Chapter 10
Case Study 5, Macao: Using Google Docs for Peer Review

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1 Background

Peer review is seen as an integral part of the writing process, particularly in the process-based writing approach in which students are encouraged to exchange drafts at various stages of writing to obtain oral and/or written feedback to enhance their writing quality. The focus of the feedback may include global concerns such as content and organization, and/or local concerns such as grammar and vocabulary (Chang, 2016).

Peer review can be conducted through different modes, including face-to-face and computer-mediated (synchronous or asynchronous). Liu and Sadler (2003, p. 195) argue that computer-mediated communication (CMC) is a "less anxiety-provoking" means of giving feedback than face-to-face interaction. The advantages of using CMC for enhancing participation and sharing are also echoed by Belcher (1999), in the context of graduate seminars. The choice of mode leads to differences in the type and the nature of the comments given, as shown in Liu and Sadler's (2003) study. They found that students made more comments to one another in the "technology-enhanced group" than in the "traditional group." The former group also made more "revision-oriented comments" than the latter group, resulting in an increase in the number of revisions made in the second draft. Grant (2016) compared students' perceptions and attitudes of carrying out peer review in a completely online mode, and in a classroom-based, student-led blended mode. He found that students reported higher levels of motivation and enjoyment in the blended mode than in the completely online mode, despite the fact that students were all capable of carrying out peer review completely online.

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With the advent of Google Docs, a number of studies have investigated its use in peer review lessons. For example, Ebabi and Rahimi (2017) examined the impact of online peer-editing using Google Docs and found that not only does the application enhance students' academic writing skills, students also show positive attitudes toward this mode of giving feedback. Similar findings can be identified in Alharbi (2020), which suggests that certain affordances of Google Docs, such as automatically saving changes and retention of revision history, facilitate learners' development of academic writing skills. Likewise, Neumann and Kopcha's (2019) study found that Google Docs enables students to "communicate back-and-forth with their peers to make sense of and apply that feedback" (p. 13). While these studies focused on students' perceptions of using Google Docs for peer feedback and its effectiveness in facilitating writing tasks in different parts of the world, the current case study focuses on examining the types of peer review comments made by students when using Google Docs for feedback in an undergraduate-level academic writing course in Macao.

This present case study is set in Macao, where English is increasingly being used in the city. In the 2016 population by-census, almost 28% of the population reported they were able to use English even though just under 3% of the population used English as their usual language (Statistics and Census Service, 2016). Despite the growth in English language users, Macao's English language education still has room for development. Mak (2015) reports that English is predominately taught in Cantonese in the Chinese medium secondary schools, which account for more than 75% of all secondary schools in Macao. Additionally, Mak's study of a small sample of university entrance examination papers revealed that the majority of those test-takers utilized word-for-word Chinese to English translation in their writing. Further, a constant pressure point on secondary school teachers is preparing their students for the university entrance examination, which contains timed writing (Yu et al., 2020). It can therefore be assumed that some students may not have had a lot of experience with English academic writing before entering university.

This case study focuses on undergraduate students attending an English for Academic Purposes course at an English-medium university. It reports on how an instructor structured peer review lessons and how students met the lessons' objectives when (a)synchronously commenting on their peers' essays using Google Docs. The anonymous student comments were coded and analyzed to determine the extent to which the lessons' objectives were reflected in the student comments. The goals of this study are to (1) illustrate how such a peer review lesson can be structured, and (2) understand the types of student comments that are produced when peer review is mediated by technology. Our overarching research question is: *How does Google Docs mediate the peer review process of academic writing?*

2 Case Study

2.1 Participants

There were 70 year-1 or year-2 student participants who were enrolled in an Academic English course. Most of the students used either Cantonese or Putonghua as their home language. In an informal classroom survey, many of them had not been exposed to process writing or peer review. Additionally, most had not used Google Docs to complete a collaborative writing assignment.

2.2 Project Description

In the Academic English course, students were asked to complete two major group projects, one of which was a group essay addressing one of the 17 goals of the United Nations' Sustainable Development Goals (SDGs). The teaching materials were developed by various instructors who had taught the course, with Averil Bolster and Peter Levrai as the main developers. The research essay project required that students work in groups of three to establish a problem in a specific context and propose a viable solution. The elements included the following: individual annotated bibliographies, an essay outline by the group, a consultation with the instructor, two drafts, two peer reviews, a final draft of 1,200 words with a minimum of six high-quality sources, and APA style. The lessons leading up to the final draft included the following: outlining, thesis statement writing, source integration, paragraph development, peer review, cohesion, and concise writing.

In preparation of the first draft peer review task, which was conducted using the "Comment" function in Google Docs, students were provided with the following information developed by Randall (2018): a sample paragraph, guiding questions based on a P.E.E.L. (point, evidence, explanation, link) paragraph structure, and constructive criticism sentence examples. Next, each group read the sample paragraph and answered questions such as "Does the evidence support the point?" by adapting from the constructive criticism sentence starters. The instructor first provided immediate feedback on student comments and then led a whole class discussion on the qualities of useful comments.

Further instructions were given to students once they completed the steps above. The instructions were as follows (excerpt from Randall [2018] presentation slide):

1. Quickly read the entire essay. Make sure you understand the thesis statement and the point sentence of each body paragraph.
2. Give at least 1 comment to the main point of each body paragraph:
    (a) Praise what you like, and/or
    (b) Ask a question about what you don't understand, and/or
    (c) Give a suggestion for how to improve.

3. Then give more specific feedback to the paragraphs—focus on the P.E.E.L. and I.C.E.[1] aspects.

Students were arranged in a round-robin process to individually review their assigned essay and were instructed to give a minimum of 10 comments. Each essay was read by two or three students from different essay groups. When the peer review was completed, student writers had the opportunity to discuss all of the comments they received with their group and decide how they should proceed with their second draft. Students also had time in class to ask for clarification from their peer reviewers.

In the lessons leading up to the second peer review task, students were taught how to spot a lack of cohesion in student writing and how to achieve concise writing through various strategies. Students then selected one paragraph in their group essay for practice before checking the cohesion and conciseness of another group's essay. Students read a different essay from their first peer review task. They were instructed to use the "Suggesting" function in Google Docs when making suggested changes in the essay.

2.3 Data Collection and Analysis

This case study used a qualitative approach, specifically grounded theory (Glaser & Strauss, 1999), for the collection and analysis of data. The first author collected the data one year after the course had ended. A total of 2,198 peer review comments was collected for the two peer review activities. Next, the comments were numbered for anonymity. The second author, who also had the experience of teaching the same course, assisted the first author in data analysis. We agreed to use the instructions given to students to help provide focus during coding (Corbin & Strauss, 2008) and answer the research question. Each researcher individually coded approximately 200 of the student peer review comments before meeting again to compare our codes. From this iterative process (Saldaña, 2009), we agreed on the following codes: *compliment*, *improvement needed*, *general comment*, *question-as-suggestion*, *direct suggestion/edit*, *writer response*, *question*, *disagreement*, *polite expression*, and *referral*. Each researcher then completed the coding of the rest of the data individually. Upon completion of the coding, the researchers conferred with each other on comments that did not seem to fit in any of the 10 codes above and resolved any differences.

[1] I.C.E. stands for "introduce," "cite," and "explain," and is the focus of the source integration lesson delivered as part of the academic paragraph writing practice.

2.4 Results

Depending on the complexity of the peer review comments, some comments received more than one code. For instance, if the peer reviewer complimented the writer before asking a question or suggesting some type of improvement, then the comment was coded as C/IN (for compliment/improvement needed). Table 1 provides definitions for each code as well as examples of student peer review comments that illustrate

Table 1 Codes for peer review comments

Code (number of occurrences)	Code definition	Example (comment number)
Improvement needed (733)	Instances where the comment signaled to the writer some type of revision was needed	I got confused when I reading this. I can not understand what the LTA would like to do (CN272)
Direct suggestion/edit (643)	Comments that instruct the writer exactly what should be done/edits made directly on the essay draft	I think you need to mention where these data come from (CN706)
Compliment (429)	Instances where the comment was appreciative of the student writing	The PEEL structure is well-organized in this paragraph (CN135)
Question (209)	Comments requesting more information	Can you give some examples? (CN1603)
Question-as-suggestion (204)	Comments that appear in question form but contains an embedded specific suggestion	How about making a concision here? (CN536)
General comment (187)	Observational or descriptive comments	the sentence use visible data to clearly show CCS indeed need money (CN349)
Disagreement (33)	Comments that disagree with essay content or organization	Hmmm, I don't think the campaign's website would say something like this sentence, your citation should be what the article is not what you observe, here you may just leave the citation (CN1871)
Polite expression (32)	Polite expressions that could not be categorized as compliments	It would be better if you give the examples for the types of waste in details (CN1013)
Referral (7)	Recommendations to review teaching content or instructor guidelines	Same issue, I think this sentence contains noun string. Check with Day 25 slides number 26–31. There are few examples to correct these types of mistakes (CN1188)
Writer response (6)	Replies from essay writer(s)	what does it mean? (CN1597)

each code. In total, the 2,198 comments carried 2,483 codes (with 1,879 single codes and 604 multiple codes). With 70 students, each student averaged 31.4 comments, or 15.7 comments for each draft. The total number of words used was 24,539, or an average of 350 words per student reviewer for both drafts.

2.4.1 Peer Review Comment Quantity and Characteristics

From the results shown in Table 1, several general conclusions about the quantity of peer review comments can be made. First, as Liu and Sadler (2003) demonstrated in their study, the number of peer review comments made via technology was 1.8 times the number of peer review comments made via traditional methods. In their study, each student averaged 13.1 comments. Students in the current study averaged 15.7 comments for each draft. So, the comparatively large comment numbers support Liu and Sadler's conclusion that technology-enabled peer review activities encourage reviewers to provide more feedback.

Another way to characterize the peer comments in this study is to use Hyland and Hyland's (2006) observation of student agency and autonomy. Rather than acting as passive receivers of knowledge, students actively engage in the review process to help their peers improve both the global and local concerns of their writing. With the use of Google Docs for peer review, students are provided with even more space to express such agency. One way to express this agency is by asking questions to prompt their peers to think deeply about an issue. In this study, questions were posed more than 200 times. For example, one student asked, "Where does this example come from? Why do we believe it?" This question encourages the writer to substantiate claims with more evidence, which is an important feature of academic writing.

2.4.2 Peer Review Comment Purpose

The current study results showed that student comments varied by purpose as well. In all, students used 32 *polite expressions*, 204 *questions-as-suggestions*, 209 *questions*, and 429 *compliments*, for a total of 874 codes that involved some type of politeness strategy when giving feedback as compared to the 733 *improvement needed* and 643 *direct suggestion/edit* codes. Although students were instructed to praise what they liked, they were not explicitly encouraged to embed their critique. The relatively frequent use of politeness strategy echoes the findings of Lin and Yang (2011), whose study revealed the likelihood of students to integrate politeness strategy with critique so as to avoid being perceived as rude. Perhaps partially due to the convenience of technology, students could also take more time to use polite language to embed their critique.

Besides maintaining politeness, student reviewers were focused on highlighting global and local concerns that needed revision. The high volume of 733 *improvement needed* and 643 *direct suggestion/edit* comments indicates a strong level of student engagement. Even when reviewers did not know the types of revisions they wanted to

see, they were able to point out weaknesses, areas of confusion, and logic problems. They were even able to see what was not there. For example, one reviewer pointed out, "I can't really understand the structure of your essay. The PEEL and ICE format should be use in each paragraph of the essay in order to have a clear structure and it will be easier for the reader to understand the content and the main point of your essay." Comments such as this show that the reviewer retained the technical knowledge of an academic body paragraph structure and also could notice it when the expected parts were missing.

In closer detail, the variety in the purposes of comments given extended beyond the instructions provided to the students to include hedging. It seemed that the peer reviewers were able to take the instructional cue of "praise what you like" along with sample constructive criticism sentence starters to create their own politeness devices. For instance, students were given the starter clause, "I really liked the way you…," but a search for this clause yielded zero results while a search for "I appreciate…" yielded 17 results. Reviewers also used quite a bit of hedging even though this was not explicitly taught as a means of achieving politeness. Devices commonly used for hedging included the use of *can* (162 times), *could* (70 times), *may* (64 times), and *might* (8). Additionally, hedging was achieved through the use of conditionals such as *if* (118 times). For instance, a student wrote, "In my opinions, if you need to shorten your draft, this paragraph is a good choice." All of these examples served to support the idea that student peer reviewers were cognizant of how their comments may be received by their peers and did what they could to maintain a cordial relationship between classmates (Lin & Yang, 2011).

2.4.3 Peer Review Interactional Spaces

The results further demonstrated that peer reviewers interacted with the written text, with each other, and with the teaching content. Instead of treating the peer review process as "one-way" communication, in some cases, students sought follow-up clarifications from the reviewers. Some of the comments may be a result of the use of CMC, which offers an interactive, open platform for students and reviewers to engage in a two-way discussion of the comments (Wu et al., 2015). As the six writer response comments illustrated, student writers wanted to receive clarification on their peer comment, agreed with peer reviewers, acknowledged their mistakes, and disagreed with reviewers. Although student writers had the option to ask for and receive clarification in person from their peer reviewers in class, writers with questions opted to use the "Reply" function to respond to peer comments instead. In a sense, some student writers treated the peer review comments as text messages, replying to them because that option is available. It may be possible that the students are accustomed to texting and thus preferred this means of communication. It may also be possible that students were concerned with potential face-threatening issues as they may feel uncomfortable disagreeing with someone to their face (Lin & Yang, 2011). In addition to the writer response comments, reviewers directed student writers either to the instructor's teaching materials or guidance, demonstrating another means

of interaction and engagement with each other and with content. These two types of interaction could lend support to Wu and Chen's argument that peer review done through CMC allows for multi-directional communication and engagement.

Even when peer reviewers were uncertain about how to evaluate their assigned essays, they were still interacting with the text through identification. In the coding, these types of interactions were coded as *General comment* due to their observational and descriptive nature. Contrary to the types of comments that identified missing details, these general comments were attempts at identifying the purpose of the detail as it related to a paragraph or the function of a paragraph as it related to the essay. For example, one student wrote, "The paragraph can slightly describe which group presented the campaign, the campaign they presented and what did they explain," as a way to describe what s/he understood to be the purpose of the paragraph. Although there was no overt evaluative language or suggestion, these types of descriptive comments could still benefit student writers as a means of checking whether the message and purpose they wanted to convey were received by a reader.

3 Pedagogical Principles

Google Docs can be a powerful tool for peer review, and when considering implementation, instructors should consider the following pre-, while-, and post-steps.
Preparing students:

1. Scaffolding is necessary, and students need to be guided step-by-step through the process.
    (a) Students should be introduced to the purpose of peer review as a way of helping each other think about their rhetorical situation and how they want their writing to be perceived by readers. In this sense, peer review should perhaps be reframed as reader review. Focusing on reader reaction with a rubric as the basis of such reaction helps reduce students' concerns that they are not capable of judging a piece of writing.
    (b) Students should be given opportunities to analyze the effect of peer comments from the perspectives of both a writer and a reader.
    (c) Students should have ample practice on Google Docs so that they can become familiar with its functions.
    (d) Students need to be shown how to give comments in a constructive and supportive way, with the instructor acting as a facilitator to monitor the process.

Instructor preparation:

1. Setting up the peer review assignment requires planning, especially if the goal is to allow students to read essays from different writers for different drafts.
2. One way of ensuring that students are prepared to do peer review is by checking their understanding of basic academic essay structure. The course instructor

uses a Google Forms quiz, where students have unlimited attempts to get a perfect score before they can begin the peer review process.
3. Implementation includes thinking through the essay collection and redistribution process. In Google Docs, the granting of access rights of all essays to all students in class can become an issue. The benefit of doing so is that students can have the opportunity to learn from each other. The drawback is that some students may inappropriately borrow other students' writing/comments.

During peer review:

1. Some of the peer reviews should be done in a classroom computer lab setting so that the instructor can monitor student progress and answer student questions. The instructor can use concurrently generated comments to discuss comment (in)appropriateness for the first draft.
2. The instructor can also monitor student reviewers as they comment on their assigned essays "in private." That is, the instructor can "reply" to a comment to reinforce its value to the student writer or to redirect the reviewer back on track.
3. Depending on how Google Docs is set up, the instructor can receive email notifications for each document that is commented on. Although some may consider this notification a nuisance, the instructor will have the ability to reply to a comment directly from the email inbox.

After peer review:

1. It is important to inform writers that they are not obligated to accept all comments. Rather, their job is to think about each comment from both a reader's and a writer's perspective. Ultimately, the decision to revise lies with the group.
2. Instructors should remind students that they should take the ultimate responsibility for their writing.

This case study has demonstrated that Google Docs can be an effective means of conducting peer review. Peer comments were found to be not only robust but also multifaceted. What Google Docs contributes is the ability for everyone in class to have access to all of their essays, peer comments, and edit suggestions. This access creates a constant, multidirectional channel of communication between those involved in the activity, helping to make engagement an easier process.

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