

Online Peer Reviews: A Lasting Innovation from the COVID pandemic?

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Abstract

The COVID pandemic caused a forced transition to online learning as schools were closed to stop the spread of the disease. Schools and teachers coped with this by adapting face-to-face activities to the online environment in innovative ways. This study investigates the effectiveness of conducting peer reviews online and considers whether this innovation should be retained after the pandemic ends. It was conducted in a small, private university in a developing country. Out of 130 students, 34 surveys were collected (26%) that contained useful quantitative and qualitative data. The checklist forms used in the peer reviews were compared to the subsequent draft to see the uptake of the feedback. The results showed that students incorporated 72% of the peer suggestions in the next versions of their report. Overall, the peer reviews were found to be effective, motivating, and to increase confidence as a writer. Students considered the most effective way to improve writing is with a combination of peer and teacher-given feedback. Interestingly, no clear preference for face-to-face peer reviews was indicated. Therefore, it seems that conducting peer reviews online is a valid option for teachers who want to save valuable class time. To enhance the effectiveness of online peer reviews it is suggested that teachers give substantial learner training prior to the peer review, provide structure such as checklists or guidelines, and increase accountability by giving students a chance to meaningfully evaluate the comments and participation of their peer reviewers.

Introduction

The COVID-19 pandemic was a global disaster that impacted practically all walks of life including education. Most schools responded by transitioning to what has been termed “emergency remote teaching” (Bozkurt & Sharma, 2020). The forced transition to remote teaching did not always go smoothly as schools struggled with issues such as inadequate technology and teachers with no experience in online teaching (Borg, 2021). Borg surveyed 426 teachers in 71 countries and found that roughly half of the respondents reported having their first experience with online teaching in 2020. In the midst of these dire circumstances, teachers developed new skills and systems (Martinez, 2020; Misra, Gupta, & Shree, 2020), found ways to cope (Mcintyre, Gregersen, & Mercer, 2020), and generally soldiered on as teachers often do.

As populations become vaccinated and schools return to face-to-face education, some educators are curious about the future of online education and which innovations will endure. This current study was conducted in an English as a medium of instruction (EMI) university in a developing country. Due to the pandemic, the peer reviews of an English for Academic Purposes class (EAP) were done online. Based on the results of a survey and an investigation of the uptake of the feedback, an argument will be made to keep the online peer review as an ongoing part of the EAP course.

The Importance of Feedback in Writing

It is widely recognized that feedback plays an essential role in helping students develop their writing skills. Its importance is especially acknowledged in process-based writing classrooms, where feedback on the preliminary drafts is intended to help students develop the habit of rereading, rethinking, and revising their writing (Ruegg R., 2018). Feedback may come from one or more of several sources, such as teacher given, peer given, and computer automated. Additionally, there are many types of written feedback, such as direct, indirect, and metalinguistic (Ellis, 2009). Feedback types can be applied according to students' abilities and needs, which increases the effectiveness of written corrective feedback (Nassaji & Swain, 2000). A skilled teacher will give just enough feedback so that students can make the required revisions by themselves. For example, a lower-level writer may require direct and specific feedback, while a more advanced writer can self-correct if the teacher just indicates that an error has been made. Thus, effective feedback considers the student, not just the assignment.

Historically, feedback was mostly focused on error correction. Unsurprisingly, earlier studies on L2 writing sought to investigate to what extent error correction benefited students' writing development. One line of research argued against the use of grammar-focused corrective feedback (CF) suggesting that while it could be beneficial for immediate revisions, it did not produce any improvement in students' writing over longer periods of time (Kepner 1991; Sheppard 1992; Polio, Fleck & Leder 1998; Fazio 2001). Perhaps, one of the most prominent works in the literature is a publication by Truscott (1996), who regarded teacher feedback as being ineffective and even harmful, and therefore advocated abandoning it entirely. Likewise, from the standpoint of SLA, Krashen (1982) claimed that error correction can have a negative impact on the processes of L2 acquisition. The researcher argued that correcting errors leads to students' increased feelings of stress and anxiety causing them to avoid erroneous constructions in subsequent writings. This, in turn, results in the reduction of linguistic complexity and 'simplified' writing. Having said that, a number of researchers support the provision of CF. For example, Ferris (1999) made a clear rebuttal to Truscott's review by stating that the research available at the time was mostly inconclusive and incomplete. The author also pointed out that Truscott had ignored some potentially positive research evidence on the impacts of grammar correction. The proponents of CF say that accuracy in academic writing is important to prevent "fossilization" of grammar errors (Horowitz 1986; James 1998). Additionally, studies on student preferences have revealed that students expect their teachers to provide error correction and that they feel frustrated if this does not happen (Cohen & Cavalcanti 1990; Leki 1991; Cumming 1995; Ferris 1995; Hyland 1998; Ferris & Roberts 2001; Lee 2004). Predictably, student participants in these studies have reported that they value teacher feedback and regard it as more important than alternative sources, such as peer feedback.

A more recent strand of research exploring longer-term impacts of CF on students' writing abilities seems to shed more light on the debate. Studies that have examined the impacts of focused CF (i.e., targeting

only specific error types or patterns, Ferris 2011) have found strong evidence that suggest positive effects of focused CF on student writing development. What is more, the reported improvements prove to be long-lasting. For example, in a study by Bitchener & Knoch (2010), the students who received focused CF consistently outperformed those who had not over a 10-month period. Interestingly, unfocused CF (i.e., involving the correction of all errors) has been found to not only improve in the immediate revisions, but also produce a desirable long-term learning effect (Van Beuningen et al., 2008). These findings are also supported by Ruegg (2015a) who found that students who consistently received corrective feedback on their writing over a year, demonstrated significant improvements in their language abilities in subsequent writing tasks. All of these indicate that although disagreements on the effectiveness of CF on L2 writing development have occurred, there now seems to be more evidence confirming error correction is an effective means of improving L2 students' written accuracy over time.

English composition instructors generally spend a lot of time correcting papers and giving feedback with mixed results. Peer feedback can reduce the workload of teachers while fostering learner autonomy by giving students control over the revision process. Revision is widely seen as central to effective writing and a skill often lacking in those who are writing in a second language (Horning & Becker, 2006). If the main purpose of feedback is to facilitate revision, then feedback could be even more important to L2 writers than those writing in their mother tongue.

Peer Feedback

Peer feedback, also commonly referred to as "peer review" or "peer response", has drawn support from several theories including collaborative learning theory. This theory posits that learning takes place in groups wherein individuals receive social support and scaffolding from each other (Hu & Lam, 2010). This in turn implies that engaging in peer feedback, which inherently is a social and collaborative process, has a potential to contribute to learning. Additional benefits of peer feedback include developing writers as readers and promoting learner autonomy and self-regulation skills. However, despite this theoretical support of the benefits of peer feedback on L2 writers, earlier studies seem to have produced mixed results necessitating the need for more research in the field (Hyland & Hyland, 2006).

A review of the literature on peer feedback reveals seven major strands: (1) the effectiveness of peer feedback compared to teacher-given and self-feedback, (2) importance of peer feedback training, (3) impact of peer feedback on feedback givers, (4) computer mediated peer feedback, (5) peer interaction and group dynamics, (6) student stances and motives, and (7) cultural issues in peer feedback. For the purposes of this study, further discussion will only touch on the first four strands.

A few recent studies sought to examine the effectiveness of peer feedback compared to teacher and self-feedback (Yang, et al, 2006; Zhao 2010; Diab 2011; Ruegg 2014). In a study by Yang et al (2006), in which the impact of peer and teacher feedback on Chinese EFL students' writing was compared, the findings indicated that the students clearly favored teacher feedback (above 90% of them found it either "useful" or "very useful"). Even though most of the participants valued teacher feedback over peer feedback, it is also worth noting that the latter resulted in more meaning-related changes in subsequent writings. In contrast, most of the changes made as result of teacher feedback were language related, such as 'subject-verb' agreement. A similar, yet more longitudinal, study was conducted by Ruegg (2014) who studied the changes in writing efficacy of Japanese EFL students over a course of an academic year. The findings show that the students who received teacher feedback improved their L2 writing self-efficacy skills more significantly than the peer feedback group. In a further study, Ruegg (2017) found that students who had received peer feedback only were more forthcoming about asking their peers if they did not understand something compared to those who had only received teacher feedback. Based on these findings a conclusion may be drawn that both peer and teacher feedback can be useful in helping students develop as writers.

When comparing peer and teacher feedback it is also important to consider which feedback students understand better. A study by Zhao (2010) seems to offer valuable insight into this question. In this study, while students showed clear evidence of uptake of teacher feedback in their revisions, they reported that their understanding of peer feedback was considerably higher than that of teacher feedback (83% to 58%). This finding suggests that while students continue to give more importance to teacher feedback, they may end up not fully understanding it, and that they could benefit more from peer feedback. Current studies in the field continue to emphasise the significance of peer feedback in writing, pointing out that

each feedback approach serves a different purpose, implying that L2 writers can be better off receiving both types of feedback (Yu & Lee, 2016)

While the value of peer feedback in L2 writing has been widely acknowledged, many writing instructors tend to feel that giving peer feedback is a time-consuming process, which may cause them to refrain from doing it. It has also been agreed that for peer feedback to be effective, sufficient training is crucial; students need to understand the value of peer comments and be trained on how to give feedback effectively (Rollinson, 2005). Rollinson emphasises the importance of training for three reasons: (1) it raises awareness, (2) it enables productive group interaction (i.e. students learn about collaboration and supportiveness), and (3) it prompts productive response and revision as students engage in constructive dialogue between a reader and writer. Furthermore, the author points out that adequate and effective training can help students become more effective readers- a skill that most accomplished writers have developed. A more recent study of peer feedback training led by Rahimi (2013), has found positive implications of training on students' quality of peer comments and lasting impact on their writing. While the trained group of students in his study gave more meaning and content related comments to their peers, the untrained group mostly made surface level suggestions (such as correction of grammar errors). Besides, the former group was said to demonstrate noticeable improvements in the quality of their writing in the long run.

Another strand of research focuses on the extent to which peer feedback practices can be beneficial for feedback givers. This line of research has also produced mixed results. For example, in a study by Berggren (2015), Swedish EFL secondary students who engaged in peer reviews (giving feedback) significantly increased their awareness of the audience and genre. Also, the analysis of their subsequent writing drafts revealed improvements at the global level (mainly related to the content). On the other hand, some researchers seem to report contradictory findings. For example, in a study by Trautmann (2006), the participants mostly reported receiving feedback as being more useful than giving feedback. In fact, 70% of the students said that their revisions were primarily caused by the feedback they received, while the feedback they gave had only little impact on their own writing.

Overall, while earlier studies seemed to have more contradictions regarding the effectiveness of peer feedback, the more recent research suggests that it plays a significant role in helping L2 students develop as writers. What is more, studies have found that both teacher-given and peer feedback are valuable sources of feedback, each serving their own purpose. Therefore, it is reasonable to suggest that peer feedback needs to be embraced more by L2 writing instructors.

Electronic Feedback

Another factor to consider in addition to the type of feedback is the mode by which it is delivered. Feedback may be delivered orally or in writing. Oral feedback can be given face-to-face or as a recording. Oral feedback on writing has been found to be effective, with students benefiting from the ability to ask for clarifications or advice (Hyland, 2003). Hyland found that teacher-directed oral feedback sessions that are focused on editing are less effective than sessions where the teacher provides an open discussion focusing on writing development. According to Hyland, electronic oral feedback can be either synchronous or asynchronous, with advantages and disadvantages to both modes. Goldstein and Conrad (1990), in a landmark study, found that some students are not able to question the opinions of teachers for cultural or personal reasons. This should be kept in mind as it limits the effectiveness of oral feedback sessions. Tuzi (2004) found that although students prefer oral feedback, they made more revisions from e-feedback. Additionally, these revisions tended to focus more on the macro level while revisions from oral feedback tended to be more surface level oriented. Accordingly, Tuzi (2004) surmised that students may benefit more from e-feedback than other forms of feedback. Tuzi also provides us with the following help chart comparing oral, written, and electronic feedback (p. 219):

Table 1
General differences between oral, written and e-feedback

Oral feedback	Written feedback	E-feedback
Face-to-face	Face-to-face/distant	More distant
Oral	Written	Written
Time dependent	Depends	Time independent
Pressure to quickly respond	Pressure to respond by next class	No pressure to quickly respond
Place dependent	Depends	Place independent
Nonverbal components	No nonverbal components	No nonverbal components
More personally intrusive	Depends	More personally distant
Oral/cultural barriers	Written/cultural barriers	Written/cultural barriers
Greater sense of involvement	Greater sense of involvement	Greater sense of anonymity
Negotiation of meaning	Negotiation of meaning	Less negotiation of meaning
Less delivery effort	Greater delivery effort	Less delivery effort
N/A	No cut & paste	Cut & paste

Written feedback has traditionally been delivered by using the dreaded red pen, which has the effect of making the papers look like they are covered in blood when they are returned (DeMoranville, 1994). This method of marking papers has been largely discredited for raising the affective filter and giving the false impression that error-free writing is good writing (Leki, 1991). Modern instructors of English composition, especially in universities, find themselves giving feedback more often in electronic form. Research on electronic feedback has been ongoing for at least 20 years (Chen, 1997; Dickenson, 1992). Several advancements in technology have facilitated the ability for instructors to give electronic feedback including the ability to make marginal comments, which can be used for recasts or metalinguistic feedback, and the 'track changes' function in Microsoft Word (AbuSeileek & Abualsha'r, 2014). With these tools, instructors can now give feedback in a way similar to hand-written feedback.

Research that has focused on electronic peer reviews (also called computer-mediated peer reviews and online peer reviews) can also trace its roots back roughly 20 years (DiGiovanni & Nagaswami, 2001; Tuzi, 2001). Although much less research exists on electronic peer reviews than face-to-face peer reviews, the results have been generally positive. Chen (2016) and Lam & Habil (2020) conducted a meta-analysis on electronic peer reviews and found several advantages over face-to-face peer reviews. The advantages listed that it provides a better opportunity for high-quality feedback, promotes learner autonomy and self-reflection, is flexible in terms of time and location, feels more secure to many students, and creates an interactive environment where students can have positive and productive interactions. Of course, Electronic peer reviews have also been found to have drawbacks. Lam & Habil (2020) identified four general problem areas: students lack knowledge and/or confidence to provide feedback, unconstructive feedback, lack of confidence in the peer's ability to provide feedback, and failure to participate fully and respond actively. Guardado & Shi (2007) found that only 10 of their 22 participants made revisions from peer feedback even though the feedback included specific, actionable, and accurate advice. Bauer et. al. (2009) found that students struggled to give reviews to their peers because they were novice writers themselves. Particularly the areas of referencing and citations were problematic. Students reported that it was easier to comment on language use and surface-level problems than on content and referencing. The impact of the reviews on subsequent revisions was not reported as being substantial.

The Bauer et. al (2009) study used a checklist to facilitate the peer review process. Despite the problems with referencing and a low impact on revisions, the overall peer review experience was perceived as positive. The study did not specifically mention the impact of using checklists. However, the students reported in a survey that they found the process to be consistent, detailed, and comprehensive. One can surmise that the checklists helped to keep the students focused.

In summary, both teacher feedback and peer feedback are essential components of English Composition courses. Electronic teacher feedback is the current norm in tertiary education as well as many K-12 situations. The propensity of research shows that electronic teacher feedback gives positive results, but fewer studies have been done on electronic peer feedback and the results are mixed. Clearly, more research is needed on electronic peer reviews as the use of technology in education is increasing. This study aims to contribute to that body of research. The educational community is breathing a collective sigh of relief as courses return to physical classrooms, but that does not mean the techniques developed during the pandemic all need to be abandoned.

Methodology

Participants and Procedure

The data were obtained at a private university in Istanbul, Turkey. In addition to this, all participants of this study were registered in the ENG 102 course (one of the two classes of the EAP course). The main aim of ENG 102 is to fine-tune the skills developed in ENG 101 and help students become more confident users of English. It should be noted that this class was taught online due to the outbreak of COVID-19, which could have resulted in reduced motivation in students. Out of the 130 students enrolled in the course, 34 students (26%) chose to participate in the survey. Four surveys were omitted from the study. Three of the surveys were completed twice and one was incomplete. This reduced the number of usable responses down to 30. Of this number, 23 students were females, and the remaining were males. The age of the participants ranged from 18 to 35 with a mean of 21.4. The largest number of participants were enrolled in the faculty of Education (38.2 %), followed by Law students (23.5%). Similar proportion of students were in the faculty of Economics and Administrative Social Sciences (FEASS) and Engineering (17.6% and 14.7% respectively). The remaining (6%) of the participants were from the faculty of Art, Design and Architecture (FADA) and Psychology.

Also, from the survey results it seems obvious that the participants had had prior peer review experience, both in face-to-face and online settings. The following are the results for “How many times have you done face-to-face peer reviews?” ($M = 4.39$, $SD = 3.16$), and ($M = 4.55$, $SD = 2.52$) for “How many times have you done online peer reviews?”, both out of the range from 1 to 10. To the question “When you were learning to write IN TURKISH did you do peer reviews?”, 22 respondents said “yes”, while only 8 said “no”.

As part of this course requirements, at the end of unit 1, students were required to submit a written report. With clear report guidelines given to students at the beginning of the unit, they were required to produce a report outline, which was checked by their instructor. Following the outline, students started to write their first draft. After all the drafts were submitted, peer feedback was conducted.

Following peer feedback, teacher feedback was given. However, due to tight time frames, the latter was mostly superficial and included only general comments. This was also done electronically, and all the comments were provided through Blackboard (the learning management system used by the university). The students could contact their instructor for additional feedback or clarifications. Following teacher feedback, students were given a week to revise their first draft and make necessary changes before submitting their final draft for grading.

Data Collection and Instruments

Peer feedback was delivered online and was assigned as an in-class activity. To facilitate the process, students were asked to use a checklist that contained 19 questions about the different components of a cause-and-effect report (i.e., the word limit, paragraphing, introduction, body, conclusion, and citations). See Appendix. In addition to checking the appropriate boxes in the checklist, students were encouraged to give suggestions for improvement and to be specific about their feedback. Once finished, they shared a copy of the checklist with their peer and instructor. Since the feedback was given synchronously (through Zoom) the participants were able to communicate with their peers and ask for clarifications. Fifty-six of these peer-feedback forms (i.e., checklists) were completed. Together with students' first and second drafts they were examined to evaluate student uptake of peer feedback. Out of the 56 checklists, 10 were

incomplete and another 13 were unsuitable because they didn't give evidence of fair evaluation (i.e., all the boxes were checked despite the obvious faults in the reviewed reports). The remaining 33 checklists demonstrated clear evidence of valid peer reviews and were carefully examined for this study.

The second instrument for data collection was a survey that was sent out to students at the end of the course asking about their experiences with the peer reviews. The participation in the survey was entirely voluntary and no additional benefits, such as extra points, were offered to minimize bias. The survey consisted of three sections (see Appendix). The first section contained demographic and educational experience questions. The second section had two open-ended questions. The third section comprised 20 Likert scale statements, ranging from one to six, with one being (strongly disagree) and six being (strongly agree). It was decided to have six categories, instead of five, to remove the otherwise "neutral" option for more definitive responses. Another two open-ended questions were given after the Likert-type statements to allow for elaboration and clarification. The open-ended questions provided rich data from which assertions are made.

Results

The results of the Likert-type items in table two are presented in tabular form because the data collected are ordinal, not interval. According to some, this makes parametric tests inappropriate (Jamieson, 2004). On the other hand, many statisticians have shown that although a Likert-type item produces ordinal data, parametric tests can be performed on the responses from a Likert-type *scale* (group of items) providing the frequency of the responses is greater than fifteen (Sullivan & Artino, 2013; Mircioiu & Atkinson, 2017). Therefore, the mean and standard deviation are shown as well as the mode. The numbers in the columns indicated the level of agreement are the number of respondents who chose that level of agreement.

Table 2 – responses to statements with mean and mode

Statements	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree	Mean	Mode	SD
1 Doing the online peer reviews definitely makes me a better writer.	2	2	4	13	6	2	3.9	4.0	1.2
2 Honestly, I do not like the peer feedback and just pay attention to the teacher feedback.	2	6	7	5	5	3	3.5	3.0	1.5
3 I get inspired by the online peer reviews. They make me want to write.	1	4	10	8	5	2	3.6	3.0	1.2
4 The use of a checklist for giving feedback online was useful.	0	2	1	9	9	8	4.7	4.0	1.1
5 Peer reviews sessions are just about writing, not making connections with other students.	6	7	6	5	3	2	2.9	2.0	1.5
6 I feel less sure of myself and my writing after the online peer reviews.	8	4	11	5	0	2	2.7	3.0	1.4
7 The teacher's feedback helps me improve a lot.	1	0	3	4	9	11	4.9	6.0	1.2
8 I think online peer reviews are as effective as face-to-face peer reviews.	2	7	7	7	3	3	3.4	2.0	1.4
9 The online peer reviews reduce my desire to write.	6	14	1	5	1	1	2.4	2.0	1.3
10 The feedback from the teacher usually takes all my energy away.	11	10	4	2	1	0	2.0	1.0	1.1
11 I really like talking to my friends about our writing projects during the peer reviews.	3	6	3	10	4	3	3.5	4.0	1.5
12 I think it is the combination of teacher and peer feedback that helps me improve.	0	4	3	6	7	9	4.5	6.0	1.4
13 I did not like doing the peer reviews online.	6	4	5	6	5	2	3.2	1.0	1.6
14 The peer feedback is better than the feedback I get from the teacher.	8	10	5	3	1	0	2.2	2.0	1.1
15 The use of a checklist alone is not enough.	3	4	7	7	6	1	3.5	3.0	1.4
16 I feel shy in the peer reviews because of what other students might think.	8	10	5	6	0	0	2.3	2.0	1.1
17 I do not feel like writing anymore after getting feedback from my teacher.	9	10	6	3	0	1	2.2	2.0	1.2
18 I felt more motivated to give peer feedback online than I would in a face-to-face session.	6	6	11	4	1	0	2.6	3.0	1.1
19 I do the peer reviews because I have to, but I do not think they improve my writing.	6	6	6	5	4	2	3.0	2.0	1.5
20 I was taught how to listen to, accept, and use peer feedback by my English Teacher.	0	1	5	8	5	10	4.6	6.0	1.2

The survey was designed to examine various constructs, with multiple statements on the same theme. Some were worded positively and some negatively to increase reliability. Responses to a positively worded statement on a construct should correspond to low scores on a negatively worded statement on the same construct. Positively and negatively worded statements were separated by several statements regarding other constructs. Not only will this cause participants to think more carefully about their

answers, it can also reduce the tendency for participants to respond positively, which is known as the “acquiescence effect” or “positivity bias” (Hinz, Michalski, Schwarz, & Herzberg, 2007).

Two items (1, 6) focused on the development of confidence through online peer reviews. Statement 1 ($M = 3.9$, $SD = 1.2$) was positively worded while statement 6 ($M = 2.7$, $SD = 1.4$) was negatively worded, which indicates similar results. Statements 1, 6, and 19 ($M = 3.0$, $SD = 1.5$) taken together give a picture of how students perceive the effectiveness of online peer reviews. As statement 19 is negatively worded, it indicates that students perceive peer reviews as slightly effective. Statements 2 ($M = 3.5$, $SD = 1.5$) and 14 ($M = 2.2$, $SD = 1.1$) compare peer feedback to teacher feedback and indicate that students prefer teacher feedback. Some of the strongest results (statement 7, $M = 4.9$, $SD = 1.2$, and statement 10, $M = 2.0$, $SD = 1.1$) indicate that students perceive teacher feedback as effective. However, statement 9 ($M = 4.5$, $SD = 1.4$) showed that participants feel the combination of teacher and peer feedback to be the most effective way to improve writing. When comparing online peer feedback to face-to-face peer feedback, the participants seemed to have no preference. Statement 8 ($M = 3.4$, $SD = 1.4$) and statement 13 ($M = 3.2$, $SD = 1.6$) are as close to the null option as a six-option survey can get, but the variance was higher on these statements than other statements. In this case, the tabular results may provide more information than the mean. The participants indicated that they like the structure of a checklist (statement 4, $M = 4.7$, $SD = 1.1$), but that the checklist alone may not be enough (statement 15, $M = 3.5$, $SD = 1.4$). Statement 20 ($M = 4.6$, $SD = 1.2$) indicated that the participants were trained to be competent at giving peer feedback.

Some of the statements were designed to investigate how motivating online peer reviews are for participants. Statements 3 ($M = 3.6$, $SD = 1.2$) and 9 ($M = 2.4$, $SD = 1.3$) were oppositely worded and indicate that online peer reviews were mildly motivating to students. They reported that they were not motivated to give feedback as much in online peer reviews compared to face-to-face peer reviews (statement 18, $M = 2.6$, $SD = 1.1$). Statements 17 ($M = 2.2$, $SD = 1.2$) and 10 ($M = 2.0$, $SD = 1.0$) were negatively worded and suggest that the participants were more strongly motivated by teacher feedback.

Finally, several statements were designed to examine the perceptions of the social value of peer reviews. Statement 11 ($M = 3.5$, $SD = 1.5$) indicated that participants slightly enjoy talking to friends about the writing assignments. Statement 5 ($M = 2.9$, $SD = 1.5$) was negatively worded but also indicated a slight enjoyment of connecting with other students. Statement 16 ($M = 2.3$, $SD = 1.1$) shows that students did not feel anxiety during the online peer reviews.

Four open-ended questions were included in the survey to provide richer data and to clarify and expand on the Likert-type responses. Two were placed before the Likert-type statement and two were placed after. The participants were first asked to write about the advantages and disadvantages of peer reviews in general. Out of 25 responses, 10 of them (40%) mentioned something about perspective. Many of the comments were quite direct. For example, S10 wrote “We can see different perspective.” S18 wrote, “Advantage: It helps to see our work in from different points.” Other comments were a bit more involved.

“Peer reviews are important to me. Because in peer evaluations, the student can empathize and evaluate the point of view of his / her friend from his / her own point of view.” – S21

Related to perspective is reflectivity, which can be viewed as a self-perspective. For example, S20 wrote, “I get comments from friends about an assignment I'm doing, which brings up new thoughts in my head.”

Six students mentioned that peer reviews help them find their mistakes. Again, some of these comments were short and direct. S3 wrote “One of the advantages is that others can easily find our mistakes.” Other were more elaborate, such as a statement made by S14 “The advantage is that as peers when we're reviewing a someone's work, we learn it [sic] from their mistakes and we can correct them in our work.” Other advantages mentioned were that peer reviews allows students to help each other, develop critical thinking skills, and self-confidence.

Only nine comments were made about the disadvantages of peer reviews. Four of those comments had to do with problems dealing with other students. S4 illustrates, “However, if the people doing the peer reviews are low/want to be unfair, it would be really bad.” S14 made a similar statement, “The

disadvantage is that for example, I care about giving an [sic] useful feedback to my peer, but not receiving the same elaborate feedback discourages me. As long as it's not a mutual thing, it backfires for me." Anxiety was mentioned as a disadvantage twice. S8 expressed a negative viewpoint to peer reviews in general, "Peer reviews have no advantage. I think teacher reviews (feedback) will be useful since the teacher is the person who really knows his job."

The same question was asked about ONLINE peer reviews. Twenty-three students made comments, but only seven of them were positive. The advantage that was most discussed (n=3) was that it is easier for students to express themselves, especially when giving negative comments. S20 wrote, "it's an environment where we can share everything..." and S8 wrote, "People express their opinions more easily on online platforms. In this respect, the results of the study will be more realistic." A longer comment in the same vein was made by S14.

"Maybe for some people, it can be easier to give feedback especially 'negative' ones. Because in face-to-face reviews, people may not feel comfortable giving feedback that is based on correcting their mistakes."
– S14

Other advantages listed were that the feedback was immediate, and it is easy to see mistakes. The disadvantages had a few more comments (n=9) than the positive. The main complaint is that students are not careful in online peer reviews. S13 wrote, "Up to now, most my peers didn't take peer reviews seriously, so it didn't help me (online)." Two other students made similar comments. Communication problems were also revealed. S2 commented, "When we do this in online, sometimes I cannot express myself correctly and my friend cannot understand me clearly." Communication problems were also mentioned by two other students. Two students mentioned 'reliability' as a problem and three students mentioned that it doesn't matter if the peer reviews are online or face-to-face. S4 stated it succinctly, "I can't see any difference between doing in general or online peer reviews."

After the Likert-type scales students were asked to write a few sentences comparing online peer reviews and face-to-face peer reviews. Fifteen comments were made, but the comments were mostly evaluative, not comparative. In other words, students wrote about which one they liked better instead of discussing the various aspects of each type of peer review. Seven of the students mentioned that face-to-face peer reviews were more effective.

"I find face-to-face peer reviews more efficient than online peer reviews. I have a lot of communication problems in online sessions, so I think it's more effective to do everything face-to-face. I can say that these face-to-face peer reviews lead you to think critically, take responsibility and act objectively." – S4
The main reasons students gave for preferring face-to-face peer reviews were personal and social. For example, S8 wrote, "I think face-to-face peer assessment can be more effective because human relationships are important." Many students (n=6) mentioned that the two types of peer review have no difference.

"I don't think there is any difference between face-to-face and online peer review. Both are a great opportunity for the person to organize and improve their homework." – S3

Two comments indicated that the students perceived online peer reviews as superior to face-to-face peer reviews.

"I think the online evaluation is evaluated more carefully while face-to-face evaluation makes a more superficial evaluation in order not to hurt the other person" – S7

The final open-ended question asked if the participant had any suggestions for improvement. A total of 13 responses were given. Four of the responses stated that the process would be improved if everyone participated fully.

"I have only done online peer reviews once. In that review, I corrected all my friend's mistakes. She just told me: "There is no mistake in your writing." So she didn't even review my essay. So what I want to say

is: We live in a world of interests; People want everyone to help them, but they don't help anyone. First of all, we must change this world of interest. The rest will get better quickly.” – S2
Two students mentioned learner training as a way to improve. One of these directly related learner training to lack of participation.

“Maybe, teachers start with a small talking that, in fact, ENG102 is useful it is not a course where we are forcing students to do lots of assignments. Because ENG101 and ENG102 is really helped me but when I took ENG101 for first time when I was in first grade, it was coming me like a torture but now I can see that ENG101 and ENG102 helped me a lot to improve my english skills. If a student understands that ENG101-102 is in fact helpful for faculty life and also, improves writing and speaking, then they can pay attention more to why does having feedback is important. – S13

One suggestion was to shorten the checklist and do more frequent peer reviews. It was also suggested that the process be monitored better by the teachers. One student felt that the online peer reviews were useless and suggested abandoning them.

Uptake Analysis

The survey provided the perspectives and opinions of the participants regarding online peer reviews. The effectiveness of the online peer reviews was measured by comparing the suggestions on the checklists to changes made in the second draft of the report. The results of the examination of peer review checklists and subsequent revisions are summarised in the table below.

Table 3 – uptake of peer feedback

Suggested area for improvement	Total number of changes suggested	Improvements to revisions	
INTRO: Background info and why the problem is important	7	2	29%
INTRO: Clear Thesis	7	5	71%
BODY: Clear Topic Sentence	4	1	25%
BODY: Description of causes, using cause and effect language	4	1	25%
BODY: Supporting evidence or examples	8	5	63%
BODY: In-text citations	20	18	90%
CONCLUSION: Summary of Main points	2	1	50%
CONCLUSION: Solution suggestion	3	1	33%
BIBLIOGRAPHY- Missing or Cited inappropriately	14	12	86%
TOTAL	64	46	72%

The analysis of the checklists revealed a total of 64 suggestions for revisions. The examination of the written drafts following peer reviews showed that the feedback uptake was high (71.87% of all the suggestions were implemented). As to the nature of revisions suggested, while almost a half of them (30) were easy to implement (students either forgot to cite their sources or cited them inappropriately), some deeper (i.e., meaning level) suggestions were also made. For instance, 7 checklists had useful suggestions for improvement of the thesis statement (it either lacked clarity or was missing), 5 of which were accepted. Likewise, a few meaning-related revisions were made to the quality of supporting evidence and examples.

Other comments included suggestions about the background in the introductory paragraph, topic sentences, cause and effect language and conclusion. However, the analysis of subsequent drafts suggest that students did not seem to follow those suggestions. Overall, it is clear that peer feedback has made an impact on students' writing. Although most of the suggestions were surface level, the examination of peer review checklists and writing drafts presents enough evidence to suggest that students are capable of giving meaning related feedback too. Besides, students generally seem to take peer feedback into consideration and act upon it.

Discussion

1. Quantitative analysis

The Likert-type items revealed that students perceive peer reviews have many benefits. They were found to be effective, motivating, and to increase confidence as a writer. When peer reviews are combined with teacher feedback, it can have a powerful impact. This finding is in line with other researchers (Ruegg, 2018; Yang, Badger, & Yu, 2006) who found that teacher feedback is primary and peer feedback is facilitative, but both are important.

The findings of the current study support the value of the social aspect of peer feedback. It was found that students enjoy discussions about writing and experienced little or no anxiety during the peer reviews. This is similar to the findings of other researchers, who found peer reviews promoted interactions, (Ruegg, 2017) negotiation of meaning (Ruegg, 2018), and increased understanding (Zhao, 2010). Zhao cited several studies that showed teacher feedback was more effective than peer feedback using quantitative measures of uptake. However, learning to write goes beyond how much feedback is incorporated into subsequent drafts, and issues such as learner autonomy and classroom community are also important. Peer reviews at the undergraduate level seem to develop not just individual writers, but communities of writers who are on a path to joining specific academic discourse communities. Different forms of feedback clearly serve different purposes.

A surprising finding in the current study was that students seem to have no clear preference of online or face-to-face peer reviews. The items (8,18) that made direct comparisons between online and face-to-face peer reviews indicated that the modality of the peer review is not an important factor. This is in contrast to much of the research that found electronic peer reviews problematical (Lam & Habil, 2020; Guardado & Shi, 2007; Bauer, Figl, Derntl, Beran, & Kabicher, 2009). It is possible that during the COVID crisis, students came to view working online as normal. It may also be possible that today's undergraduates are more comfortable working collaboratively online than ever before. It is possible that society is moving past Prensky's (2001) famous conception of "digital natives" to a condition where many people could be considered "indigenous netizens." This is consistent with concepts of web 2.0 where the internet is used to interact rather than to just search for information. Perhaps the "millennials" are giving way to "generation alpha". Whereas generational boundaries are unclear, it is a fact that the vast majority of participants in this current study have lived their entire lives in the 21st century and grew up in social environment dominated by the internet.

The participants here indicated that they had received training on how to give a peer review. Most of them reported having had previous experience with peer reviews (4.4 times face-to-face and 4.6 online). However, they seemed to like the checklist and having some structure to the peer review. They also indicated that the checklist was insufficient. This corroborates the findings of other researchers (Rahimi, 2013; Ruegg R. , 2018) that learner training is beneficial for peer reviews. The use of a checklist in this case could be considered semi-autonomous (Berg, 1987 cited in Ruegg, 2018). Even though they have had training, it seems the participants are not ready for fully autonomous peer reviews.

2. Qualitative analysis

The analysis of qualitative data is often obtained through recognizing patterns in rich data and exemplification. This caused a fair amount of discussion to be included in the results. Therefore, further extensive discussion is unnecessary. However, to summarize, the following assertions were made based on the responses to the open-ended questions.

1. Students recognize that both peer and teacher feedback is necessary for their writing to improve.
2. Students value peer reviews and see it as beneficial, both as a way to help other students and a way to reflect on their own writing.
3. Structure, such as a checklist, was extremely helpful to students.
4. Students only slightly prefer face-to-face peer reviews
5. Online peer reviews can be improved with learner training and monitoring

The assertions are in line with the responses to the Likert-type items. Taken together, it can be seen that peer reviews are recognized as important in the writing classroom. However, there seems to be some room for improvement. Some additional learner training would move the students along towards full autonomy. The students mentioned that they would like more monitoring from the teacher, but perhaps what they really want is a higher level of accountability from the peers. Several students wrote that they felt cheated by peers who took feedback but provided none. Perhaps a way for students to evaluate the peer review process would be sufficient to create the desired level of accountability.

The ambivalence towards face-to-face or inline peer reviews was also seen in the responses to the open-ended questions. Therefore, a post-pandemic instructor may have the peer reviews done online as a homework assignment. Of course, this will depend on the instructor and the context in which he or she is working, but the results of this study indicate that students would by and large be willing to accept such an assignment.

The results of the uptake analysis show that students are able to effectively conduct peer reviews online. That is, they are able to make comments both at the surface and meaning level, evaluate the comments received from their peer, and make revisions that result in a superior essay. It may be safely assumed that this has an impact on the students and that they become better writers overall.

This study has several very serious limitations. The sample size was not large enough and it would have been better if it were more longitudinal. Additionally, it was done with a fairly homogeneous group of students in an ELF context in a developing country. Therefore, the results may not be generalizable to other populations. Also, some of the statements and open-ended questions could have been improved. However, as peer reviews are included in most writing courses throughout the world it is important that they be investigated further. A similar study in another context would be quite valuable. Also, it is possible that students were able to accept online peer reviews due to the pandemic and a post-pandemic class may provide more resistance to online peer reviews. However, online peer reviews can make a valuable contribution to student writing and to student writers while freeing up valuable class time. More research in this important area would be clearly beneficial.

Conclusion

Overall, online peer reviews are beneficial and are as acceptable to students as face-to-face peer reviews. Instructors who choose to have online peer reviews should adopt the following practices to ensure that the online peer reviews are effective. First, teachers need to provide substantial learner training on how to give, accept, and evaluate feedback. Teachers must also clearly and strongly state the relevance of peer reviews and the reasons for doing them online. Secondly, structure should be initially provided, perhaps using a checklist and establishing other parameters, such as a time limit. Students need practice to have their peer reviewing skills develop to the point where they no longer need an imposed structure such as a checklist. Ideally, they will autonomously develop their own structures that draw on their strengths and are aligned with their personal learning styles. Finally, students should be able to evaluate the performance of their peer and hold him or her accountable in a meaningful way. Students should be encouraged through grades or other means to participate fully. If these conditions are met, it is clear that students benefit from online peer reviews, and it will free up valuable class time. The implication of this study is that online peer reviews have a place in the writing curriculum and should

continue in the post-pandemic world with the instructor providing the required structure, learner training, and accountability procedures. Let's not throw out the baby with the bathwater.

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