are proposed.

First, to assess wiki effect on EFL learners' writing development, various research tools were employed, Five-point Likert-scale items provided the students with the ability to agree or disagree with a particular statement related to the research. Face-to-face interview protocol with students was used to gauge their perception towards WCW and contribution of collaborative writing and peer-editing activities to their individual writing performance giving the participants an opportunity to explain their opinions. To date, little research has been conducted to investigate writing collaboratively in an EFL writing context. Multiple methods of data collection (e.g. group interviews allowed the students' reactions to other peers, diaries, open-ended questions) can enable more extensive investigations.

This study also has implications for writing treatments for both groups and pre/post test individual writing samples. All participants completed their individual writing samples before and after (pre-tests/post-tests) the treatments. The treatments proceeded intensely and collaboratively over an eight-week period under the guidance of the researcher in both groups. The results of previous research and the present study do support intense and demanding treatments over eight-week period to ensure a consistent and continuous setting.

The pre-test and post-test individual writing samples were quantitatively analysed by raters who assigned scores to the EFL papers. The raters were oriented to use the analytic rubric before scoring papers. They attended one online training session lasted approximately 30 minutes. A sufficient and systematic rater training was provided for EFL writing assessment. That is, if writing teachers trained to use the analytic rubric, they could give detailed feedback to their students written products. Using analytic rubrics will provide both reliable and overscaled assessment.

Pedagogical Implications

In this new age, digital technologies have emerged which have evolved the forms and methods of EFL writing skills in and out of classrooms. Integrating writing and technology in an EFL setting may reveal both opportunities and obstacles for the learners of the 21st century who (Lenhart, Rainie & Lewis, 2001; Prensky, 2001). The use of digital web technologies and platforms have the potential to enhance EFL learners' writing skills and their perception towards EFL writing.

The current study provides a guideline for the researchers who would like to focus on WCW and teachers who are planning to use wikis in their writing classrooms. From a pedagogical perspective, EFL students experienced the process approach and collaborative writing in their groups, social-constructivist learning theory undergirds process writing in wikis with collaborative interaction. The findings of this study together with findings from previous studies do support the wiki that is a perfect asynchronous tool for collaborative writing environment since it is student-centred and gives students shared authority and responsibility for their own knowledge. As a result, the study has significant pedagogical implications on WCW. Since, wikis have some characteristics that separate them from other web-based social or collaborative platforms: they are *collaborative, open-editing, simple coding* and *evolving* (Lamb, 2004).

The research results also informed us about EFL students' perception toward peer-feedback sessions and how this perception shaped and enhanced their writing skills. As feedback has been seen as a significant developmental step establishing students' future writing process. Research literature related to feedback has underlined the importance of feedback on students' writing skills and discussed the ways of delivering feedback-types of feedback. The present study focused on peer-feedback type which has more affective advantages in group working. Peer-feedback provided opportunities for EFL students to receive and provide feedback to each other in this study. Receiving/providing feedback from a classmate(s) have more affective advantages; they are friendlier, less authoritarian, more supportive.

The major classroom implication for EFL writing development is to plan, prepare, and conduct an online asynchronous EFL collaborative writing setting with peer feedback activities. It is important to note that these implications could be used as a basis for appropriate lesson plans. The guidance of the teacher is crucial to ensure meticulously defined groups and practice through interactional synchronicity.

5.6. Suggestions for Further Research

The present study investigated the efficacy of collaborative writing on students' writing skills within both traditional classrooms and networked computer-assisted classrooms via the wiki. It suggested an alternative environment for writing instruction that enables supportive, learner-centred, motivating, amusing for EFL classrooms and provides guidelines to the teachers who are planning to use wikis in their writing classrooms.

A number of essential points revealed by the results need to be understood and searched more fully. Firstly, more empirical research could investigate the effects of technological tools, platforms on EFL writing development and could compare the impact of collaborative writing in different learning environments. In the present study, the significant differences between WCW and TMCW on individual writing development were compared via control and experimental groups. These writing instruction processes were completed with the same group members. Future researchers can extend the study by replacing each group member every three weeks or once a month, instead of carrying out the same group members throughout a longitudinal writing study.

Second, the present study was involved with one essay type-the argumentative essay,and future research may further investigate different essay types in different online platforms for EFL collaborative or individual writing classrooms. With technological advancements, education and language teaching will undoubtedly be affected, given that the world has evolved into a virtual environment. In the current body of literature, one of the asynchronous platforms-wiki- was used in networked computer-assisted collaborative writing. Future studies could use synchronous digital platforms to see the dynamic nature of collaborative writing among EFL learners. These platforms allow simultaneous collaborative writing environments for learners and have a substantial role in increasing their motivation and positive perception towards EFL writing skills (Kessler, 2009; Kessler, Bikowski, & Boggs, 2012; Liu & Lan, 2016). Further studies may also compare synchronous and asynchronous digital approaches in computer-assisted collaborative writing setting.

The present study also examined EFL learners' perceptions towards traditional based, WCW and focused on peer-feedback rather than teacher feedback in providing/receiving feedback sessions. Further studies could extend the study by considering various affective factors, such as motivation, attitude, anxiety, intelligence, aptitude when researching EFL collaborative writing in different settings.

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APPENDICIES

APPENDIX 1

The 10-point Analytic Scoring Scale (Adapted from Han, 2013)

Rater's Pseudonym:.....

The code of the Essay:.....

Your Analytic Score: .....

Scoring Criteria					
	0.1-0.5	0.6-1.1.	1.2- 1.7	1.8-2.4	2.5-3.0
Grammar	Serious errors in syntax and morphology errors. Numerous errors in subject-verb agreement and tense agreement errors. Serious errors in construction of compound and complex sentences. Many article, auxiliary, modal, preposition, run-on sentence and fragment errors which hinder the message.	Frequent errors in syntax and morphology errors. Several errors in subject-verb agreement and tense agreement. Several errors in construction of compound and complex sentences. Many article, auxiliary, modal, preposition, run-on sentence and fragment errors which may hinder the message. The text is frequently illegible.	Moderate level of accuracy in syntax and morphology. Some errors in subject-verb agreement and tense agreement. Some errors in construction of compound and complex sentences. Some article, auxiliary, modal, preposition, run-on sentence and fragment errors which may hinder the message. The text is sometimes illegible.	Advanced accuracy in syntax and morphology. Very few incorrect uses of auxiliaries, modals. Minor problems in tense agreement. Some misuse of articles and prepositions. Very few local errors in compound and complex sentences. Rare fragments and run-on sentences. The text is generally legible.	There are almost no syntactic and morphological error. Correct use of auxiliaries, modals, tense agreement. Very competent use of articles and prepositions. Nearly no error in compound and complex sentences. The text is legible.

	The text is illegible.				
	0-0.4	0.5-0.9	1.0-1.2	1.3-1.6	1.7-2.0
Content	Randomly written ideas with no elaboration of a single topic. More than one topic is considered.	Some randomly written ideas with little elaboration of a single topic. More than one topic is considered.	A single topic is considered but not supported by adequate evidence. Extraneous material included. Thoughts are not fully developed.	A single topic is considered and generally supported by adequate evidence. Extraneous material generally not included. Thoughts are well developed.	A single topic is considered and fully supported by detail evidence. No inclusion of extraneous material. Thoughts are well developed and articulated.
	0-0.4	0.5-0.9	1.0-1.2	1.3-1.6	1.7-2.0
Organization	There is no clear introduction or conclusion. Body paragraphs almost nonexistence. The text has almost no unity or coherence. No evidence of revision.	Minimally recognizable introduction or conclusion. Body paragraphs show serious organization problems. Frequent transition errors. Weak coherence and supporting details, lack of unity. Paragraphs are not divided logically.	Somewhat unclear introduction and conclusion. Body paragraphs show some organization problems. Some transitions are inappropriate. Major and minor ideas do not always support each other. Some coherence and unity violations. Some paragraphs are not divided clearly.	Introduction and conclusion generally clear. Body paragraphs show few organization problems. Most transitions are appropriate. Major and minor ideas mostly support each other. Few coherence and unity violations. Some paragraphs are divided clearly.	Solid, clear introduction and conclusion. Body part is relevant and show no organizational problems. Transitions are appropriate and effective. Major and minor ideas fully support each other. Coherence and unity is secured. Paragraphs are logically divided.
	0-0.3	0.4-0.6	0.7-0.9	1.0-1.2	1.3-1.5
	Language is vague and inappropriately	Language is somewhat vague and inappropriately	Some errors or some examples inappropriate use of English and a few	Very few examples of direct translations of Turkish idioms and phrases Turkish.	High degree of accuracy and appropriacy. Original use of

Style & quality of expressions	informal. Frequent direct translation of Turkish idioms and phrases (L1 interference). Very weak or imprecise, repetitious vocabulary choice. Lack of sentence variety.	informal. Many examples of direct translation of Turkish idioms and phrases (L1 interference). Weak or imprecise, repetitious vocabulary choice. Some lack of sentence variety.	examples of direct translation of Turkish idioms and phrases Vocabulary choice is adequate, but a few items may be overused. Few repetitious sentence constructions.	Appropriate, varied vocabulary choice. Generally sufficient sentence variety.	idioms and phrases. Wide use of vocabulary.
	0-0.3	0.4-0.6	0.7-0.9	1.0-1.2	1.3-1.5
Mechanics	No application of writing conventions. Fundamental spelling and punctuation errors. Inaccurate use of decimals and numbers. Basic capitalization is missing.	Insufficient writing conventions. Numerous errors in the use of punctuation and capitalization. Many spelling errors and accurate use of decimals and numbers.	Uses general writing conventions. A few errors in punctuation and capitalization. Some spelling errors and inaccurate use of decimals and numbers.	Very few wrong applications of writing conventions. Few errors in the use of punctuation and capitalization. There are few spelling errors. Some inaccurate use of decimals and numbers.	Correct application of writing conventions. Appropriate use of punctuation and capitalization. Almost no spelling errors. Accurate use of decimals and numbers.

APPENDIX 2

RATERS' PROFILE FORM

(Adapted from Han,2013)

This part of the study aims to gather background information related to your evaluations to understand your performance but not to judge your performance.

Please note that your information and identity will remain confidential.

Your Name is.....

1. Your gender: *Male..... Female.....*

2. Your age: *20-30..... 31-40..... 41-50..... 50 or more.....*

3. What is your highest level of education?

B.A..... M.A..... PhD..... Other, please specify.....

4. How long have you been teaching EFL?

Less than 2 years.....3 to 4..... 5 to 6.....7 to 10.....More than 10 years.....

5. How long have you been teaching *EFL writing*?

Less than 2 years..... 3 to 4..... 5 to 6.....7 to 10.....More than 10 years.....

6. What is your experience of marking EFL papers

(both in classroom and large- scale assessment contexts)?

In classroom assessment,

I have experience ...

Less than 2 years..... 3 to 4..... 5 to 6.....7 to 10..... More than 10 years.....

In large-scale assessment,

I am……*Less than 2 years..... 3 to 4..... 5 to 6.....7 to 10.....More than 10 years.....*

7.Have had any training courses in assessing language performance before?

Yes..... No.....

8) What is your method frequently used for marking EFL papers?

Holistic..... Analytic.....

APPENDIX 3

QUESTIONNAIRES

C1. Pre-intervention Questionnaires

A. Pre-intervention questionnaire 1* *(Wiki-based Collaborative Writing Questionnaire)*

(Experimental Group 1)

Participant ID: _____ Date: _____

The following questionnaire is designed for my dissertation study on wiki-based collaborative writing in a high school. I would like to invite you to answer the following questions concerning your background information and your learning experiences. Please provide your information as truly as possible. All the data collected will be highly confidential and will be used for this research only. Please circle your answers and write a brief answer to 4, 11 & 12 items. Thank you very much for your kind help.

C1a.Pre-intervention Questionnaire 1*

1.Your gender:				Female	Male
2. Your age:					
3. How many years have you studied English?				Less than 5 years	More than 5 years
4. What are your goals of learning English?					
5. Your experience of learning English is	Very positive	Positive	Neutral	Negative	Very Negative
6. Your English proficiency	Low	Int.-low	Intermediate	Int.-high	High
7. How often do you use computer?	Very often (More than 5 hours	Often 4-5 hours	Sometimes (3-4 hours)	Rarely (1-2 hours)	Never
8. You use computer for	study	fun	social networks		
9. Are you comfortable using computer programs?	Very comfortable	Comfortable	Neutral	Uncomfortable	Very comfortable
10. Have you worked on a group work using wikis before?				Yes	No

11. If, yes, briefly comment on the wiki works:					
12.Your experience in using other web 2.0 tools (e.g. blogs, twitter, facebook, google docs, moodle, blackboard etc.:					
13. Your classroom work style				Individual	Collaborative
14. Your attitude toward individual work	Very positive	Positive	Neutral	Negative	Very Negative
15. Your attitude toward small group work	Very positive	Positive	Neutral	Negative	Very Negative
16. Are you familiar with your group partners in this wiki work				Yes	No
17. How long how you known your partner(s)?				Less than 1 year	More than 1 year

Adapted from Li, 2014

B. Pre-intervention questionnaire 2* *(Traditional Collaborative-Writing Questionnaire)*

(Experimental Group 2)

Participant ID: _____ Date: _____

The following questionnaire is designed for my dissertation study on collaborative writing in a high school. I would like to invite you to answer the following questions concerning your background information and your learning experiences. Please provide your information as truly as possible. All the data collected will be highly confidential and will be used for this research only. Please circle your answers and write a brief answer to 4, 11, & 12 items. Thank you very much for your kind help.

C1b.Pre-intervention Questionnaire 2*

1.Your gender:				Female	Male
2. Your age:					
3. How many years have you studied English?				Less than 5 years	More than 5 years
4. What are your goals of learning English?					
5. Your experience of learning English is	Very positive	Positive	Neutral	Negative	Very Negative
6. Your English proficiency	Low	Int.-low	Intermediate	Int.-high	High

7. How often do you study within a group in your classroom?	Very often (More than 5 hours	Often 4-5 hours	Sometimes (3-4 hours)	Rarely (1-2 hours)	Never
8. Studying with group for	learning different ideas	fun	studying together with peers		
9. Do you feel comfortable while studying collaboratively?	Very comfortable	Comfortable	Neutral	Uncomfortable	Very comfortable
10. Have you worked on a group work before?				Yes	No
11. If, yes, briefly comment on your work(s):					
12.Your experience in collaborative learning:					
13. Your classroom work style				Individual	Collaborative
14. Your attitude toward individual work	Very positive	Positive	Neutral	Negative	Very Negative
15. Your attitude toward small group work	Very positive	Positive	Neutral	Negative	Very Negative
16. Are you familiar with your group partners in this work				Yes	No
17. How long how you known your partner(s)?				Less than 1 year	More than 1 year

Adapted from Li, 2014

C2. Post-intervention Questionnaires

C. Post-intervention questionnaire 1* *(Wiki-based Collaborative Writing Questionnaire)*

(Experimental Group 1)

Participant ID: _____ Date: _____

C2a.Wiki-based Collaborative Writing Questionnaire

Thank you very much for participating in my dissertation study. The following is a questionnaire concerning your perceptions about the wiki-based collaborative writing task. A number of statements are provided. Please carefully read them and honestly indicate the extent to which you agree or disagree with each statement by putting an "X" on the 5-point scale. Thank you again for your time and sincere responses.

The scale: ***1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5= Strongly agree***

Wiki-based collaborative writing questionnaire *	SD	D	N	A	SA
	1	2	3	4	5
1.I enjoy using wikis for collaborative writing.	○	○	○	○	○
2.Wiki is suited for the collaborative writing of argumentative essay.	○	○	○	○	○
3.My experience with the wiki project is positive.	○	○	○	○	○
4.I prefer using wikis to traditional way.	○	○	○	○	○
5.Wiki-based collaborative writing improves my writing skills.	○	○	○	○	○
6.Wiki collaborative writing helps me attend to contend development.	○	○	○	○	○
7. Wiki collaborative writing helps me attend to language use.	○	○	○	○	○
8. Wiki collaborative writing helps me attend to essay structure/organization.	○	○	○	○	○
9.I found the group “Discussion” module useful for communicating tasks with group partners.	○	○	○	○	○
10.I found the group wiki “Comment” module useful for negotiating language with group partners.	○	○	○	○	○
11. I enjoy the revision process in the wiki.	○	○	○	○	○
12. My group partners and I engaged in communication/discussion using the wiki.	○	○	○	○	○
13. My group partners and I often discussed the group writing outside the wiki (e.g. via face-to-face conversations, emails, online chat, etc.)	○	○	○	○	○
14.I was able to make important contributions to the wiki collaborative writing project.	○	○	○	○	○
15. I do not think my group partners valued my contributions.	○	○	○	○	○

16.I valued the insights that my group partners brought to this project.	○	○	○	○	○
17.My group partners and I did not reach consensus on the final products easily.	○	○	○	○	○
18.All the members in my group contributed to this project equally.	○	○	○	○	○

*Li, 2014

D. Post-intervention questionnaire 2* *(Traditional Collaborative-Writing Questionnaire)* (Experimental Group 2)

Participant ID: _____ Date: _____

C2b. Traditional Collaborative-Writing Questionnaire

Thank you very much for participating in my dissertation study. The following is a questionnaire concerning your perceptions about the traditional-based method of collaborative writing task. A number of statements are provided. Please carefully read them and honestly indicate the extent to which you agree or disagree with each statement by putting an "X" on the 5-point scale. Thank you again for your time and sincere responses.

The scale: ***1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5= Strongly agree***

Traditional-based method of collaborative writing questionnaire *	SD	D	N	A	SA
	1	2	3	4	5
1.I prefer to write alone rather than in a group.	○	○	○	○	○
2.I learned new ways to plan my essay from the group.	○	○	○	○	○
3. I have the chance to express my ideas in the group.	○	○	○	○	○
4. Writing together, we spent more time planning than I do when I write alone	○	○	○	○	○
5.Group members listened to each other's ideas.	○	○	○	○	○
6.I learned the new ways to support my points from the group.	○	○	○	○	○
7. Writing together, we spent more generating ideas than I do when I write alone.	○	○	○	○	○
8. My ideas got into the essays we wrote.	○	○	○	○	○
9. Every member of the group put about the same amount of effort into writing the essays.	○	○	○	○	○
10.Group members sometimes disagreed about what to say or how to express their ideas in the essay.	○	○	○	○	○
11.Writing together, we spent time checking grammar than I do when I write alone.	○	○	○	○	○
12. I learned new ways to organize essay from the group.	○	○	○	○	○
13. Writing together, we spent more time spelling and punctuation than I do when I write alone.	○	○	○	○	○
14.. Despite disagreement, the group was able to reach consensus.	○	○	○	○	○
15.The group produces a better essay compared to individual writing.	○	○	○	○	○

16.Writing together, we spent more time revising essays than I do when I write alone.	○	○	○	○	○
17.I enjoy writing more than I did before due to collaborative writing.	○	○	○	○	○
18.All the members in my group contributed to the essays equally.	○	○	○	○	○

*Yong, 2006

APPENDIX 4

INTERVIEWS

Post-intervention Interview Protocols

A. Post-intervention interview 1 *

Interview Questions (Students' Views and Perceptions of using wiki and collaborative Writing) (Experimental Group 1) (*Adapted from Mei-Lin, 2009; Shehadeh,2011)

Thank you for allowing me to interview you. The purpose of this interview is to understand how you perceive technology use in the writing process, collaborative learning, and writing performance. With your permission, the interview will be tape- recorded and the tape will be destroyed after the study is completed. The information you provide will be used in the study and will not affect your grades in any way. Your name will not be mentioned, will stay anonymous to everyone.

This interview will last about half an hour. Ten questions follow regarding your perceptions about technology use in writing.

In general, do you like technology use in writing?

1. How did you find the experience? What do you think of the wiki-based collaborative writing tasks?
2. What do you think is your role in the wiki-based collaborative writing tasks?
3. What was the most interesting part of the activity, or the part you liked most? Why?
4. What was the most difficult part of the activity? Why?
5. When you have problems with online writing, what do you usually do to solve the problems?
6. What was your view and perception of online collaborative writing before the experience?
7. What's your view and perception of wiki-based collaborative writing now?
8. Did the activity have any effect (positive or negative) on your confidence in your writing ability? Please specify.
9. Have you found that using technology in writing changes your perception toward writing? If yes, in what way? If no, why?
10. Do you have any final comments about using wikis within group work? L SEP

B. Post-intervention interview 2

Interview Questions (Students' Views and Perceptions of using collaborative Writing) - (Control group)

Thank you for allowing me to interview you. The purpose of this interview is to understand how you perceive collaborative learning, and writing performance. With your permission, the interview will be tape- recorded and the tape will be destroyed after the study is

completed. The information you provide will be used in the study and will not affect your grades in any way. Your name will not be mentioned, will stay anonymous to everyone.

This interview will last about half an hour. Ten questions follow regarding your perceptions about technology use in writing.

In general, do you like writing in a group?

1. How did you find the experience? What do you think of the collaborative writing tasks?
2. What do you think is your role in the collaborative writing tasks?
3. What was the most interesting part of the activity, or the part you liked most? Why?
4. What was the most difficult part of the activity? Why?
5. When you have problems with collaborative writing, what do you usually do to solve the problems?
6. What was your view and perception of collaborative writing before the experience?
7. What's your view and perception of collaborative writing now?
8. Did the activity have any effect (positive or negative) on your confidence in your writing ability? Please specify.
9. Have you found that using collaboration in writing changes your perception toward writing? If yes, in what way? If no, why?
10. Do you have any final comments about writing within group work? (e.g. Do you prefer to write alone or in a group?)

C. Peer feedback interview

This interview will last about twenty minutes. Five questions regarding your perceptions about peer-checking/peer-feedback. **Interview Questions (Students' Views and Perceptions of peer feedback)**

1. You worked with same partners throughout the study? Did you find studying with same partners useful? Or is it better to change your partner throughout the study? Why?
2. What do you think of giving feedback interactions in the (traditional / wiki-based collaborative writing tasks? Do you enjoy it? Why or why not?
3. Do you think your group partners make important contribution to your writing?
4. Did you learn anything while giving feedback to your partner's writing?

APPENDIX 5

WIKI USER GUIDE

What is wiki PBWorks?

- A website (or collection of interlinked web pages) that allows users to create and edit a jointly produced document
- Wikipedia, the internet-based, user generated encyclopedia is the most well-known example of a collaboratively produced wiki. Additionally, in an educational context, there are many sites that offer free wiki pages and simple step-by-step instructions for students and teachers to use. Among these are TeachersFirst, WikiWorks, Wikia, PB Works, and Wiki Spaces.

Collaboration

- Cooperation means the sharing of labour (co-labour).
- Collaborative writing is the co-authoring of a text by two or more writers.
  1. Writers interact in all the stages of the writing process.
  2. Writers share decision making power and responsibility.
  3. Writers produce a single written document.

How do I use wiki PBWorks?

https://my.pbworks.com/?p=home

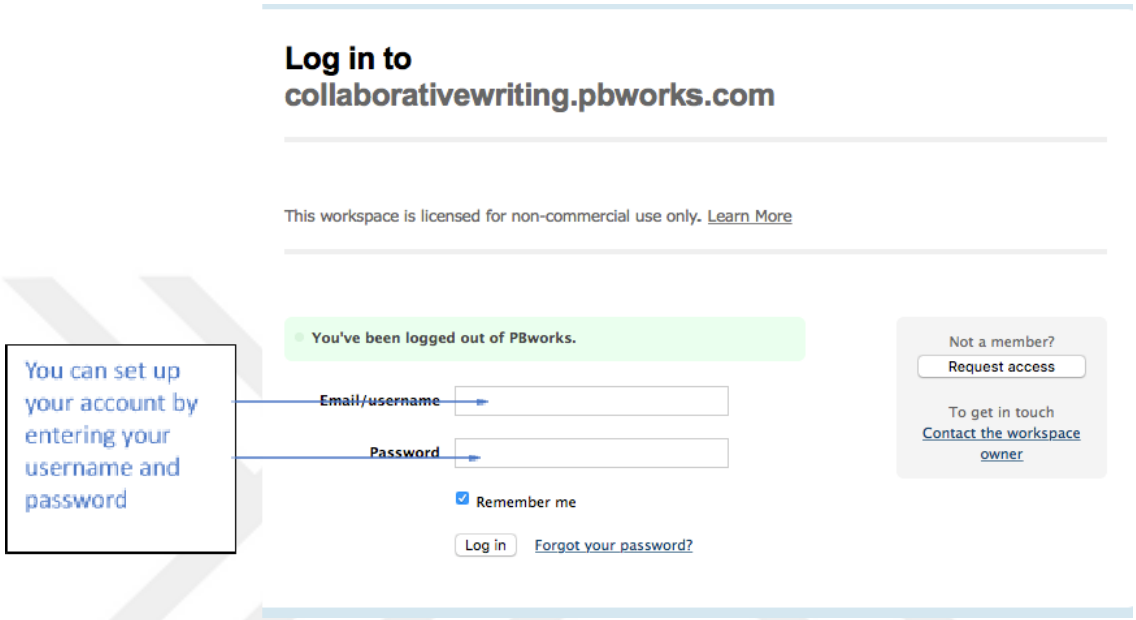
- First you need to gain access.

Click on this link to gain access to the wiki pbworks.

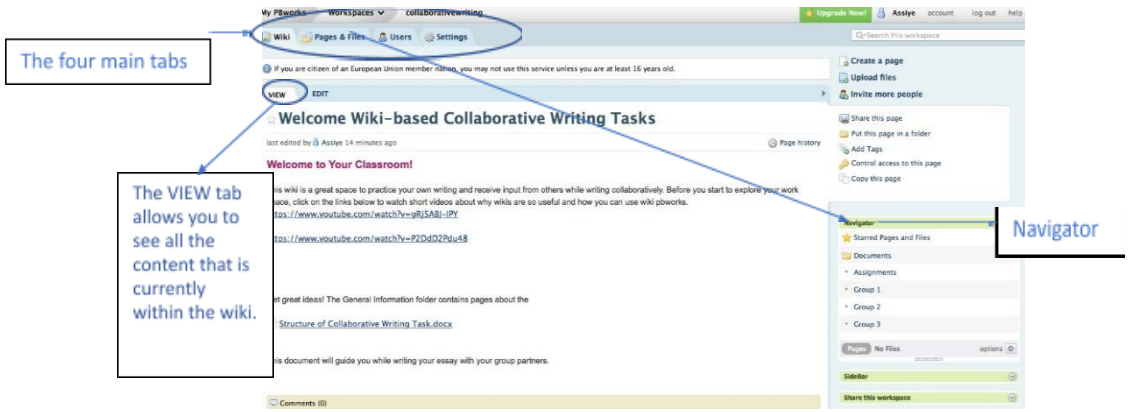
http://collaborativewriting.pbworks.com/w/session/loggedout?logout=1

- The **profile tab** will allow you to add additional information about yourself. You can also upload a profile picture, but this is not necessary.

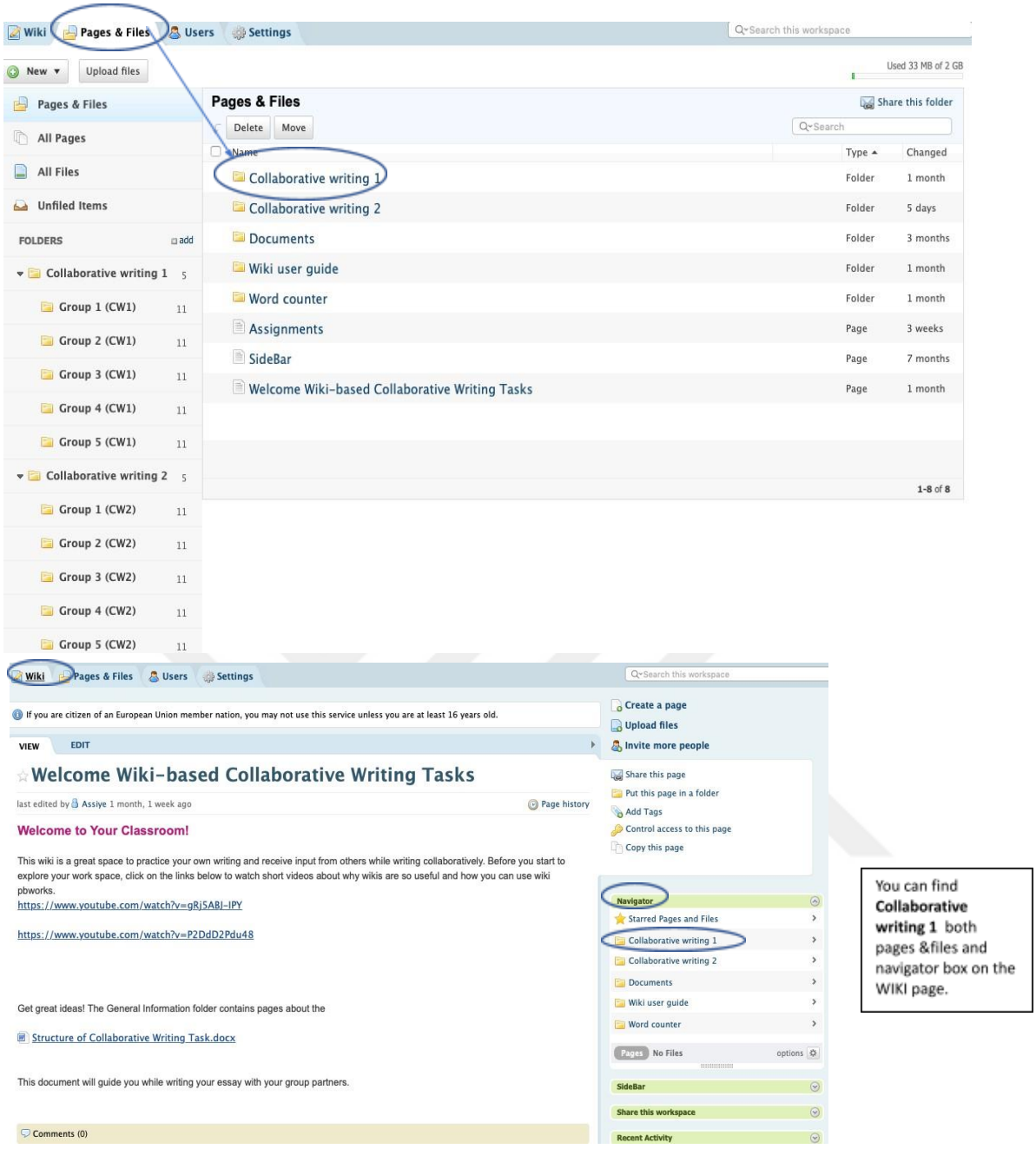
- The **email tab** will allow you to add an email address to your account (not necessary/not recommended) and here you can also change your password.
- You can customize your profile. (Do not change your user name, a pseudonym-fake name will be used for this study).



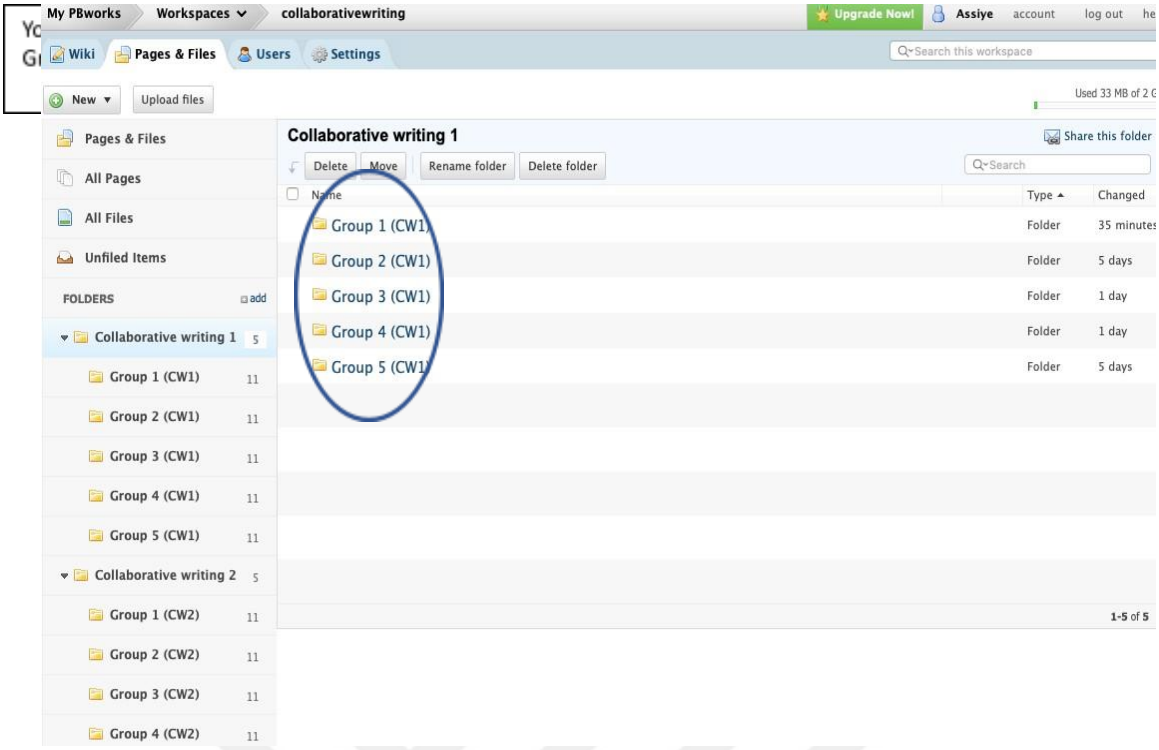
- You can set up your account by entering your user name and password, given by your instructor. Please log in.
- You will see a series of tabs running across the top of the page. At the top left corner of the page, the four main tabs are the most important ones. The **Wiki** tab is the main page and the **Pages & Files** tab displays additional content and files within the wiki. You and your partners will collaborate on writing in the **Pages & Files** content.
- You can also view Pages & Files in the **Navigator** on the right of the main page.



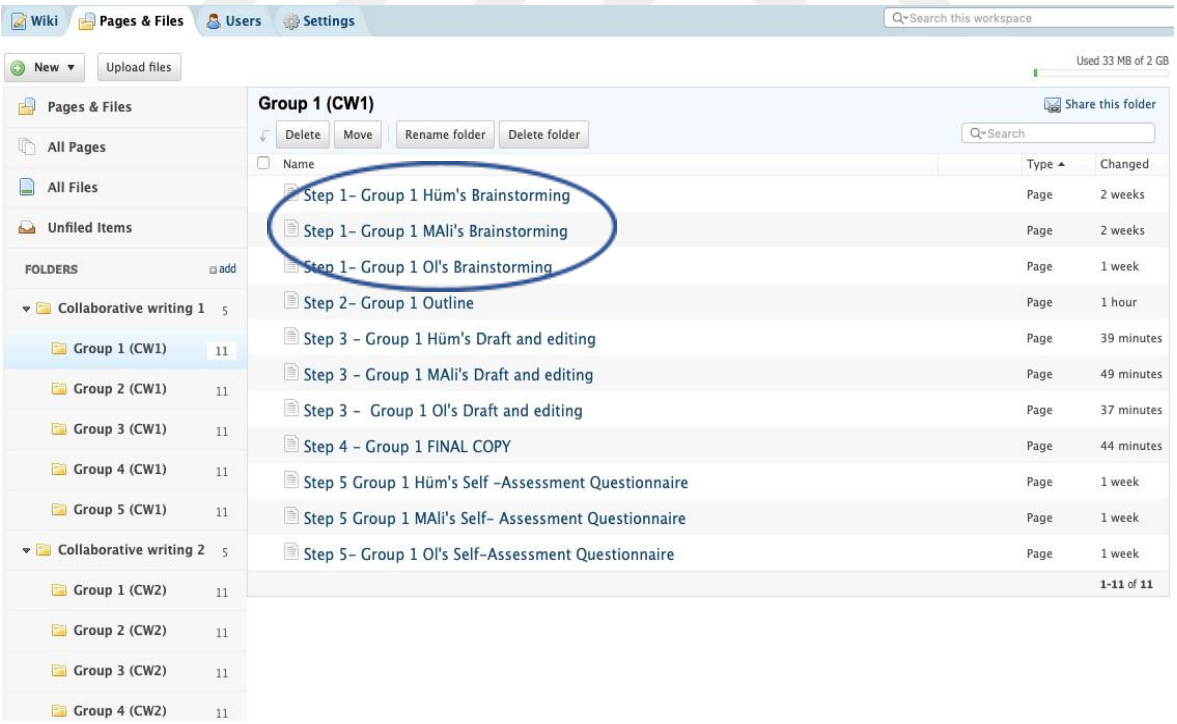
- Below the **Pages & Files tab or Navigator box,** you will see two more tabs (VIEW & EDIT). Once you click on the Pages &Files or in the Navigator box, you will see ***Collaborative Writing_1*** file.



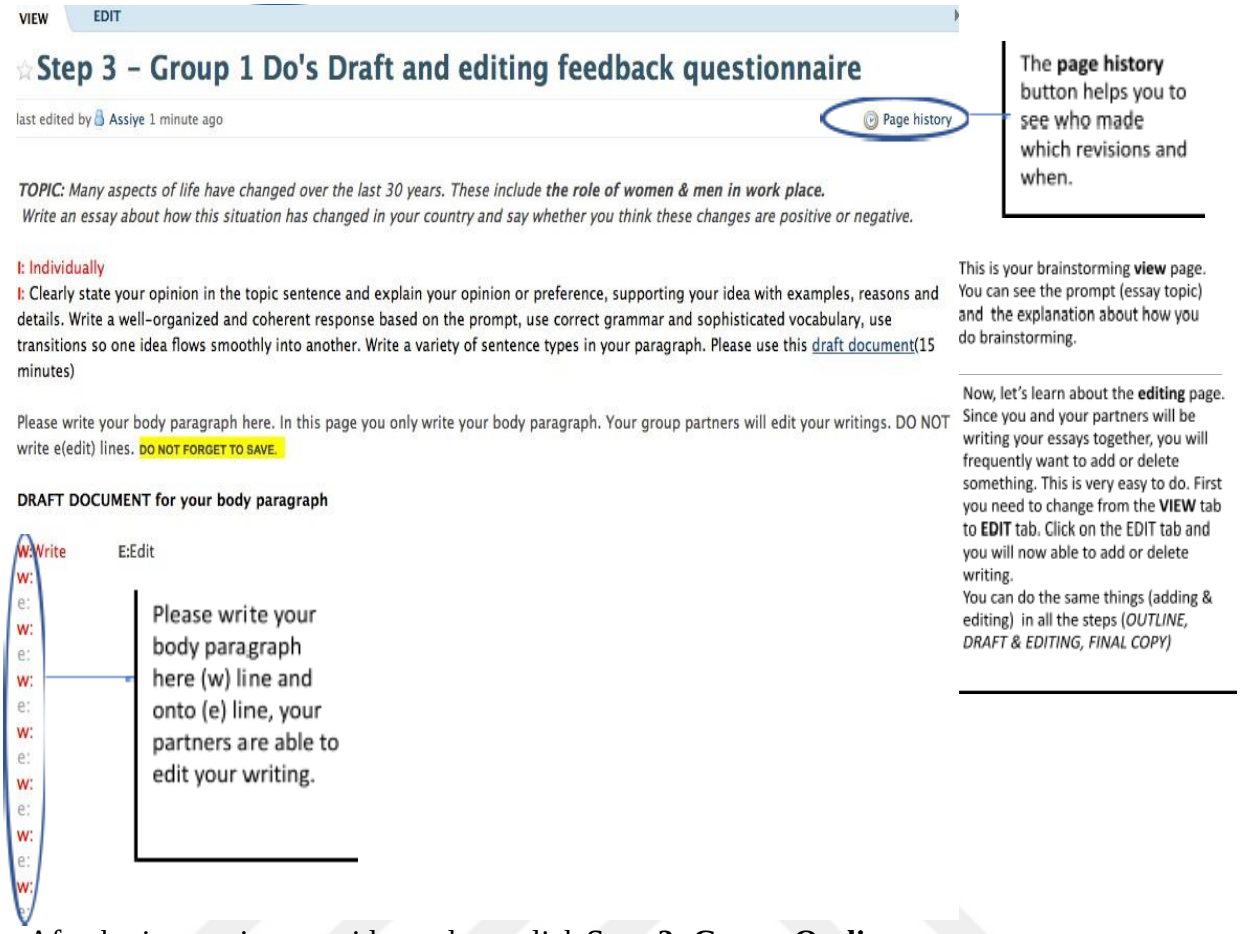
- After clicking the **Collaborative Writing 1** folder, you will see another folder with your group's names (**Group 1, Group 2, Group 3, Group 4, Group 5**), please click your group's folder. Inside this folder you will see **the steps** for your group's collaborative writing task.



- After clicking your group you will see the steps, please click Step 1 (Group 1 **Brainstorming**).



BRAINSTORMING



-After brainstorming your ideas, please click **Step 2, Group Outline**, you can see the outlining page as below, you can organize your ideas on the **EDIT** page (Each member will write one of the strongest arguments for each body paragraph).

DRAFTING & EDITING

The **DRAFT & EDITING** page firstly allows you to write your body paragraph and then to edit your partners' writing.

Scroll to the bottom of the Draft & Editing page, you can see the tables below, you can use these **correction symbols** and also add your comments to the **comment box.**

P.S: While editing your partners' body paragraphs, please use these **correction symbols** and also add your comments to **comment** box

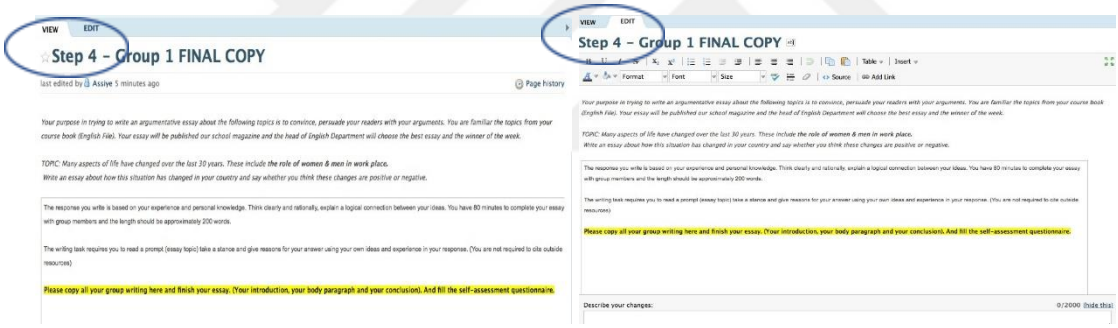
Correction symbols for peerreview (Harmer, 2004, p.111)

Symbol	Meaning	Example error
S	A spelling error	The asnwer is obvius.
WO	A mistake in word order	I like very much it.
G	A grammar mistake	She is buying furnitures.
T	Wrong verb tense	I have seen him yesterday.
C	Concord mistake (subject verb agreement)	People is angry.
WW	Wrong word	I am interested on jazz music.
( )	Something is unnecessary	He wasn't (too) strong enough.
? M	The meaning is unclear	That is a very excited photograph.
P	A punctuation mistake	Do you like London,

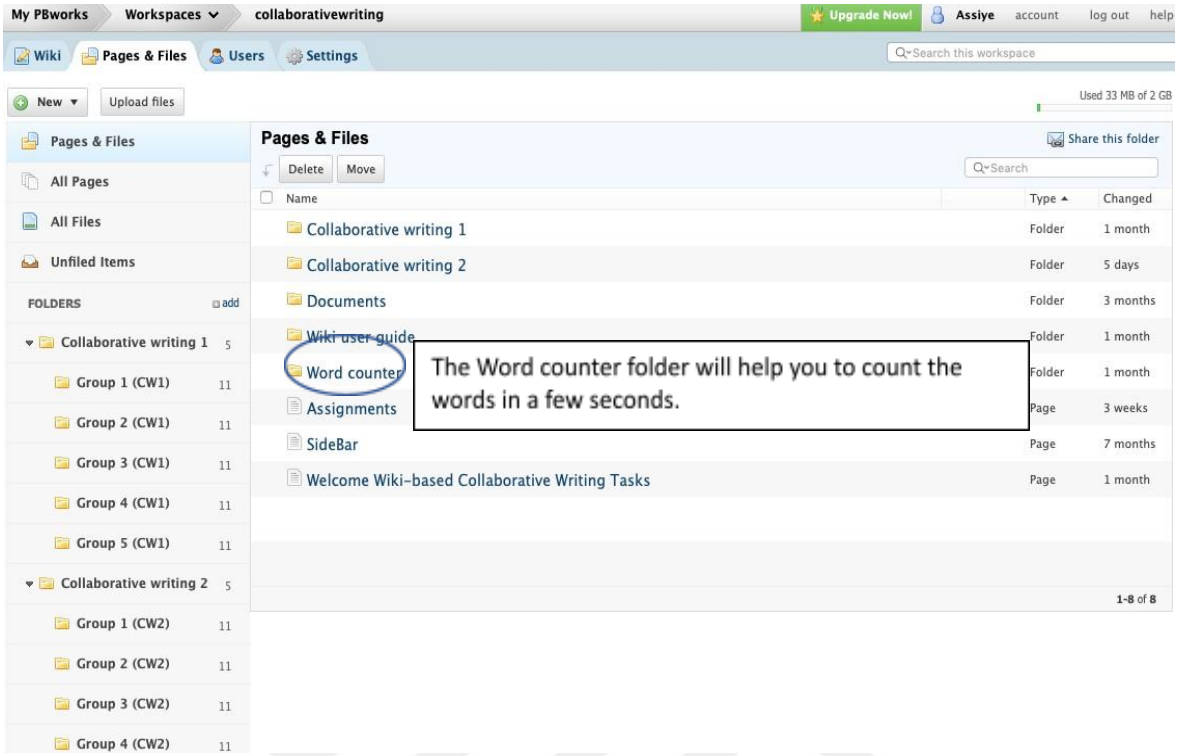
Please underline your answer or colored it. If you want to add any other comment please write your comment in **comment** box.

FINAL COPY

Your last step will be your **FINAL COPY** page, you can copy and paste freely within wiki PBworks, you and your partners will merge your paragraphs here after finishing all the steps (your introduction, your body paragraphs and your conclusion). Do not forget to save your writing.



VIEW & EDIT tabs will help you to write your final copy.


My PBworks
Workspaces
collaborativewriting
Upgrade Now!
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Collaborative writing 1 5
Group 1 (CW1) 11
Group 2 (CW1) 11
Group 3 (CW1) 11
Group 4 (CW1) 11
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Group 2 (CW2) 11
Group 3 (CW2) 11
Group 4 (CW2) 11
Pages & Files
Share this folder
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Collaborative writing 1 Folder 1 month
Collaborative writing 2 Folder 5 days
Documents Folder 3 months
Wiki user guide Folder 1 month
Word counter Folder 1 month
Assignments Page 3 weeks
SideBar Page 7 months
Welcome Wiki-based Collaborative Writing Tasks Page 1 month
1-8 of 8
The Word counter folder will help you to count the words in a few seconds.

APPENDIX 6

LESSON PLANS

A. WIKI-BASED COLLABORATIVE WRITING LESSON PLAN

Roles of students in their group (The group members will be formed and have roles according to the information taken from the questionnaire at the beginning of the study. The questionnaire will include students' background and interests related to language skills and technology, therefore the group will contain students with different expertise.

Leader has been chosen because of his/her English level.
Monitor has been chosen to organize the work and as a timekeeper.
Writer has been chosen because of his/her proficiency in the use of computers.

Name: Assiye Burgucu Tazegül **Date:** ---------- **Lesson**: Writing **Level:** Upper-Intermediate

Stage	Aim	Teacher Activity	Students Activity	Int. Patterns	Procedure	Time
Greeting	-to get the Ss ready for the lesson	-The T greets the Ss and asks how the Ss feel about the day.	-The Ss answer the questions	T-Ss	Whole Class	2 min.
Lead-in & Warm up	-to introduce the topic -to raise the interests of the Ss -to activate the Ss background -to involve them in the lesson and the topic -to check their prior knowledge	The T asks open-ended and personalized questions to whole class. Q: What is online shopping? Q: Do you/your parents shop online OR prefer in-store shopping? Q: Do you like online shopping? Why? Q: Can you discuss the negative and positive points of online shopping in pairs? Q: Can you tell me positive/negative points of online shopping?	The Ss report their results and teacher makes a list of pros and cons on the board.	T-Ss	Whole Class (Each learner will say his/her own guess.)	5 min.
Setting the task (Watch & Listen)	-to elicit the prompt -to provide them to read to the topic -to use their prior knowledge -to enable the Ss to exchange their ideas	T gives her instruction(s). **Instruction:** Look at your screens(Wiki-page) and read the topic/prompt. TOPIC: "Nowadays **online shopping** has become more popular than in-store shopping. The growth of online-shopping has greatly improved life for the customer". Do you agree or disagree with	The Ss look at their screen(WikiPB works) and the Ss read the prompt individually The Ss read the prompt themselves.	T-Ss Ss-Ss	Individual work Small group work	10 min

		the statement? Give your reasons and examples. **Concept Checking questions:** Q: Which one is more popular now? Q: Does online shopping affect customer's life positively or negatively? -The T asks the Ss to write an argumentative essay as columnists for the school magazine. The highest- scored-essay(s) will be chosen for publishing in this magazine for the next issue.				
Step 1 (Brainstorming)	-to generate new ideas -to evaluate the ideas -to create an interactive free-writing environment (for brainstorming)	The T asks the Ss some questions in order to check if they know what brainstorming is. The T explains why they need to brainstorm before the task and they can come up with related words or phrases they associate with the topic. **Eliciting Questions** Q: So, why do we brainstorm in a writing task? Q: What do we do when we brainstorm? The T writes "brainstorming" on the board and asks Q: What comes to your mind?	The Ss briefly explain brainstorming.	T-Ss Ss-Ss	Small group work	3 min.

		Instruction: • Now go back to your page; look at your screens and the write at least 3 ideas and as many details as possible under each idea. • Use YOUR SIDE & THE OTHER SIDE table. • You have 15 min. • Work individually. **Instruction Checking question** Q: How many ideas will you write? Q: Will you write details? Q: How will you use the table? Q: Do you work individually or in groups?	The Ss start to work on their task			
	-to enable the Ss to exchange their ideas -to generate different ideas -to select the strongest arguments and counterargument	The T asks the Ss to work collaboratively at this stage and gives the instruction of the task. After the Ss finish their brainstorming task, the T divides the Ss groups of three. The T first wants them to compare, to discuss, to negotiate and to select the 3 strongest arguments from the brainstorming lists.				

		Two of three will be in favor of the topic and one is going to be opposing, it will be your counterargument. **Instruction:** • Read your partners' brainstorming lists, their ideas carefully. • Discuss, negotiate and select the 3 strongest arguments (one is your counterargument) which provide the most relevant detail and are appropriate to be elaborated. • Work collaboratively. • You have 10 min. **Instruction Checking question** Q: How many arguments are you going to choose at the end?				
Step 2 (Outline)	-to get the strongest arguments -to generate the outline -to create an interactive writing environment -to provide them to use the ideas used in the brainstorming	After the Ss select two the strongest arguments and one counterargument, the T wants them to turn their brainstorming ideas into the sentences in their outlines. The T explains the criteria how to develop and present an effective argument. **Instruction** Go to STEP 2 and read the instruction and the criteria silently (see	The Ss finish Step 1 and they complete their outline. The Ss need to be able to appeal and address their audience according to the criteria list.	T-Ss Ss-Ss	Small group work	15 min.

		Outline 4., 5., 6. and the Criteria List) Organize your ideas into the OUTLINE. You have 40 min. Work collaboratively. **Instruction Checking question** Q: How do you fill in your Outline? Q: How much time do you have? Q: Do you work individually or in groups? Q: What will your criteria be? -All groups come together and share their ideas via *WikiPBworks*.	.			
Step 3(Drafting) *(Out of the class stage)*	-to provide the Ss to organize and write their ideas -to provide them to use the ideas used in the outline	At the end of the lesson, The T explains each student will finish *Step 3 / drafting* **at home** and s/he completes her/his paragraph till next lesson. (in 7 days), because *WikiPBworks* is an asynchronous online platform and provides the Ss to study out of the class. -The T explains the Ss can follow the instruction on their STEP 3/Drafting page. • State your opinion in the topic sentence and explain it with	Each group writes their thesis statement with major topics and their position to be argued in the essay, so they finish introduction Then they complete their body paragraphs, they begin with topic sentence to each paragraph and support their topic sentence with details, reasons, examples. (Two of three will be in favour of the topic and one is going to be opposing). Finally, they			

		supporting ideas and evidence. • Write a well-organized and coherent paragraph into the Draft document. • Work individually. • Write only one paragraph with one argument. • Use w(write) lines, e(Edit) lines for your partners. • Write approximately 60-70 words for your paragraph. -The T also will check the paragraphs during the week via WikiPBworks. -The T can check all the Ss's enteries during the week since the WikiPbWorks sends notification when any student submits his/her work. At the end of this step, the group will have 3 different (but related) body paragraphs.	check all their writings and complete conclusion part on the outline.			
A week later **Step 4 (Revising & peer editing)**	-to provide the Ss to identify errors and to give peer-feedback -to provide them to use the checklist/peer feedback questionnaire	A week later -The T greets the Ss and asks how the Ss feel about the day. -The T explains that last lesson each group finished the Step 1 and 2 in the classroom and during the week.	The Ss typed their paragraphs and finished Step 3 via WikiPBworks out of the class.	T-Ss Ss-Ss	Small group work	20 min.

	-to provide the Ss to revise and edit their paragraphs	-The T asks the Ss to go Step 4 and to check, give feedback to their partner's paragraph in terms of format and the meaning. (A to B, B to C, C to A). Use (e) edit lines. -The T creates an atmosphere in which the Ss will be able to give feedback to each other in a relaxed way according to the errors (if any). The T also hands out a check-list/feedback questionnaire. **Eliciting question:** What does that "e" refer to? **Instruction:** • Go to STEP 4 and read the instruction silently (see Drafting (peer-editing) (8., 9., 10.) • Use (e) edit lines. • Check and give feedback to your partner's paragraph (A to B, B to C, C to A). • Fill in the check-list/peer feedback questionnaire. • Work individually. • You have 20 min.	The Ss to go Step 4 and to check, give feedback to their partner's paragraph in terms of format and the meaning. (A to B, B to C, C to A). Use (e) edit lines.		Whole - class	

		Instruction Checking question Q: Where do you write your feedback? Q: What do you use? Q: Who gives feedback to you in your group? Q: Do you work individually or in groups? Q: How much time do you have? After the Ss finish revising & peer-editing. The Ss read their partner's feedbacks and they edit their paragraphs then rewrite them again. **Instruction** • Check your partner's feedback. • Rewrite your paragraph. • Work individually. • You have 15 min. **Instruction checking question** Q: What is the first step for this stage? Q: What is the next step? Q: Do you work individually or in groups? Q: How much time do you have?	The Ss finish revising & peer-editing. The Ss read their partner's feedbacks and they edit their paragraphs then rewrite them again.			

Step 5 (Final Copy) **Closure**	-to create more interactive writing environment -to provide the Ss to merge their all paragraphs and to give a final shape to their introduction and conclusion -to end the lesson	(After the Ss get feedback according to the checklist /peer feedback questionnaire and they appeal the criteria (which has been given in Step 2-outline) and give the last shape to their joint document/essay.) **Instruction** • Go to STEP 5. Merge all your paragraphs using copy-paste to create your FINAL COPY. • Give a final shape to your introduction and conclusion. • Read the whole essay and make sure the transitions are coherent. • Work collaboratively. • You have 20 min. **Instruction checking question:** Q: How do you merge your paragraphs? Q: Do you work individually or in groups? Q: How much time do you have? -The T thanks the Ss for their participation and ends the lesson	The Ss get feedback according to the checklist /peer feedback questionnaire and they appeal the criteria (which has been given in Step 2-outline) and give the last shape to their joint document/essay.)			

A. TRADITIONAL-BASED METHOD OF COLLABORATIVE WRITING LESSON PLAN

Roles of students in their group (The group members will be formed and have roles according to the information taken from the questionnaire at the beginning of the study. The questionnaire will include students' background and interests related to language skills and technology, therefore the group will contain students with different expertise.

Leader has been chosen because of his/her English level.
Monitor has been chosen to organize the work and as a timekeeper.
Writer has been chosen because of his/her proficiency in the use of computers.

Name: Assiye Burgucu Tazegül **Date:** ---------- **Lesson**: Writing **Level:** Upper-Intermediate

Stage	Aim	Teacher Activity	Students Activity	Int. Patterns	Procedure	Time
Greeting	-to get the Ss ready for the lesson	-The T greets the Ss and asks how the Ss feel about the day.	-The Ss answer the questions	T-Ss	Whole Classroom	2 min.
Lead-in & Warm up	-to introduce and generate interest in the unit topic with engaging visual -to activate the Ss background knowledge and the unit topic -to involve them in the lesson and the topic -to check their prior knowledge -to build new vocabulary	The T asks open-ended and personalized questions to whole classroom. **Questions:** *Q: What is the first thing you notice in the photographs?* *Q: What do you think ~~of~~ when you look at the photo?* *Q: How is the photo connected to the unit title "Globalization"?*	The Ss answer the questions.	T-Ss	Whole Classroom (Each learner will say his/her own guess.)	5 min.
Setting the task (Watch & Listen)	-to generate further interest in and discussion of the unit topic -to develop and practice key skills in prediction, comprehension and discussion.	The T facilitates a discussion of the Ss' answers and expands their answers by making connections between their answers and the video content. **Concept Checking Questions:**	-The Ss watch a video for specific information, main ideas and key details. -The Ss work in small groups to answer the discussion questions.	T-Ss Ss-Ss	Individual watching Small group work	10 min

		Q: Is that an interesting perspective? *Q: How is it similar to what the speaker in the video mentioned?* *Q: How is it different?*				
READING (Model Text)	-to provide different angles, viewpoints and genre related to the writing.	The T prepares the Ss to understand the content of the reading. The T asks if they like Italian food, it is popular (if yes) why does it so popular worldwide?		T-Ss Ss-Ss	Small group work	3 min.
Pre-Reading	-to introduce, review and practice key pre-reading skills.	The T introduces and builds key academic and topical vocabulary for the reading and writing task. **Instruction:** • You are going to read *"Changing Eating Habits in Italy"* • Discuss these questions (in a group) **Questions:** *Q: How is it relevant to globalization?*	The Ss discuss and answers the questions in their groups. The Ss guess the meaning and they complete the activities individually and check their answers with their group members.	T-Ss Ss-Ss	Small group work	15 min.

		Q: How can it change? *Q: Is it good or bad for Italians?* • Guess the meaning of the words in bold (page 21) and discuss in your group. The T checks the Ss' answers. (Before practicing reading the whole text) The T asks the Ss to read the first sentences in each paragraph and encourages them to find the "topic sentences" After discussion and the T asks these questions -How do these sentences help you? -Which word guided you? The T explains that these are topic sentences and writes "topic sentence" on top right corner of the board) **Instruction**	The Ss read the first sentences, discuss them in their groups and find the topic sentences. The Ss answer teacher's questions and then they guess the rest of each paragraph. The Ss explain their ideas to whole classroom. The Ss should be able to infer that the paragraphs have discussed some of the pros and cons of globalization.			

		• Now work with your partner and discuss what you think rest of each paragraph will be about.				
While-reading	-to practice reading comprehension -to see and understand key vocabulary in a natural academic context. -to model aspects/elements of the Writing task.	The T encourages the Ss to annotate the reading so that they are prepared to support their answers from the text. The T asks them to complete the activities and check them after the Ss finish.	The Ss read the text, they discuss the questions in a group and share their answers. The Ss discuss and describe how the ideas in all the sources used are connected and they take notes. The Ss complete the vocabulary activity and share their answers.	T-Ss Ss-Ss	Small group work Whole - classroom	20 min.
Reading between lines	-to introduce, expand on and to practice key reading skills related to the Ss' ability to infer meaning, text type, purpose and audience.	The T asks the three key elements. Q: What was about? Q: Why did the writer write the essay? Q: Who can read this essay, who can be the target audience?	The Ss answer the questions in small groups and the T asks for volunteers to share their answers with the classroom.	T-Ss Ss-Ss	Small group work	10 min.

		After the Ss' answers, The T lists and writes three different elements (Subject-Purpose-Audience) on top right corner of the board. The T gives the instruction **Instruction** • Work with your partners, discuss the questions in "reading between lines" and choose the best answer. After the activity the T gives the answers.	The Ss answer the following multiple-choice questions *1.What type of readers do you think this essay is meant to appeal to?* *a)people who have a general interest in food* *b)people who are experts in Italian food* *2.What do you think is the author's main intention in writing this essay?* *a) to say that globalization has had a largely positive impact on Italian food* *b) to say that globalization has fundamentally changed Italian food*			
Post-reading	-to have the Ss consider how the content of the reading text relates to the prompt.	Once again, the T checks understanding and encourages the Ss to make connections between	The Ss discuss the question in their groups and share their ideas with others (whole classroom)	T-Ss Ss-Ss	Small group work	5 min.

Language development		the model text and the writing task. **Instruction** • Use the ideas from the Reading passage to answer following question *Q. When you eat at a foreign food restaurant, which of these three qualities is most important to you: that is inexpensive, that is locally owned or that is authentic? Why?* For grammar and vocabulary points, the T explains the importance of use of language and vocabulary in the *"language development"* section **Instruction** • Look at the title "*academic alternative to phrasal verbs"* • Do not read the box (orange one) • Review the phrasal verbs and academic verbs at the 1st exercise, discuss and match them.	The Ss share their ideas and complete the exercises. The Ss work in their groups, share their ideas, list the related vocabulary and complete the final exercise.		Whole-classroom Small group work	10 min.

		For vocabulary points, have the Ss complete the following activity *"Globalization Vocabulary"* *(Filling the gaps and alternatively make a synonyms, antonyms and related words list activities)*				
WRITING	-to help generate, develop and organize ideas for the writing task. -to create an interactive free-writing environment through practical brainstorming and organizational activities by using tables.	The T encourages students to work this section collaboratively in small groups and asks some questions in order to check if they know what brainstorming is. The T explains why they need to brainstorm before the task. **Questions** *Q: So, why do we brainstorm in a writing task?* *Q: What do we do when we brainstorm?* The T writes "brainstorming" on the board and asks Q: What comes to your mind?	The Ss briefly explain brainstorming and they can come up with related words or phrases they associate with the topic.	T-Ss Ss-Ss	Small group work	15 min.
Academic writing skills	-to focus on specific language and skills relevant to the writing task.	-The T asks the Ss to find the parts of (the model text-explanatory essay-*"Changing Eating Habits in Italy"* and leads them *"academic writing skills"* section on page 27.	The Ss discuss and share their answers with the classroom.	T-Ss Ss-Ss	Whole classroom	15 min.

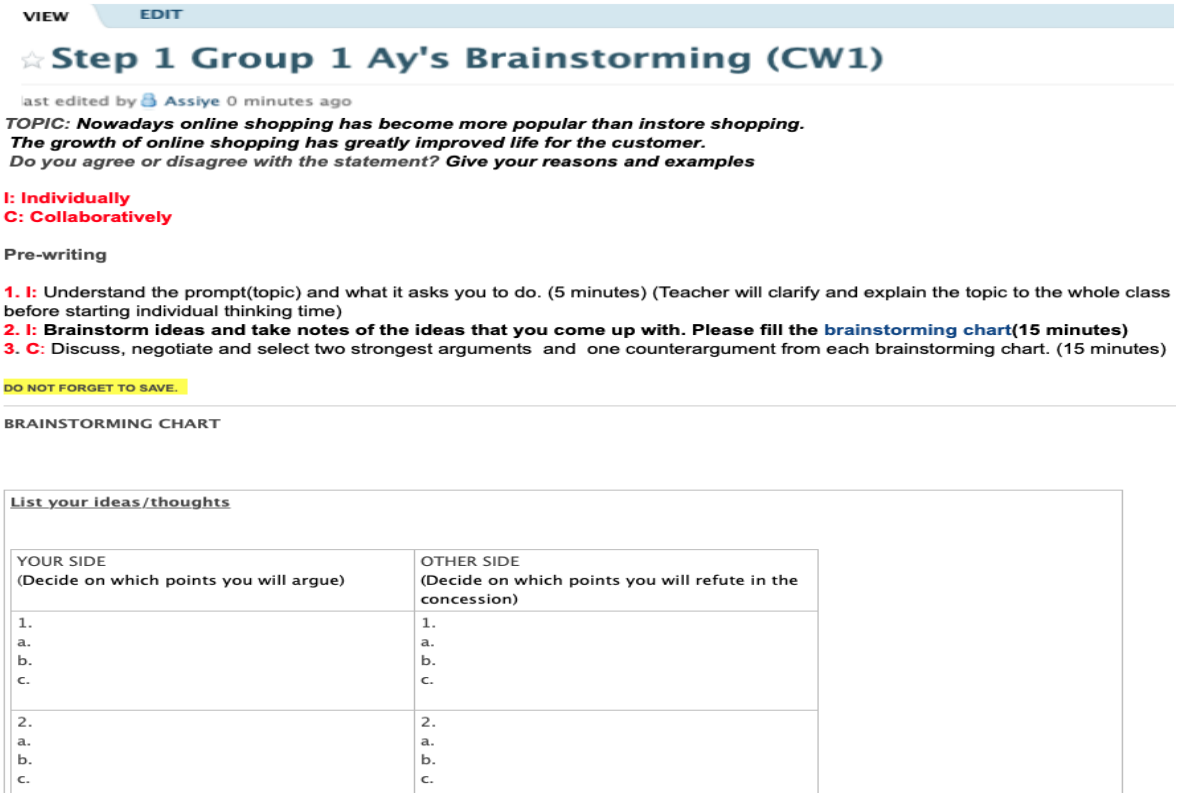
		Instruction: -Do not read "essay structure-skills box" skip it and discuss the parts of the essay (*Changing Eating Habits in Italy)* in your groups. -The T writes the Ss' answers on the board and asks them to complete the activities on page 30-31.				
Pre-writing (Critical Thinking)	-to introduce the writing task.	The T introduces the writing task *"How has globalization changed your country?"* and encourages the Ss to brainstorm and to create their mind maps in their groups. **Questions:** *Q: Can it be about food or other aspects of globalization such as clothing, entertainment, holidays, language, technology…?* Q: *Has it changed our eating habits like in Italy?* *Q: Has it affect our country positively or negatively?* -The T asks the Ss to write an explanatory	The Ss work collaboratively in preparation for their writing task.	T-Ss Ss-Ss	Small group work	15 min.

		essay as a blogger for the school web-page. The highest- scored-essay(s) will be chosen for publishing in this magazine for the next issue. -The T shows the table on page 27 and encourages to complete the outline. Topic: Supporting example 1: Supporting example 2: Supporting example 3: Concluding sentence:				
While Writing -Drafting -Revising -Editing	-to enable the Ss to exchange their ideas -to generate different ideas -to provide an opportunity for the Ss to synthesize the language, skills and ideas presented and generated in the lesson.	The T helps the Ss to draft, revise and edit their writing. The T guides them to complete the activities (page 32-33) The T gives time to revise their plans based on feedback from their partners.	The Ss think, discuss and complete the activities individually and in a group. They complete their drafts and revise them based on peer-feedback activity, they edit their essays in their groups.	T-Ss Ss-Ss	Individual and group work.	35 min.
Closure	-to end the lesson	-The T thanks the Ss for their participation and ends the lesson.				30 sec.

APPENDIX 7

SCREEN CAPTURES

Sampling of Screen Captures of Online WIKI-BASED COLLABORATIVE WRITING LESSON PLAN



VIEW EDIT

Step 1 Group 1 Ay's Brainstorming (CW1)

ast edited by Assiye 0 minutes ago

TOPIC: ***Nowadays online shopping has become more popular than instore shopping. The growth of online shopping has greatly improved life for the customer.***
Do you agree or disagree with the statement? ***Give your reasons and examples***

I: Individually
C: Collaboratively

Pre-writing

1. I: Understand the prompt(topic) and what it asks you to do. (5 minutes) (Teacher will clarify and explain the topic to the whole class before starting individual thinking time)
2. I: Brainstorm ideas and take notes of the ideas that you come up with. Please fill the brainstorming chart(15 minutes)
3. C: Discuss, negotiate and select two strongest arguments and one counterargument from each brainstorming chart. (15 minutes)

DO NOT FORGET TO SAVE.

BRAINSTORMING CHART

List your ideas/thoughts

YOUR SIDE (Decide on which points you will argue)	OTHER SIDE (Decide on which points you will refute in the concession)
1. a. b. c.	1. a. b. c.
2. a. b. c.	2. a. b. c.

VIEW EDIT

Step 2 Group 1 OUTLINE (CW1)

ast edited by Assiye 0 minutes ago

TOPIC: Nowadays online shopping has become more popular than in-store shopping. The growth of online-shopping has greatly improved life for the customer. Do you agree or disagree with the statement? Give your reasons and ex

C: Collaboratively
Organize your ideas into the outline. (40 min.)

4. Get an interest of the readers with a question or reframing the prompt and
5. Write your topic sentences, supporting evidence and concluding sentence for each paragraph (see the instructions on the outline)
6. Write a concluding sentence restating the topic and summarizing the arguments.

THE CRITERIA LIST

-Use an appropriate writing style by means of professional & strong words.

-Be sure that you don't sound overly emotional.

-Use mostly 3rd person, only use 1st person when providing a specific personal experience.

-Establish some common ground in your refutation paragraph, find some mutual ground for both sides of the argument by acknowledging that your opinion & the opinion of the opposite side.

Retrieved from https://www.mesacc.edu/~paoih30491/HowtoCreateanEffectiveArgument.html

SAMPLE OUTLINE

Introduction(THESIS/CLAIM)

Body Paragraph 1: Present your 1st point and supporting evidence.
Body Paragraph 2: Present your 2nd point and it's supporting evidence.
Body Paragraph 3: REFUTE your opposition and supporting evidence.

Conclusion/(RESTATE THESIS)

☆Step 3 - Group 1 Ay's Drafting (CW1)

last edited by Assiye 1 week ago Page history

TOPIC: Nowadays online shopping has become more popular than in-store shopping. The growth of online-shopping has greatly improved life for the customer. Do you agree or disagree with the statement? Give your reasons and examples

I: Individually
7. I: Clearly state your opinion in the topic sentence and explain your opinion or preference, supporting your idea with examples, reasons and details. Write a well-organized and coherent response based on the prompt, use correct grammar and sophisticated vocabulary, use transitions so one idea flows smoothly into another. Write a variety of sentence types in your paragraph. Please use this draft document.Use (w) write lines. Write approximately 60-70 words for your paragraph.

The Criteira List

- Use an appropriate writing style by means of professional & strong words
- Be sure that you don't sound overly emotional
- **Use mostly 3rd person,** only use 1st person when providing a specific personal experience

Please write your body paragraph here. In this page you only write your body paragraph. Your group partners will edit your writings. DO NOT write e(edit) lines.

DRAFT DOCUMENT for your body paragraph

W:Write E:Edit

W:Write E:Edit

w:
e:
w:
e:
w:
e:
w:
e:
w:
e:

☆Step 4 Group 1 Ay's Revising and peer-editing (CW1)

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TOPIC: ***Nowadays online shopping has become more popular than in-store shopping. The growth of online-shopping has greatly improved life for the customer.*** *Do you agree or disagree with the statement?* ***Give your reasons and***

I: Individually

8. I: Check and give feedback to your partner's paragraph in terms of format and the meaning. (A to B, B to C, C to A). Use (e) edit lines.(10 min.)
9. I: Fill in the check-list/ peer feedback questionnaire according to the paragraph.(10 min.)
10. I: Work on your piece of writing again, look at your partner's feedback and read the check-list/peer feedback questionnaire and rewrite your paragraph.

DRAFT DOCUMENT for your body paragraph
Example:
w: Women buys furtinures more than men.
e: Woman **buy furniture** more than men.
If you see any mistake you can correct and write the e(dit) line.

W:Write **E:**Edit

☆Step 5 Group 1 FINAL COPY (CW1)

last edited by Assiye 1 week ago Page history

Your purpose in trying to write an argumentative essay about the following topics is to convince, persuade your readers with your arguments. You will write an argumentative essay as columnists for your school magazine. The highest scored essay(s) will be chosen for publishing in this magazine for the next issue.

TOPIC: Nowadays **online shopping** has become more popular than in-store shopping. The growth of online-shopping has greatly improved life for the customer. Do you agree or disagree with the statement? Give your reasons and examples

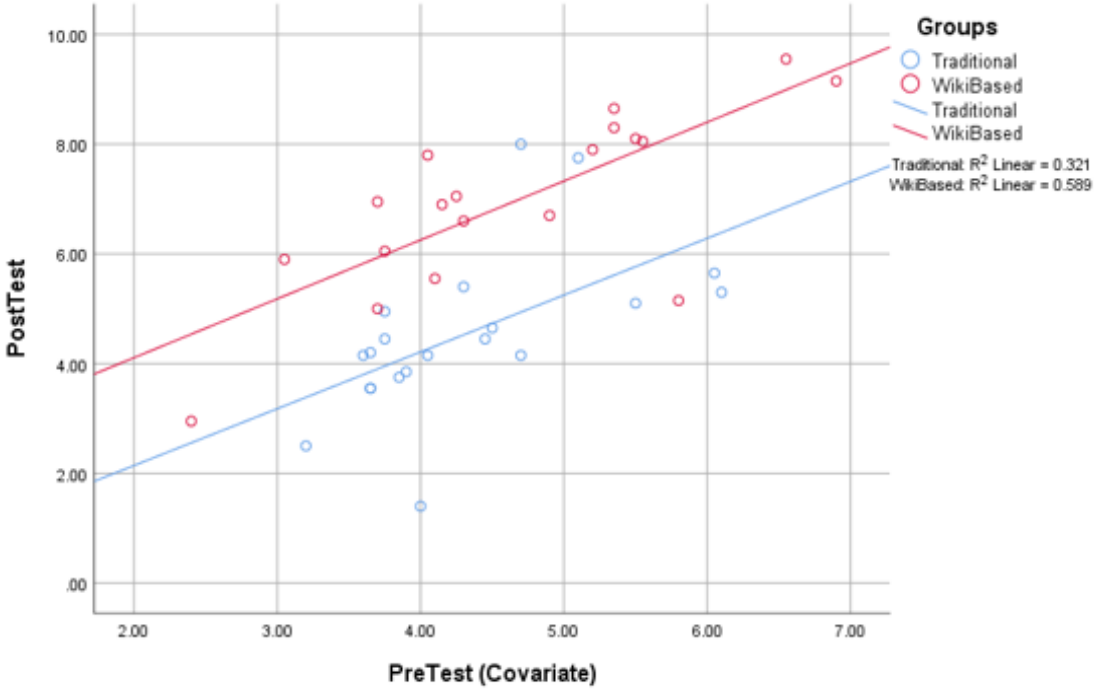
The Criteira List

- Use an appropriate writing style by means of professional & strong words
- Be sure that you don't sound overly emotional
- **Use mostly 3rd person,** only use 1st person when providing a specific personal experience

APPENDIX 8

ANCOVA ASSUMPTIONS (Research Question 1e)

Essay 1



Essay 2