Students’ Perceptions and the Potential Impact of Web 2.0 Tools in Collaborative Writing Classes

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Abstract

Information and communication technology (ICT) has been increasingly implemented in L2 writing contexts for the last decade. A wide range of research was conducted mostly on the use of a single most commonly used Web-based social tool such as wikis or blogs while other practical tools that can be combined in L2 writing classes remained largely unexplored in the literature. To address this gap, the present study investigated the effect of using various Web 2.0 tools on learners’ L2 writing performances and perceptions of students towards integration in the context of Turkish higher education. Drawing upon the theoretical framework of social constructivism, three commonly practiced Web 2.0 tools, i.e., Socrative, Padlet and Google Docs, were integrated into the experimental collaborative writing class. The data were collected by means of students’ writings, focus group interviews and teacher observation checklists.

An independent sample t-test of the writing score gains revealed that Web 2.0 tools group had statistically significant higher writing outcomes. Analysis of the qualitative data concluded that varied Web 2.0 tools provided students with
significant benefits such as encouraged learner autonomy, increased motivation and participation in addition to much more enjoyable writing lessons and enhanced social interaction.

**Key Words:** Web 2.0 tools, Collaborative Writing, Social Constructivism

**Introduction**

With the research indicating the facilitating role of ICT in L2 learning processes (Li 2018; Teeler & Gray, 2000), the use of Web 2.0 tools in language education has increased significantly, and L2 writing classes are not an exception. Allowing the creation and facilitation of rich and diverse kinds of interactions, these tools have been valuable assets for collaborative writing practices. However, no research to date has investigated the implementation of a systematically integrated variety of Web 2.0 tools in L2 writing classes. The present study investigates the impact of these tools on the students’ writing performance along with their perceptions of the implementation and their interaction patterns.

**Literature Review**

**Collaborative Writing**

L2 writing is generally thought to be a difficult, boring, and complex skill to be taught and learned (Graham & Perin, 2007; Kurt & Atay, 2007; Lee, 1997; MacIntyre & Gardner, 1989) due to its cognitively demanding processes such as the development of ideas, sentence structure, organization, vocabulary, content, mastery of sociocultural competencies, use of punctuation and idea-generation which requires grammatical accuracy (Harmer, 2007; Togatorop, 2015). Collaborative writing, defined broadly as ‘co-authoring of a text by two or more writers’ (Storch, 2013, p. 2), is a strategy to teach the complex processes of writing (Togatorop, 2015). It is regarded as ‘an effective instructional activity that has been widely implemented in L2 classrooms during the last decades’ (Li, 2018, p. 882). Storch (2013, p. 2) defines collaborative writing as a process ‘where participants work together and interact throughout the writing process, contributing to the planning, generation of ideas, deliberations about the text structure, editing and revision’ and later pointing the jointly produced and co-owned nature of the outcome which is created by the input of group members, i.e., their factual interaction, negotiations, shared decision-making and shared understanding (Stahl, 2006; Storch, 2013).

Collaborative writing allows members to share their expertise by creating ‘an atmosphere of readiness and willingness to help where learners can count on one another’s strengths to compensate for their own weaknesses’ (Fung, 2010: 25). which enables them to create and recreate their knowledge during the shared writing process (Elola & Oskoz 2010).

Social constructivism posits that knowledge is socially constructed through communication, activity and interaction with others (Teow, 2014; Vygotsky, 1978; Wang, 2010). Thus, by creating learning environments that encourage active participation and interaction, collaborative writing allows
students to (a) learn from their peers, (b) construct meaningful knowledge (Wang, 2010) and (c) reflect on their language use (Swain, 2000).

In recent years, in many collaborative L2 writing classes different Web 2.0 tools have been used to facilitate collaboration and enhance students’ writing performance (Aydin & Yildiz, 2014; Bikowski & Vithanage, 2016; Elola & Oskoz, 2010; Wang, 2015).

**Web 2.0 in Collaborative L2 Writing**

Increased usage of technology brought significant alterations to the 21st century classes. The phenomenal growth in web-based tools affected all aspects of society as well as education (Unwin, 2007), encouraging ‘teachers to integrate technology into their teaching’ (Woo et al., 2011, p. 43) as the traditional methods in teaching are not believed to meet the requirements of education any longer (Fabunmi, 2012).

Web 2.0 tools support teachers to be more creative in implementing technology since these tools do not require any programming or design skills (Dudeney & Hockly, 2012). Such tools allow users to communicate and interact with one another easily (Gray et al., 2010). Li (2018, p. 883) points out that ‘writing with technology in second/foreign language learning contexts has gained considerable attention’, with regards to the Web 2.0 tools that moved the traditional learning experience to a more collaborative and interactive process. Research conducted on the integration of Web 2.0 tools in language writing classrooms has shown that Web 2.0 offers a supportive, attractive, motivating and encouraging environment for the students with a number of benefits (Brodahl, Hadjerrouit & Hansen, 2011; Lam & Pennington, 1995; Yunus et al., 2013). In such environments, students participate anonymously which may result in higher participation by means of allowing them to ‘free themselves from others evaluations’ and ‘from making mistakes in front of others’ (Miyazoe & Anderson, 2011, p. 181). Similarly, Young (2003) indicates that Web 2.0 activities can make learning more active and lower psychological barriers which may hinder learning. Palloff and Pratt (2001, p. 108) point out that Web 2.0 in writing enables learners with some time to think and reflect before production and this would be especially beneficial for the students who ‘need time to think and reflect before responding to questions and ideas’. Writing with Web 2.0 tools helps learners to improve the overall quality of their work (Elola & Oskoz, 2010), promotes their interest in language learning (Wang 2015) and contribute to the development of learner autonomy (Kessler, 2009). It can function as a documentation tool that supports students for self-monitoring as well (Teow, 2014; Wang, 2010). By providing a documented social interactive environment, these tools ‘encourage student responsibility for learning and allow students to exercise a sense of control on tasks’ (Chao & Lo, 2011, p. 397).

Rather than ‘teaching students strategies for planning, revising, and/or editing’ (Graham & Perin, 2007, p. 446) through the assistance of a teacher, Web 2.0 tools allow students to construct knowledge from their experiences and engage in an active social process, which results in learning. Traditional collaborative writing practices tend to be limited within the group members (Chao & Lo,
2011), whereas Web 2.0 tools enable students to benefit collectively, through which they can post information, interact, and discuss the tasks collaboratively (Brodahl, Hadjerroui & Hansen, 2011; Cattafi & Metzner, 2007).

Researchers agree that a high percentage of L2 students have a positive perception with regards to technology use in collaborative writing (Aydin & Yildiz, 2014; Bikowski & Vithanage, 2016; Elola & Oskoz, 2010; Li, 2018; Mohammad, Ghazali, & Hashim 2018; Wang 2015). Chao and Lo (2011, p. 409) concluded that the majority of students were satisfied with Wiki-based collaborative writing and stated that they ‘revised more continuously and enthusiastically as well as invested more time revising in a computer-based setting than in a traditional classroom’. Mohammad, Ghazali, and Hashim (2018) found out that the use of Google+ has helped students to have more enjoyable and attentive writing lessons. Similarly, in Turkish context Aydin and Yildiz (2014) investigated the use of wikis in collaborative writing in English Language classes and results showed that learners had positive perceptions, also they believed that wiki had contributed to their writing performance.

In the current body of literature in education, research on students’ perceptions of collaborative writing with technology is limited to a single tool while the integration of commonly used Web 2.0 tools such as Google docs, Padlet, and Socrative has been an unexplored area. The present research aims to contribute to the literature by investigating the impact of various Web 2.0 tools on students’ L2 writing performance and on their perceptions towards these tools. The study also explores the involvement patterns of students through the process of L2 writing with the use of Web 2.0 tools.

Specifically, the following research questions were addressed:
1. To what extent do the collaborative tasks performed with the use of Web 2.0 tools improve students’ L2 writing performance?
2. What are the perceptions of Turkish students towards the use of Web 2.0 in L2 collaborative writing?
3. What are the involvement patterns of the students and how do they interact in a collaborative writing class performed with the use of Web 2.0 tools?

**Methodology**

**Participants and Setting**

A total of 28 female and 22 male students enrolled at the English Preparatory Programme of a private University in Turkey participated in this study. All the participants of the study were native Turks with an average age of 21. At the time of the study there were 21, B1 classes and two of them were randomly chosen for the present research. B1 level students were required to receive 9 hours of writing and 16 hours of integrated classes, 5 days per week. In each class, a computer, projector and wi-fi connection are available for students. Collaborative writing has been implemented in the English Preparatory Programme in the last three years.
Procedure

In the prep school writing classes, a process approach is employed: students are required to do multiple collaborative writing tasks, with peer and teacher responses to each draft. Identical collaborative writing tasks were assigned to both classes throughout the study. The study lasted for six weeks during the first academic term of 2019. The same writing booklet, prepared according to the objectives of the curriculum by the testing unit of the prep school, was followed in both experimental and control groups. In the first two weeks, the students were required to identify the characteristics of an opinion essay, prepare an outline and write an effective topic sentence in groups of two and three. In the third and fourth week, students learned the structure for giving opinion through the use of compare/contrast language and developed their writing by producing support paragraphs with the use of target language, in small groups. The final two weeks were dedicated to writing an opinion essay in groups of three. All activities were conducted collaboratively (e.g. preparing an outline, writing a topic sentence in small groups and producing support paragraphs in pairs) in both groups; yet different Web 2.0 tools were used at different stages of writing in the experimental group (Web 2.0 group). The next section explains the Web 2.0 tools implementation process for the experimental group.

Implementation in the experimental group

Three different Web-based tools namely, Socrative, Padlet, and Google Docs, were used in the experimental group during the six weeks. (1) Socrative is an effective tool to support students to develop ideas together, brainstorm and then share it with the class instantly and anonymously. (2) Padlet is a virtual wall that facilitates the integration of feedback and cooperation through which students can upload images, videos, documents, share links, comment on each other’s posts and discuss certain topics. The teacher develops the wall and students collaborate to continue adding to the same wall space. (3) Google Docs offers multiple numbers of students to write and edit a document at the same time and users can revert to previous versions of the document.

These Web 2.0 tools enable students with digital collaboration, digital workflow and allow both the teacher and the student to see the revision history and process. They create an online platform for the students to see others responses, receive from and give feedback to the entire class. They can be used on computers, tablets and smartphones as long as there is an Internet connection available. After the teacher sets up an account to collect the students’ writings, students only enter a code that is supplied by the account owner (teacher) to join. What is more, they enhance students’ participation in writing and create a social and joyful writing process which in turn increases students’ motivation and success.

Week 1 & 2: First two weeks Socrative (socrative.com) was used to develop ideas, for brainstorming and also for the initial writing stages such as preparing an outline and writing an effective topic sentence. Students worked in pairs or in threes to create their responses and their work appeared on the screen as soon as they submitted them. Grammatically wrong sentences or inappropriate sentences were elicited.
with the class as a part of the activity and the groups had another chance to correct their responses and post them again. This digital tool allowed students to vote for their favourite work. The class went through the responses that had higher votes and discussed why these examples were better. At this stage peer revising was promoted as the teacher acted as a facilitator.

**Week 3 & 4:** In order to develop students’ writing by producing support paragraphs with appropriate use of language, ‘Padlet’ was used. Working in small groups, students uploaded their texts typed on the Padlet. Padlet was used both for production and peer-reviewing. Students commented on the errors in the support paragraph (e.g. reasons are not related to the topic sentence, examples are not explained clearly).

**Week 5 & 6:** Once the students completed the initial stages of writing, Google docs was used for the creation of longer texts. Last two weeks, students used google docs to produce an opinion essay in teams of 3.

The materials used and the tasks completed in both groups were the same, and enacted collaboratively, however, the main difference among the groups was that the Web 2.0 group had the opportunity to see all the classwork produced by their peers on the board as soon as these were posted. Thus, the experimental group had the opportunity to contribute to the feedback process as a whole and participated in lively, social discussions in the classroom afforded by the digital collaboration.

Instead of choosing one tool, three tools were implemented in order to keep the students’ attention alive and enable them to benefit from each of the exclusive gains of the specific tool.

**Data Instruments and Analysis**

**Writing tests**

In order to assess students’ individual L2 writing performance at the beginning and at the end of the study, data were collected by means of student essays, i.e., one opinion and one compare and contrast essay. At the beginning of the study, students were given a topic and asked to write an opinion essay in about 250 words. The topic was provided by the testing unit of the faculty for B1 level students. After six weeks of Web 2.0 tool implementation students in both groups were asked to write a compare and contrast essay about one of the given topics. These two essays were taken as pre- and post-tests and the aim was to find out if there were any differences in the writing performances of the students in both groups. Testing-effect was minimized by asking students to write about different topics for pre- and post-tests. The time allowed for each writing test was 60 minutes.
Scoring

A writing rubric prepared by the testing unit is used for scoring (Appendix A). The analytic rubric included task achievement/communicative competence, organization/coherence/style, range and accuracy of language, range and accuracy of vocabulary with the highest score possible 100.

Initially the written tests were scored by two instructors; the few discrepancies were discussed until 100% agreement was reached. Finally, the written tests were also scored by an independent evaluator, and consistency of the two scores was achieved (the agreement level was 95%).

Focus group interviews

The qualitative phase of data collection was conducted only with the students in the experimental group. Focus group interviews were used to gain insight about students’ perceptions on Web 2.0 tools integrated writing classes (Appendix B).

The interviews were conducted in groups of five students and each one lasted about 45 minutes. Data obtained from the responses were coded and classified according to the aim of the study.

Observations

Classroom observations were conducted by one of the researchers for 6 weeks in order to explore the engagement and involvement patterns of the students in the experimental group. Observation can be an effective and powerful learning tool for teachers in terms of identifying and reflecting on the classroom (Wajnryb, 1992). The observation checklist used in this study was benefited from Koth, Bradshaw and Leaf’s (2009) ‘Teacher Observation of Classroom Adaptation—Checklist (TOCA-C)’. The researchers developed ‘TOCA-C’ specifically for assessing teachers’ perceptions of students’ in class behaviours’ (Koth, Bradshaw and Leaf, 2009, p. 27). Benefited from Alsied and Pathan’s (2013) findings that identified the advantages of using computer technology in EFL classrooms, the items of the TOCA-C that were not related to the study were omitted or revised according to the purpose of the research. The scale, prepared by one of the researchers, had ten items on a six-point Likert scale (never, rarely, sometimes, often, very often, or almost always) to explore how the students were engaged in the entire process. Students were observed and each class was recorded for 6 weeks. Upon listening to the recordings right after each lesson, the researcher scored each item and completed the checklists for each week. Additionally, the checklist items, e.g., ‘how many times each student posted’ or ‘if he/she has completed in class assignments’ are checked after each class since the Web 2.0 tools used in the study allowed the teacher to see the revision history and process.

In order to analyse the data for the checklist, first, each students’ mean scores for the total of six weeks were calculated. Further, to analyse each item separately the overall mean scores of each week are calculated for all of the students.

Each student was rated on the scale for each behaviour on the checklist from 1-6 (Never 1 - almost always 6) by the teacher-researcher. In this research mean scores were used to present each item
with regards to the general tendency about the involvement of the students towards the Web 2.0 tools integrated tasks.

Qualitative data were observed by the framework developed by Miles and Huberman (1994) which consisted of three stages; (1) data reduction, (2) data display, and (3) conclusion drawing and verification. Data, obtained from the focus groups and observations, was reduced and organized meaningfully in order to make it intelligible in terms of the topic being discussed. The themes that emerged from the final analysis are displayed accordingly and sample direct quotations from the focus group interviews were stated in the results section for each of the main themes.

Results

Effects of Web 2.0 use on L2 writing achievement (RQ1)

The first research question investigated whether implementing Web 2.0 tools improved students’ overall performance in their writing in English. Paired sample t-tests showed that there was a significant difference in the pre-test and post-test scores of both groups. The t-test results of the pre- and post-test of collaborative writing for the control and the experimental groups were presented below (Table 1).

Table 1. Mean scores on the pre-test and post-test for the control group and experimental group

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>p-value (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>25</td>
<td>60.08</td>
<td>8.23</td>
<td>-29.44</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Post-test</td>
<td>25</td>
<td>72.44</td>
<td>8.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>25</td>
<td>62.88</td>
<td>8.78</td>
<td>-28.89</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Post-test</td>
<td>25</td>
<td>77.84</td>
<td>8.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A t-test for independent samples was conducted to investigate how the intervention affected the writing scores of the students. The difference in the means between the experimental group (Web 2.0 group) pre-test scores ($M = 62.88, SD = 8.78$) and post-test scores ($M = 77.84, SD = 8.68$) was 14.96 points, and the difference in the means between the control group (non-Web 2.0 group) pre-test score ($M = 60.08, SD = 8.23$) and post-test score ($M = 72.44, SD = 8.40$) was 12.36 points. This difference was statistically significant ($t (48) = 3.90, p = 0.0003$). The summary of the results can be seen in Table 2. Moderate effect size was observed in terms of Cohen’s $d$ ($d = 0.5$).

Table 2. T-Test results comparing the score gains of control and experimental groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>p-value (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>25</td>
<td>14.96</td>
<td>2.59</td>
<td>3.90</td>
<td>0.0003</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>12.36</td>
<td>2.10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Perceptions of students towards the use of Web 2.0 for collaborative writing (RQ2)

The second research question aimed to investigate the perceptions of the students towards the use of digital tools in collaborative writing activities. Data collected by focus group interviews revealed four major themes: (1) enjoyable and dynamic lessons, (2) increased productivity and self-confidence, (3) improved learner autonomy and reflection on learning, (4) enhanced learning through interaction and collaboration. Each theme is explored in detail in the following section.

1. Enjoyable and dynamic lessons

The digital tools used in class tasks enabled students to experience more enjoyable and dynamic lessons. Rather than using traditional methods, using web 2.0 tools moved the writing experience to a more exciting process. One of the main themes put forth by the participants about the implementation of technology is that these tools offered a more interesting and enjoyable learning environment. As highlighted in the below sample quotations, more than half of the participants appreciated their new experience as being more enjoyable and motivating (N= 14 students).

"It attracts my attention. Seeing our work on the screen is more attractive than writing on a paper and waiting for feedback."

"I feel happy in the class, it is much more fun to post responses rather than writing, and we see it on the board in an instance."

Additionally, a subtle competition created with the help of these tools also helped to boost students’ motivation and enlivened the whole process. It is indicated that online voting created an enjoyable challenge for the students.

"I think it is the competition that made our work better, everybody wanted their writing to be the first."

"It is more fun and I don’t get bored. Voting part was also fun."

2. Increased productivity and self-confidence

Analysis of the focus group interviews data showed that being able to see all of the peers’ responses and commenting on them effectively had an impact on their self-confidence and boosted their productivity for the writing tasks. Through the integration of the digital tools, students could receive from and give feedback to their classmates effectively, thus undertook learning and teaching roles at the same time. This experience helped students to enhance their generativity in the writings and build their self-confidence and nine students specifically commented about the increased productivity and self-confidence.

"It feels good that I can notice the mistakes in other writings and I am also capable of giving feedback."

"I noticed that all of my friends make mistakes and this kind of made me feel more relaxed."
"Seeing my friends’ responses in class motivated me rather than only being aware of my own work."

Additionally, some students indicated that being able to post anonymously for some of the in-class tasks increased their participation as they did not have to consider the negative evaluations.

"Posting anonymously gives me a sense of comfort, I don’t have to think about what others will think about my response, so I post freely."

"Because we posted anonymously for some activities, I felt free. I mean, I did not think about negative comments."

3. Improved learner autonomy and reflection on learning

Technology implementation in the classroom setting offers options for reflection by engaging students in reflective tasks and provides a rich learning experience for the learners’ reflection on their skills. Additionally, integration of Web 2.0 tools enables teachers to adopt a learner-centred approach which facilitates learner autonomy. Using digital tools contributed to learner autonomy and supported them to reflect on their learning with the following representatives of their views.

"Reading the other responses helps me to realize my own writing, like what is good, what is wrong about it and what I should do to write better."

"Reflected on the board, before anybody I ask myself: Is my sentence correct?"

"I feel like I am more aware of my own learning. I can realize both my and my friends’ mistakes and can correct them."

4. Enhanced learning through interaction and collaboration

Web 2.0 tools enabled students to engage in a process of communication where they could collaborate, share their ideas and interact constantly. It is clear from the students’ responses that they appreciate technology integration into the lessons. These tools facilitated their learning both during and after the production phase.

"These tools were beneficial for me in developing my writing skills."

"You need to interact all the time which in a way supports our learning."

"It is great to work together especially when you first start writing."

"I like seeing my friends’ writing right in front of eyes, it gives me ideas."

Results of Teacher Observation Checklist (RQ3)

The third research question, learners’ involvement patterns and their interaction patterns during the tasks, was investigated through the analysis of the items on the checklists. First of all, each student’s overall mean scores of the items for the total of six weeks were calculated. In the interest of analysing each item separately, weekly overall mean scores for each item were calculated (Table 4).
Table 4. Weekly overall mean scores of the checklist items

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Completes in class assignments</td>
<td>5.33</td>
<td>4.83</td>
<td>4.17</td>
<td>5.16</td>
<td>4.17</td>
<td>3.83</td>
<td>4.58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Posts adequately (Content)</td>
<td>4.67</td>
<td>5.00</td>
<td>5.17</td>
<td>4.83</td>
<td>4.16</td>
<td>3.83</td>
<td>4.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Posts adequately (Length)</td>
<td>4.16</td>
<td>5.33</td>
<td>4.75</td>
<td>4.83</td>
<td>5.17</td>
<td>3.83</td>
<td>4.69</td>
<td></td>
<td></td>
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<tr>
<td>4. Posts comments on the reflected work</td>
<td>3.83</td>
<td>4.00</td>
<td>4.83</td>
<td>4.50</td>
<td>4.67</td>
<td>4.83</td>
<td>4.39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Is attentive during Web 2.0 use</td>
<td>4.67</td>
<td>4.83</td>
<td>4.16</td>
<td>5.00</td>
<td>4.83</td>
<td>5.17</td>
<td>4.78</td>
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<tr>
<td>6. Provides peer feedback</td>
<td>5.17</td>
<td>4.83</td>
<td>4.83</td>
<td>4.17</td>
<td>5.17</td>
<td>3.83</td>
<td>4.67</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Gets angry when negative feedback is given by peers</td>
<td>3.33</td>
<td>2.67</td>
<td>2.00</td>
<td>1.83</td>
<td>1.83</td>
<td>1.50</td>
<td>2.19</td>
<td></td>
<td></td>
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<tr>
<td>8. Stays on task</td>
<td>5.00</td>
<td>4.16</td>
<td>4.67</td>
<td>3.83</td>
<td>5.17</td>
<td>4.83</td>
<td>4.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Is easily distracted</td>
<td>2.67</td>
<td>1.83</td>
<td>1.50</td>
<td>1.83</td>
<td>2.67</td>
<td>1.67</td>
<td>2.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Shows empathy and compassion for others’ feeling while</td>
<td>4.16</td>
<td>4.67</td>
<td>3.83</td>
<td>5.17</td>
<td>4.67</td>
<td>4.18</td>
<td>4.45</td>
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</tbody>
</table>

The data obtained from the teacher observation checklist showed that students showed a high tendency to complete in-class assignments \( (M=4.58) \) and post adequately in terms of content \( (M = 4.60) \) and length \( (M = 4.69) \), as they overall had ‘often’ or ‘very often’ demonstrated that behaviour in the class. Scores of the items related to participants’ posting comment on the reflected work \( (M = 4.39) \) and providing peer feedback \( (M = 4.67) \) was also high indicating that most students displayed these patterns either ‘often’ or ‘very often’. Similarly, the general tendency for the participants was ‘often’ or ‘very often’ being attentive during Web 2.0 tool use \( (M = 4.78) \) and to stay on task \( (M = 4.60) \).

The mean score for the item that investigated students’ distraction indicated that they were not easily distracted when they used digital tools \( (M = 2.03) \) and they did not tend to get angry when negative feedback is given by peers \( (M = 2.19) \) as they rarely or sometimes presented those behaviours in the class.

**Discussion and Conclusion**

The objectives of the present study were to determine the effects of integrating various Web 2.0 tools into the collaborative writing classes and to gain insight about students’ perceptions of in-class collaborative writing with digital tools through an instructional design as well as exploring their involvement patterns towards the intervention. Both writing groups had achieved higher gains at the end of 6 weeks. However, the group that used Web 2.0 tools showed statistically significant higher mean gains from pre-test and post-test writing scores than the non-Web 2.0 group. Gain score analysis showed that significant differences were observed between experimental and control groups \( (t (48) = 3.90, p = 0.0003) \) with a moderate effect size. Therefore, it is concluded that Web 2.0 tools are effective in increasing students' writing outcomes.
Regarding students’ perceptions of Web 2.0 implementation, one of the major themes that emerged from the findings was that the lessons were considered to be more enjoyable and dynamic by the participants. Taking into account that writing is mostly perceived to be a tedious activity for the students, these tools had an impact on changing the dynamics of the writing classes by creating engaging and motivating tasks.

These results coincide with several studies suggesting that use of technology in education provides a good opportunity to develop and create different, authentic and enjoyable tasks in EFL classrooms (Bikowski & Vithanage, 2016; İltür, 2009). These digital tools attract the learners’ attention more than the traditional tools and they are perceived to be more effective than writing with a pen and paper. The findings also showed that subtle competition created by the aid of these tools helped to boost learners’ engagement.

The majority of the participants responded positively to the implementation and benefited from the digital tools in terms of increased productivity and self-confidence as well as enhanced learning through interaction and collaboration. Web 2.0 tools used in this study provided students with opportunities that contributed to improvement of earner autonomy and allowed them to reflect on their own learning. Additionally, both acting as an assessor and assessee, peer assessments became a strategy for formative assessment and a tool for reflection by students (Cheng & Warren, 1999). Pope (2001) also suggested that peer rating can be a tool to boost students’ learning. Similarly, Stefani’s (1994) findings indicated that peer assessment made students think more when compared with traditional assessments. Corresponding with these findings the participants in the study benefited from enhanced learning through reflective tasks, collaboration and peer feedback with the integration of the digital tools. Another point revealed by the students was that being able to post anonymously for online writing assignments increased their participation. With the aid of these digital tools, posting anonymously became an effective teaching strategy through which a psychologically safe teaching environment is created (Roberts & Rajah-Kanagasabai, 2013).

Based on the teacher’s observations, Web 2.0 is also proved to be beneficial in terms of attracting students’ attention and encouraging participation. Through these digital tools, students got motivated to produce writing texts, interacted with each other and actively engaged in tasks. Moreover, working collaboratively with the affordances of Web 2.0 tools enabled learners to give feedback on each other’s work effectively and keep them engaged throughout the class time while supporting teachers in using the class time efficiently.

Choosing varied tools offered students different opportunities and they were not limited to a single one throughout the whole process through which they didn't lose their interest towards the tool and participated with more enthusiasm. Moreover, each tool provides its own distinctive gains and unique features that could facilitate writing skills.
In conclusion, the study found out that integrating varied Web 2.0 tools in teaching fosters the attainment of writing learning outcomes and improves the teaching and learning environment for collaborative writing classes.

**Pedagogical implications and limitations**

Students can pay much more attention to the lesson when they enjoy it, thus integrating various digital tools to writing classes can have a direct impact on students’ attainment. Web 2.0 tools can increase learners’ motivation which will lead to higher participation in-class assignments.

These tools also facilitate learner autonomy that may lead to taking control of their own learning process which contributes to a student-centred classroom. Additionally, it is not always possible for the teacher to reach every single student in a class within the allocated lesson time. Using Web 2.0 tools enables teachers to use the classroom time effectively and each student could have a chance to receive efficient feedback in a limited time both from the teacher and peers. The Web 2.0 tools that are used in this study can offer teachers an enjoyable alternative for teaching writing as they allow students to work collaboratively and facilitates the integration of feedback and cooperation with extensive interaction possibilities. Due to its convenience, appropriateness for all level learners and practicality teachers can easily adapt and combine these tools into their teaching. Digital tools provide educators with pedagogical practices that leverage technology use and can transform perceived tedious writing classes into much more enjoyable experiences. Students will seize the opportunity to learn the language enthusiastically and with ease while the teachers will experience a more motivated and engaged class.

In this era, students face a great deal of technological tools that attract them, and language teachers can make use of the varied tools by integrating these into their learning contexts. However, for these tools to be more effective and beneficial, it is important for the teacher-researchers to contribute to the field with their practical actual classroom experiences.

There are several limitations in this study that need to be addressed. The fact that the study was carried out with a small number of university students, it cannot provide generalizable results. Secondly, the study was limited to six weeks, thus a longer intervention with a higher number of participants can be considered for the future research.

**References**


### Appendices

#### Appendix A

**B1 LEVEL WRITING CRITERIA**

<table>
<thead>
<tr>
<th>Task Achievement / Communicative Competence</th>
<th>Organization / Coherence / Style</th>
<th>Range and Accuracy of Language</th>
<th>Range and Accuracy of Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 - Content fulfills the requirements of the task/question - Ideas are totally relevant, well developed, supported with relevant examples - Supporting ideas are sufficient for the topic</td>
<td>25 - Effective introduction and conclusion - Topic is stated with a clear topic sentence - Effective use of cohesive devices - Effective organization of ideas</td>
<td>25 - Wide range of appropriate sentence structures - Effective use complex structures - No/minor grammatical errors which do not obscure meaning/communication - No/ minor punctuation, capitalization errors</td>
<td>25 - Effective use of target vocabulary - Wide range of target vocabulary - No/ minor lexical mistakes - No/ minor spelling mistakes</td>
</tr>
<tr>
<td>Score</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Content shows an attempt to fulfill the requirement of the task/question - Ideas are mostly relevant and usually well-developed or supported - Good supporting ideas and examples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Good attempt to introduce/conclude the topic - Topic sentence is quite clear - Good use of cohesive devices - Good organization of ideas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Good range of appropriate sentence structures - Good attempt to use complex sentence structures - Few grammatical errors or occasional errors which do not obscure meaning/communication - Few punctuation, capitalization errors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Good use of target vocabulary - Good range of target vocabulary - Few lexical mistakes - Few spelling mistakes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Content shows some attempt to fulfill the requirement of the task/question - Ideas are relevant and there is some support - Some attempt to use supporting ideas/examples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Some attempt to introduce/conclude the topic - Topic sentence is adequate - Some attempt use of cohesive devices - Ideas are adequately organized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Simple and compound sentences are used - Some attempt to use complex structures - Grammatical errors sometimes affect meaning/communication - Some punctuation, capitalization errors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Adequate use of target vocabulary - Adequate range of target vocabulary - Some lexical mistakes - Some spelling mistakes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Content shows very limited attempt to fulfill the requirements of the task/question - Some ideas are relevant and there is minimal support and development - Limited supporting ideas/examples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Limited attempt to introduce/conclude the topic - Topic sentence is inadequate - Limited use of cohesive devices - Ideas are not organized effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Simple sentences are used - Limited attempt to use complex structures - Frequent grammatical errors which sometimes obscure meaning/communication - Frequent punctuation, capitalization errors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Limited use target vocabulary - Limited range of target vocabulary - Frequent lexical mistakes - Frequent spelling mistakes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Content shows almost no attempt to fulfill the requirements of the task/question - Ideas are somewhat relevant but not developed or supported - Poorly developed supporting ideas/examples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>No attempt to introduce/conclude the topic - There’s almost no organization - Very limited use of cohesive devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Very simple sentences are used - No attempt to use complex structures - Frequent grammatical errors which often obscure meaning/communication - Serious punctuation, capitalization errors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Very little attempt to use target vocabulary - Very limited range of target vocabulary - Lexical mistakes often obscure meaning/communication - Serious spelling, capitalization mistakes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Ideas are totally irrelevant - Content fails to fulfill the requirements of the task/question</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Absence of introduction/conclusion - Disconnected ideas - No organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Serious grammar errors which totally obscure meaning/communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>No concept of target vocabulary - Many lexical errors which severely obscure meaning/communication</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix B

1. What are your feelings about using a digital tool for this course?
2. What did you most like about the implementation of Web 2.0 in your classes?
3. What are the advantages or disadvantages of using digital tools in your writing classes?
4. Do you feel the digital tools we used has contributed to your English skills? If yes how?
5. In what ways was it different than the courses you had taken before?
6. Has the use of Web 2.0 increased your motivation and participation? If yes how?