

# A Study on the Integration of Google Docs as a Web-based Collaborative Learning Platform in EFL Writing Instruction

Kyeong-Ouk Jeong\*

Department of English Education, Hannam University, Daejeon, 306-791, South Korea;  
monicakyeongouk@hotmail.com

## Abstract

**Objectives:** The purpose of this study is to explore EFL (English as a Foreign Language) college students' perceptions and experiences about the technology-enhanced collaborative English writing course. **Methods/Statistical Analysis:** For the students' collaborative and interactive English learning experience, this study integrated the cloud-based online collaborative writing tool and the peer-editing activities in order to develop college students' English academic writing skills and motivation. Among various web-based collaborative writing platforms such as wikis, online word processors or blogs, Google Docs have been incorporated into the college EFL writing course for this study. **Findings:** Google Docs is a web-based free word processor and can be utilized as a tool of creating a web-based platform for submitting students' English essay writings and peer-editing. To find out students' perceptions and attitudes about technology-enhanced English writing instruction and online-based peer editing activities, cloud-based online survey was administered at the end of the course. For more in-depth analysis, students' essay samples and results from semi-structured focus group interview were utilized. In this study, using Google Doc, students could create online documents and edit them online while they were collaborating with other students and the instructor in real-time. This study indicated that students in the course demonstrated affirmative perceptions about the use of the cloud-based online writing tool and having collaborative peer-editing experience. **Improvements/Applications:** This study proposed that the application of Google Docs as the web-based collaborative writing platform helped to enhance active communication, autonomous class participation, mutual collaboration as well as dynamic classroom interaction.

**Keywords:** Collaborative Learning, Constructivism, EFL, English Writing, Google Docs, Peer-Editing

## 1. Introduction

Recently, the effort to integrate smart technology into English writing instruction has received great popularity in the field of higher education<sup>1</sup>. Technology-Enhanced Learning and Teaching (TELL) has become new trends due to the high development of Information and Communication Technology (ICT)<sup>2</sup>. Accordingly, the paradigm of English language learning and teaching in most higher education classrooms around the globe has also shifted from the traditional face-to-face classroom settings to the technology-enhanced online or blended

settings<sup>3</sup>. Web-based or cloud-based online learning and teaching environments have continued to evolve since innovative smart technologies and smart devices have made more sophisticated m-learning or e-learning possible. Web-based or cloud-based online learning and teaching platforms such as Google Docs or wikis can enhance communication, participation and collaboration in the language classrooms and help learners to participate in more meaningful and authentic learning activities<sup>4</sup>. Since the new pedagogical model for technology-enhanced English writing basically encourages web-based online participation and collaboration,

\*Author for correspondence

this instructional model leads to a new form of social interaction<sup>5</sup>. As a result, peer feedback or peer-editing in English writing instruction has become one of the most powerful classroom techniques, which enable learner-empowered learning. Over the last several years, online collaborative technologies have gained much popularity among educators to enhance their teaching and learning environments<sup>6</sup>. Among them, several online collaborative writing platforms, such as wikis or blogs, have been included into the instructional settings. Recently, Google Docs has shown the potential as an effective online collaborative writing platform for English as a Foreign Language (EFL) courses. Google Docs is a web-based free word processor and the instructors decide to utilize Google Docs as a tool of creating a web-based platform for submitting students' writings and peer-editing. Using Google Doc, students can create online documents and edit them online while they are collaborating with other students or the instructor in real-time<sup>7</sup>. While abundant research has been carried out regarding wikis or blogs, research related to the integration of Google Docs into collaborative writing practice has remained mostly unexplored<sup>8,9</sup>. Utilizing Google Docs can provide students with the web-based platform to work together on the same writing project simultaneously. This study aims to portray ways of how the use of Google Docs as the cloud-based interactive online writing tool motivated college students' English writing practice and how the web-based peer-editing tasks could promote collaborative classroom interaction in EFL writing education.

## 2. Collaborative Learning and Social Constructivism

Collaborative learning can be explained as a form of learning activity that is performed in group works for the aims of accomplishing an intended educational objective<sup>10</sup>. Collaborative learning is based on the constructivist learning theory which proposes that learning should result from meaningful social interactions, in which language plays a crucial role<sup>11</sup>. Constructivist learning theory can be best characterized as active construction of new knowledge through interaction, negotiation and collaboration based on students' prior learning experience. Meaningful learning can be possible in the Zone of Proximal Development (ZPD), which is portrayed as the gap between the current developmental level of students' capacity and potential developmental

level with the proper assistance of adults or in teamwork with more proficient peers<sup>12</sup>. Besides collaborative interactions that can be postulated using the notion of ZPD, students' interactions can also be categorized within the ZPD. Within the ZPD, students can attain much higher levels of learning performance than they might perform by working individually from each other<sup>13</sup>. Collaborative learning is more challenging than cooperative learning since it involves the mutual engagement of all students in developing and sharing collective knowledge<sup>14,15</sup>. If students can engage more in collaborative social interaction with others in and out of the classrooms, they are likely to achieve better academically than those who cannot. In EFL learning, researchers and educators have great interest in how learners interact with one another for co-constructing knowledge or negotiating meaning in order to enhance communicative competence in the target language<sup>16,17</sup>. Collaborative learning boosts higher achievement than individual performance and genuine collaboration accomplishes a given task with collective endeavor<sup>18,19</sup>. Recently, the advent of digital technologies as an empowering tool for pedagogical change has resulted in collaborative and transformative learning through improved communication while providing more meaningful and engaging platforms for the social construction of collective knowledge<sup>20,21</sup>.

## 3. The use of Google Docs as the Collaborative Writing Platform

Recently, educators around the globe have been adopting various web-based or cloud-based collaborative writing platforms, such as blogs or wikis, into their instructional settings. Accordingly, a lot of research work has been piloted regarding the integration of these collaborative writing tools into English language teaching and learning practice. Educators have adopted these collaborative writing systems to fulfill their intended pedagogical purposes, such as course content development, students' performance assessment or group project activities. These web-based frameworks can provide encouraging ways for collaborative writing activities in the technology-enhanced learning environment. The integration of collaborative writing tools can be featured by several components such as the spirit of learning community, online belonging, dynamic social interactions, communication, participation, relevance in course content and mutual relationships<sup>22</sup>. These collaborative writing learning tools

can be integrated to English language courses in order to support technology-enhanced and student-centered collaborative learning. The development of collaboration in the language classrooms using technology can enhance autonomous learning and motivation. Furthermore, web-based collaborative writing tools can improve peer interaction and group activities and also support sharing and distributing collective knowledge among the learning community of learners<sup>23,24</sup>. In collaborative learning, which is one of the essential components of constructivistic pedagogical paradigm, meaningful learning should provide students with genuine opportunities to reflect on their own learning process and knowledge construction. Google Docs as the web-based collaborative writing platform can encourage this self reflection to be done collaboratively and facilitate to realize a fully social constructivistic approach of learning. The framework of collaborative learning becomes more significant when it is based on the context of a learning community of practice<sup>25</sup>. Google Docs as collaborative learning tools can serve as a learning platform for a learning community of practice in which students of the same learning community can share their collective knowledge with the group members, post engaging ideas, work collaboratively and discuss common issues with critical perspectives<sup>26</sup>. Using Google Docs as the web-based collaborative writing platform can help students to submit their draft, revise and share their essay writings with members of the same learning community. Using Google Drive to support a blended learning is a state-of-the-art approach for authentic and interactive learning. In that approach, Google Docs can be served both as a guiding framework and as an implementation platform. This approach can transform the students' learning practices, change power relationships in the classroom and enhance the development of critical perspectives towards knowledge and authority. The utilization of Google Docs can support creative ways of approaching genuine communication in the classrooms, for diverse collaborative writing project modes as well as in diverse learning settings. However, the setting in which the tool is adopted holds an important influence on the way students recognize its usefulness<sup>27</sup>. A collaborative learning community consists of students involved in collective knowledge learning in a shared realm, in which learning becomes a collaborative development of a group. In such learning communities, students can collaborate because they obtain a common understanding of a shared knowledge realm<sup>28</sup>.

## 4. Methods

The participants of this study were 20 students taking an English course in the first semester of 2014 at a college situated in the middle part of Korea. This course was a compulsory course and students were allocated to each class according to their current English level. The class for this study was a high advanced level class and most of the students had TOEIC scores around 900. The course was a two credit English course titled with 'Advanced College English'. It was designed to have the two-hour classroom instruction per week for 15 week duration. The learning objective of this class was to enhance students' communicative competence with the special focus on improving academic writing ability. As a part of process-oriented writing procedure, students in the class were required to submit their draft via Google Docs as the cloud-based online writing platform. Since Google Docs is a web-based free word processor, the instructor decided to utilize Google Docs as a tool of creating a web-based platform for submitting students' writings and peer-editing. Using Google Doc, students could create online documents and edit them online while they were collaborating with other students or the instructor in real-time. The students could write their essay assignment on the web through the URL link provided by the instructor. As soon as the students wrote their essay, it could instantly be stored on the web and shared with others. Once students wrote their writings on the cloud-based online writing platform, they could receive feedback from peer-editing as well as from teacher-editing. Figure 1 shows the students' writing submitted via the online writing system and the instant feedback from the instructor and their peers. Different sources were utilized to gather and analyze data for this study. First, cloud-based online survey was administered at the end of the course to find out students' perceptions and attitudes about technology-enhanced English writing instruction and online-based peer editing activities. The anonymity of the survey was guaranteed for more candid responses. The cloud-based online questionnaire items were composed of 5 Likert question items as well as open-ended question items. The five Likert-scale question items of the survey consisted of the choices from number 1 to number 5, which signified the range of scales from least agreeable to best agreeable. The five Likert-scale question items of the survey were automatically analyzed by statistics produced by Google form. Second, descriptive data from semi structured focus group interview and student writing samples on the website were also analyzed.

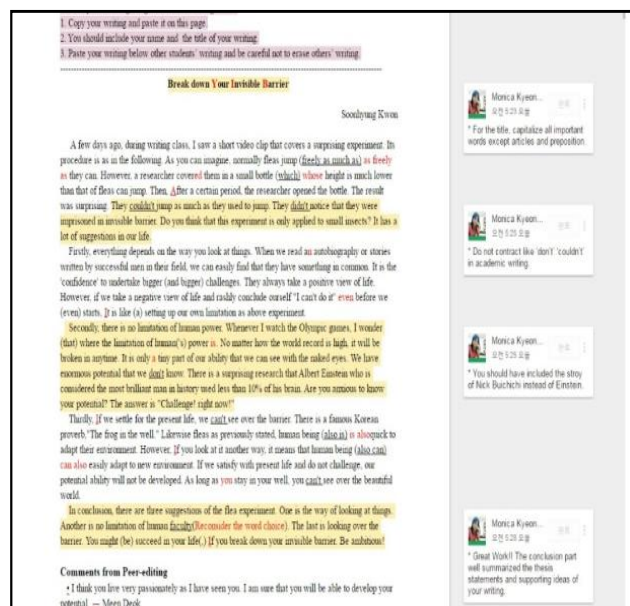


Figure 1. Online writing and online feedback.

## 5. Result and Discussion

Table 1 shows the survey results of the college students' perceptions about the use of Google Docs as the web-based collaborative writing platform for this study in complementing the traditional curriculum in the EFL educational settings. According to the survey result, 95% of the students responded that they enjoyed their experience of submitting their writing via Google Docs as the loud-based online writing system. Figure 2 shows students' responses about their experience in general about the use of online writing system using Google Docs in their writing process. Students responded that they enjoyed the fact that they did not have to print out their draft and submit it during the class. They recognized the online document tool as a collaborative writing platform which could help to organize their study with the advantage of easy accessibility and interactivity. Through Google Docs as the web-based collaborative writing system, students could get the instant feedback both from the instructor and from their peers. According to the survey result, 90% of the students responded that they enjoyed their experience of exchanging online feedback on their writings via Google Docs as the loud-based online writing system. Figure 3 shows students' responses about their experience of performing online peer-feedback activities through Google Docs as the collaborative writing platform. Students revealed positive attitudes about the use of Google Docs and smart technology in encouraging

classroom interaction and collective knowledge formation. Table 2 shows the percentile result of the Five-Likert online course survey regarding the use of Google Docs as their web-based collaborative learning platform. Students acknowledged Google Docs as the effective web-based collaborative writing platform for their study and they enjoyed the benefits of easy accessibility and interactivity of the platform. The following statements show students' responses about their experience of engaging in online peer-feedback activities.

- Thanks to its synchronic feature of the writing platform, I could freely exchange my thoughts with classmates and also it was so convenient to exchange instant reaction with classmates or the professor. (Data from the semi-structured interview).

Table 1. Students' ratings on the use of Google Docs

Question Items	N	M	SD
Evaluate your experience in general of submitting your writing via online document using Google Docs.	20	4.5	0.59
Evaluate your experience in general of performing online peer-feedback.	20	4.55	0.67
Evaluate your experience in general of taking online quiz via Google form.	20	4.3	0.9
Evaluate your experience in general of doing writing activities using your smart devices.	20	4.55	0.67
Do you think that collaborative writing activities via Google Docs of this course helped improve your writing ability?	20	4.5	0.5
Do you think that using Google Docs as a collaborative writing platform could contribute to improving classroom interaction for this course?	20	4.5	0.67
Do you think that web-based collaborative writing activities on Google Docs for real audience motivated your writing performance?	20	4.3	0.78

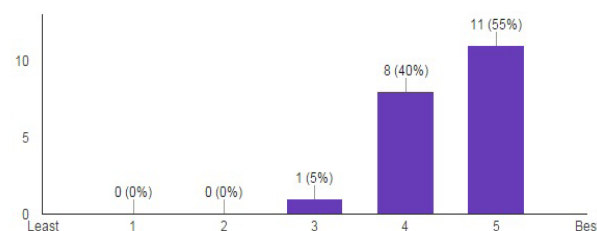
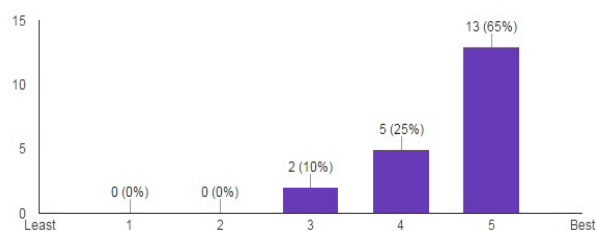


Figure 2. Writing on the online writing system.





**Figure 3.** Online peer-feedback.

**Table 2.** The percentile result of online survey

Question Items	1	2	3	4	5
Evaluate your experience in general of submitting your writing via online document using Google Docs.	0	0	5	40	55
Evaluate your experience in general of performing online peer-feedback.	0	0	10	25	65
Evaluate your experience in general of taking online quiz via Google form.	0	5	15	25	55
Evaluate your experience in general of doing writing activities using your smart devices.	0	0	10	25	65
Do you think that collaborative writing activities via Google Docs of this course helped improve your writing ability?	0	0	0	50	50
Do you think that using Google Docs as a collaborative writing platform could contribute to improving classroom interaction for this course?	0	0	10	30	60
Do you think that web-based collaborative writing activities on Google Docs for real audience motivated your writing performance?	0	0	20	30	50

- The most entertaining part was that I could offer some response writing on my classmates' essays. (Data from open-ended questionnaire).
- The ubiquitous features of this web-based collaborative writing tool using Google Docs was effective in that I could preview what I had to study in advance. I enjoyed the accessibility. I think I could engage in real and interactive writing. (Data from the semi-structured interview).
- Through this collaborative writing course, students also showed the growing confidence in expressing

their ideas in English. Over the course, students could gradually understand that the process of English writing using Google Docs as the collaborative writing platform was the creative and innovative practice.

- The format of this English writing course using Google Docs as the collaborative writing tool was creative and innovative. I could never imagine that I could enjoy English writing class this much. I wish I could take this kind of English courses using new technology in my future English learning. (Data from the semi-structured interview).
- I could overcome my anxiety in writing something in English and regain my confidence in English writing. (Data from open-ended questionnaire).

From the survey result, students pointed to the handiness of spelling check, grammar formation, and sentence structure constructing tools. They also mentioned about the convenience with which they could edit writings and instantly save their writings on the cloud-based word processor function of Google Docs. The following statements show students' responses about their experience of writing English essays on the web-based collaborative writing platform of the course.

- I could use other students' well-written writing as the model writing, so I could check some grammatical or sentence structural errors. (Data from open-ended questionnaire).
- Other students in my class could read my essays and offer me instant advice. In turn, I could read my friend's essay writings. I could improve my English writing skills while reading other's essays. (Data from the semi-structured interview).
- Compared to other courses, this English writing course using Google Docs was really effective. Every week, this course gave me new ideas and inspired me a lot. (Data from open-ended questionnaire).

There were also some concerns about integrating Google Docs as the web-based collaborative writing tool into their learning, such as reluctance in sharing their writing due to shyness or accidental missing data derived from periodic unstable situation of the online writing system. The following statements show students' concerns regarding the use of Google Docs.

- Sharing my writing on the web was sometimes embarrassing. When I made some grammatical errors

in my essay writing, I felt uncomfortable. (Data from open-ended questionnaire).

- Google Docs was sometimes unstable. Some part of my writing once disappeared while writing online. (Data from open-ended questionnaire).
- I had to wait till another student was writing on the web to avoid accidental crash on the online document. (Data from open-ended questionnaire).
- When I wrote some response comments on others' essay writing using my smart devices, battery problems, typo and unreadability due to small phone size were sometimes perplexing. (Data from the semi-structured interview).

## 6. Conclusion

This study aimed at investigating college students' experiences and perceptions about integrating Google Docs as the cloud-based collaborative writing tool and peer-editing activities into the English writing course. In this study, Google Drive was utilized as the web-based collaborative writing platform to implement interactive and authentic learning tasks for EFL writing instruction. Several functions of the instantaneous online feedback system were used to boost classroom interaction in order to foster active discussion and to cultivate critical thinking skills in the EFL context based on constructivistic paradigm. This technology-enhanced collaborative English writing instruction could help students motivate to develop their English academic writing skills and provide them with more meaningful and collaborative classroom interaction. This study revealed that students' ways of perceiving Google Docs as an effective and collaborative writing tool has been formed during the course and that integrating Google Docs as the web-based collaborative writing platform could facilitate the transformative process around autonomous and collaborative learning. Since this study has limitation due to the small sample size and lack of Generalizability, further research should be carried out to explore the nature of web-based collaboration in more detail in order to find out whether the collaborative interaction has some effect on the knowledge achievement. Still, this study proposes some pedagogical suggestions in that the result of this study indicates that students will be able to develop learner autonomy and critical thinking skills when they work collaboratively with their peers rather than studying individually. It is

also suggested that collaborative learning environments should be implemented in classroom settings in terms of elaborately designed classroom activities so that the learners can transfer the collaborative learning experience into more meaningful new learning environments.

## 7. References

1. Lin WC, Yang SC. Exploring the roles of Google.doc and peer e-tutors in English writing. *English Teaching: Practice and Critique*. 2013 May; 12(1):79–90.
2. Coniam D, Lee MWK. Incorporating wikis into the teaching of English writing. *Hong Kong Teachers' Centre Journal*. 2008; 7:52–67.
3. Jeong KO. Integrating the social networking system as the course management platform. *International Journal of Software Engineering and its Applications*. 2015; 9(12):155–64.
4. Goold A, Coldwell J, Craig A. An examination of the role of the e-tutor. *Australasian Journal of Educational Technology*. 2010; 26(5):704–16.
5. Dastjerdi NB. Analyzing the opportunities and challenges to use of information and communication technology tools in teaching-learning process. *Indian Journal of Science and Technology*. 2016 Feb; 9(6):1–8.
6. Othman WRW, Apandi ZFM, Ngah NH. The uses of social media on student's communication and self concepts among TATIUC students. *Indian Journal of Science and Technology*. 2016 May; 9(17):1–8.
7. George DR. Using Google Docs to enhance medical student reflection. *Medical Education*. 2012 May; 46(5):504–5.
8. Collaborative authoring and the virtual problem of context in writing courses. 2012. Available from: <https://libres.uncg.edu/ir/uncg/listing.aspx?id=8823>
9. Chu SKW, Kennedy DM. Using online collaborative tools for groups to co-construct knowledge. *Online Information Review*. 2011; 35(4):581–97.
10. Guerrero L, Mejias B, Collazos CA, Pino JA, Ochoa SE. Collaborative learning in creative writing. *Proceedings of the First Latin American Web Congress (LA-WEB 2003)*; 2003. p. 1–7.
11. Hadjerrouit S. A framework for assessing the pedagogical effectiveness of wiki-based collaborative writing: Results and implications. *Interdisciplinary Journal of E-Learning and Learning Objects*. 2013; 9:29–49.
12. Vygotsky LS. *Mind and society: The development of higher psychological processes*. Harvard University Press; 1978 Jul.
13. Li M, Zhu W. Patterns of computer-mediated interaction in small writing groups using wikis. *Computer Assisted Language Learning*. 2013; 26(1):61–82.
14. Chao YCJ, Lo HC. Students' perceptions of wiki-based collaborative writing for learners of English as a Foreign

- Language. *Interactive Learning Environments*. 2011; 19(4):395–411.
15. Ghelichkhani M, Raouf Khaiami R. A knowledge sharing model for Iranian educational and research organizations. *Indian Journal of Science and Technology*. 2015 Oct; 8(28):1–8.
16. Foster P, Ohta AS. Negotiation for meaning and peer assistance in second language classrooms. *Applied Linguistics*. 2005 Sep; 26(3):402–30.
17. Vocabulary learning in collaborative tasks: A Comparison of pair and small group work. 2014. Available from: <http://ltr.sagepub.com/content/early/2014/02/06/1362168813519730>
18. Mindel JL, Verma S. Wikis for teaching and learning. *Communications of Automatic Identification System*. 2006; 18(1):2–38.
19. Trentin G. Using a wiki to evaluate individual contribution to a collaborative learning project. *Journal of Computers Assisted Learning*. 2009 Feb; 25(1):43–55.
20. Rowe M, Bozalek V, Frantz J. Using Google Drive to facilitate a blended approach to authentic learning. *British Journal of Educational Technology*. 2013 Jul; 44(4):594–606.
21. Veletsianos G. Designing opportunities for transformation with emerging technologies. *Educational Technology*. 2011 Mar-Apr; 51(2):41–6.
22. Collaborative writing with web 2.0 technologies: Education students' perceptions. 2011. Available from: <https://prezi.com/sog4bzoh-o4l/collaborative-writing-with-web-20-technologies/>
23. Lipponen L. Exploring foundations for computer-supported collaborative learning. *CSCL '02 Proceedings of the Conference on Computer Support for Collaborative Learning: Foundations for a CSCL Community*; 2002. p. 72–81.
24. Mahmoudzadeh M, Alborzi M, Ghazinoori S, Khalili Shavarini S. Evaluating efficiency of collective learning in innovation networks: Simulation based experiments in SKIN. *Indian Journal of Science and Technology*. 2015 Oct; 8(27):1–6.
25. Wenger E. *Communities of practice: Learning, meaning and identity*. New York: Cambridge University Press; 1998.
26. Cattafi R, Metzner C. A didactic experience in collaborative learning. *Issues in Informing Science and Information Technology*. 2007; 4:1–14.
27. Brodahl C, Kristian Hansen NK. Education students' use of collaborative writing tools in collectively reflective essay papers. *Journal of Information Technology Education: Research*. 2014; 13:1–30.
28. Lave J, Wenger E. *Situated learning: Legitimate peripheral participation*. New York, NY: Cambridge University Press; 1991 Sep.