Comparison of Online and Face-to-Face Peer Review of Writing

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Abstract

Peer response has been shown to be an effective strategy for improving writing. The social nature of collaboration as peers give and receive feedback can broaden perspectives about audience and what good writing is and also help motivate writers to revise their work. This study is not designed to show impact of peer review on writing products, as this has been well documented in the research literature. Rather, it is a qualitative study comparing the processes of face-to-face (f2f) and online peer response in terms of strengths, limitations, similarities and differences. Traditionally, writing groups conduct peer response in a f2f, synchronous environment, but questions about the feasibility of using an online environment as another space where peer response and review could take place are central to this research study and acted as both catalyst and structure for the inquiry. We examined the attitudes and experiences of adult students, who are K-12 teachers across disciplines, using both a f2f environment and an online environment, as well as their experiences in being peer reviewers of the writing of others in these two contexts. This study suggests that literacy instructors who have been reluctant to teach online may find an entrée into online teaching by starting with peer response groups, as this study indicates that most rules and processes are parallel for online and f2f groups. In both environments, teaching writers the rules for response and training them seem necessary. Those instructors who embrace a process approach, where f2f groups are a vital component, may find some advantages to having some response conducted online. Overall, the results of this study show that the power of using different environments for peer review exists not in duplicating and imitating traditional methods, but in recognizing and understanding that f2f and online environments function in different ways to support peer review of writing.
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1. Introduction

Much research has focused on how the use of technology can influence writing products, especially in revising (Black, 2005; Dennen & Jones, 2006; DiGiovanni & Nagaswami, 2003; Hewitt, 2000; Kolling, 2002; Liu & Sadler, 2003; Yang, 2010; Yeh & Lo, 2009). This study was not aimed at looking at the quality of writing produced as a result of peer review online or f2f. Rather, this study investigated the extent to which peer reviewers' behaviors and comments change when conducting review online or face-to-face (f2f), and determined the similarities and differences, strengths and limitations, between review modes. The focus is on the ways computers can serve pedagogical goals focused **on the writer**, rather than on the writing.

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This study examined the attitudes and experiences of adult students, who are K-12 classroom teachers across disciplines, using both an online environment and a f2f environment for peer review of their writing. These teachers also acted as peer reviewers of the writing of others in these two contexts. In an effort to extend our understanding of peer review in writing instruction, we focused on whether particular pedagogical goals are facilitated or compromised by using virtual response, rather than expecting the use of technology tools to simply imitate f2f discussions. These pedagogical goals included, but were not limited to helping students interact in a safe, social environment for sharing their writing, fostering student-centered activities for writers, helping writers develop a sense of audience, and providing opportunities for practice in writing and responding. As Lee Ann Kastman Breuch (2004) notes, research is needed that helps us to "take control of computer technology in our writing activities. . .to gain a clearer understanding of the capabilities and limitations of synchronous and asynchronous tools for virtual peer review. . .[so that] we can better understand how to better use those tools for our benefit." (p. 20). In their 2016 article, Andrew Bourelle, Tiffany Bourelle, Anna V. Knutson and Stephanie Spong stated that they wanted "to generate a conversation regarding what instructors of f2f classroom can learn from the online environment, especially when adopting a multimodal curriculum" (p. 55). The current research adds to that ongoing conversation.

2. Theoretical Background

Gert Rijlaarsdam et al. (2008) summarized the use of peer learning as the paradigm of language instruction, especially writing instruction, with roots in the 1960's in the theories of James Moffett, Peter Elbow, and Kenneth Bruffee who each expanded on the ideas of John Dewey. Moffett proposed writing tasks be sequenced from self as reader to larger, real audiences, which in the classroom meant peers as readers, not teachers as graders. In their summary, Rijlaarsdam et al. (2008) quote Moffett's landmark book *Teaching the universe of discourse* (1968): "Learning to use language, then, requires the particular feedback of human response, because it is to other people that we direct speech" (p. 191).

Peter Elbow, best known for *Writing without teachers* (1974), advocated that a "good text" is one that speaks to the reader, not one that contains all the elements of an abstract list of product features. Rijlaarsdam et al. explain that, according to Elbow,

> [The] Success of a text depends on the subjective reader. Therefore, writers should have the opportunity to listen to readers. He [Elbow] used the word "listening" on purpose here. Writers must be able to hear what the text "sounds" like, to hear their reader's voice and to hear whether the writer's voice was recognized by the reader. Listening to how various readers read the text – aloud – would provide enough feedback in itself. From this listening experience, the writer could decide whether he was clear enough to be understood, and whether what was understood was also what the writer had intended. Readers' feedback must stimulate further thinking about what was presented in the text. As a consequence, readers became more necessary than teachers in writing education; since there was no objective theory about what a good text entailed, there was no need to transmit this knowledge. . . (p.55).

For the current study, the researchers accommodated Elbow's suggestion that readers need to "listen to writers read aloud their work" by having readers literally experience hearing the writer in f2f meetings, as well as readers identifying and responding to the voice of the writer in virtual meetings. Further, a focus for the current study was determined to be the effects on the reader as a measure of what makes a "good text," rather than on particular compositional features, such as accurate content or correct grammatical structure.

Finally, the authors of this study credit Bruffee's epistemological belief that all knowledge is subjective as foundational to having peers work together in the classroom (1981). As Helen Dale (1997) says, working with others allows students to "observe others' minds at work" (p. xi). There is no one way to know, and according to Bruffee's rhetorical theory, no one way to write. Like Elbow, Bruffee advocated in his book, *A short course in writing: Practical rhetoric for composition courses, writing workshops, and tutor training programs* (1980), that peer groups and peer tutors can help writers gain broader perspectives.

These seminal theories starting in the 1960's were introduced at a time when teachers were the primary readers of student writing and teachers provided the feedback, commonly in the form of an evaluation or grade. Usually, the "voice" of the writer was literally heard by teachers and peers through reading aloud. The theorists assumed that the community of writers were sharing f2f at the same time, and if they were not physically in the same space, they were reading documents on paper. These pace setters were challenging the dominance of teacher-directed learning in our

schools, but were not investigating who learns most—the person giving or receiving responses—which arose in later research (Lu & Zhang, 2012; Rouhi & Azizian, 2013; van Popta, Kral, Camp, Martens, & Simmons, 2017). Nor were they anticipating the realities of the new millennium where readers and writers co-create text using Web 2.0 tools, and may do so in a digital, asynchronous environment.

A 2015 survey of 270 college-level literacy faculty (Pang & Reinking) found that one third of the faculty reported that they have taught or teach online literacy courses regularly, whereas nearly 40% reported never teaching online courses. This study also found that the largest percentage of respondents to the survey stated that the **least** justifiable advantage [of using online assignments] was greater interaction among students, followed by greater interaction between students and instructor, and enhanced student engagement. In other words, they felt that the online work did NOT necessarily support student-faculty and student-to-student interactions. This suggests that literacy faculty still need more information about the comparative effectiveness of using online groups in writing classes in order to justify the instructor's learning curve, time investment, and other challenges entailed by online teaching. Further, many developing writers who are facile with e-communication see no connection between the digital writing they conduct out of school and the writing they are required to do in school. The most recent national report (Lenhart, Arafeh, Smith, & Macgill, 2008) by the Pew Internet & American Life Project, the College Board, and the National Commission on Writing provides these statistics:

- 85% of teens ages 12–17 engage at least occasionally in some form of electronic personal communication, which includes text messaging, sending email or instant messages, or posting comments on social networking sites.
- 60% of teens do not think of these electronic texts as "writing." Teens generally do not believe that technology negatively influences the quality of their writing, but they do acknowledge that the informal styles of writing that mark the use of these text-based technologies for many teens do occasionally filter into their school work.

At the center of the current study are questions that can only be raised in the advent of theories about digital communication and New Literacy. In the 21st century, shifting rapidly are questions such as *Who owns the text? What is the role of the teacher? Does the online environment equally utilize the composing processes and behaviors that research on f2f classes has identified as having positive impact? How important are the traditional f2f rules for peer response in an online environment? Do online and f2f peer response groups function differently? Do writers prefer one response mode over another?* These are some of the questions investigated in the current study.

3. Research on Peer Writing Groups

Continuing since the 1980's, research generally confirms that peer response is a sound practice for teaching writing. Researchers have examined the connection between the writing process and the social contexts within which writing occurs (DiPardo & Freedman, 1987; Gere, 1987; Jenson, 2002; Willinsky, 1986). They attribute the effectiveness of the writing process to one essential practice – the interaction of writers with teachers and peers during conferences and small group work. In a meta-analysis of 123 studies of effective writing instruction (Graham & Perin, 2007), collaborative writing, which included peer response, was found to produce a considerable effect size (ES = .75), and was thus deemed an effective strategy for teaching writing primarily because reviews by peers provide writers with much more and varied response than can teacher review alone (Cho, Schunn, & Charney, 2006; Cho, Schunn, & Wilson, 2006). Teachers have implemented peer groups in settings across the K-16 curriculum as a way to encourage students to write and revise. Most researchers agree that using peer groups supports the process approach by providing social benefits. These include a non-threatening audience, immediate feedback, experience of a wide-range of writing abilities, reduced writing apprehension, fostering of positive attitudes about writing, increased motivation to revise, increased quantity of writing, more teacher time for individual attention, and development of cooperation and interpersonal skills. In their review of the research on peer response, Vanessa P. Dennen and Gabriel Jones (2006) note several studies that indicate the advantage of the "horizontal relationship" when feedback is given by peers rather than by teachers, such as more investment by students in their ideas and how they are presented, seeing how other students respond as a model, practice in articulating a response, and increased motivation. These benefits in the affective domain were investigated in the current study.

Although not a focus in the current study, the effects of peer conferencing on the quality of writing has also been studied repeatedly. Moshe Cohen and Margaret Riel (1989) found that writing quality was greater for those students

writing with peers as readers because they had a clear sense of audience. Another early study on the effects of peer feedback was a dissertation by Nancy Louise Benson (1979). Her experimental study with 288 junior high students during a ten-week period examined the effects of peer feedback on writing performance, revision, and attitudes. The experimental group was trained in providing feedback using five basic aspects of writing; the control group received only teacher-directed revision activities. All students were required to revise each of the five assigned papers at least twice. Benson found that the writing of students who participated in peer conferencing received scores that were significantly higher than those in the control group. More recently, Jingyan Lu and Zhidong Zhang (2012) noted that students who reviewed and responded to the writing of their peers applied suggestions to their own writing, and Esther van Popta, Marujke Kral, Gino Camp, Rob Martens and P. Robert-Jan Simmons (2017) found in their review of research that the providers of response in online learning environments gained benefits in their learning.

Peer response of writing might also help students develop ownership and responsibility for their writing (Haaga, 1993) as well as help them understand the evaluation criteria for what constitutes a good piece of writing. A study focusing on validity and reliability of student evaluation of their peers' writing in comparison to teacher evaluation found that "...the aggregate ratings of at least four peers on a piece of writing are both highly reliable and as valid as instructor ratings." (Cho, Schunn and Wilson, 2006, p.891). One study (Shunn, Godley, & DeMartino, 2016) found that students' assessments were more valid than the ones provided by a single teacher. For an overview of the enhanced benefits of peer response as compared to instructor response, see Fred Phillips (2016). One study (Cho, Schunn and Charney, 2006) comparing content experts' comments and students' comments on papers found that students produced shorter comments that were a mixture of praise and "directives," and were rarely summative. In contrast, the instructors' comments were longer, predominantly directive, and rarely summative. Students considered the mixed types of responses that their peers offered as the most helpful to improving their writing. A third study along the same line (Patchan, Charney, & Schunn, 2009) looked closely at the quality of comments offered by peers and by instructors. The conclusion was that "Overall, students' comments seem to be fairly similar to instructors' comments" (p.124). This finding echoes earlier studies in second language (L2) classrooms using peer response. In summarizing research on this topic, Jun Liu and Randall W. Sadler (2003) stated, "Students, especially those who have been trained in peer review, are able to give specific comments and advice on their peers' writing and to point out problems with content and rhetoric" (p.194.) Although the current study investigated peer response, and not peer evaluation, the cited studies did involve students reading the work of their peers and providing feedback. A benefit of exposure to the writing of peers might be that it helps developing writers internalize the features of good writing in terms of its effects on an audience of age-mates, not just in the published literary works they read for class, so that students believe that producing effective writing is within their reach (Dennen & Jones, 2006; Tsui & Ng, 2000).

Research evidence on the impact of peer groups on writing quality is mixed. Some studies indicate significant improvement in the writing of K-12 students as a result of peer response (Farrell, 1977; Kolling, 2002; Lagana, 1972; Simmons, 2003). On the other hand, Daniel R. Wolters and Walter J. Lomberg (1976) examined several studies indicating both significant improvement and no gains in student writing as a result of peer groups. In summarizing the spectrum of research findings on peer response up to 1976, Wolters and Lamberg stated that peer response in general has mixed effects unless it is "task-related feedback, controlled by measurement instruments, and provided by students to themselves and their peers." (1976, p. 2). In her review of the research up to 1989, Andrea W. Herrmann (1989) noted that "not all the studies of peer reaction show unqualified positive effects on revision." Later research by Ilona Leki (1990) and others in L2 classrooms, summarized in Liu and Sadler (2003), indicates that peer review may have limited impact on final products because "students sometimes focus too heavily on "surface concerns" [and] they tend to neglect larger revising issues and provide vague and unhelpful comments" (p.194). A recent study (Loretto, DeMartino, & Godley, 2016) identified what students perceive as most helpful in peer feedback: Providing direct instruction for HOW to provide effective feedback. This practice is recommended as essential for effective use of peer groups (Pritchard & Honeycutt, 2007; Simmons, 2003). Thus, in the current study, the instructors did lessons with students on how to be specific in feedback, how to show tact, how to give suggestions, etc. and had students practice giving and receiving feedback on papers provided by the instructors.

4. Research on Virtual Peer Group Interaction

Because the online peer review in the current study took place in a discussion forum, we have drawn on the research surrounding the nature of the interaction in online discussions. Advantages of the collaborative and co-constructive

nature of online discussion forums have been found to accrue to both individuals and groups. Mark Hawkes (2001) lists the time and place independence of the medium, the capacity for multiple conversations and the archiving of content and messages as supports for engaging in online discourse in order to construct and refine ideas. Other positive outcomes for using online environments include the development of self-direction and independence (Lee & Gibson, 2003; Marra, 2004); a stronger sense of community (Beeghly, 2005; Lee & Gibson, 2003; Poole, 2000); the ability of students to read and respond in their own time (Beeghly, 2005); and an increase in incidences of reflection (Hawkes, 2006; Zheng, Lawrence, Warschauer, & Lin, 2015). Further, a study by Denise Comer, Charlotte Clark and Dorian Canelas (2014), as cited in Julia Morris, Jennifer Kidd (2016), indicates that online " peer review fosters a networked learning experience as online interactions require the primary form of communication to occur through writing, thus improving both course specific and composition skills" (p 1).

Drawbacks to participation in the online environment include lack of immediacy and spontaneity that are found in face-to-face conversations (Beeghly, 2005; Hawkes, 2006) and increase in complexity brought on by the technical aspects of the medium (Liu & Sadler, 2003). Communicating in the text-based environment of online courses can also be a barrier for students who have reservations about their writing skills or their ability to effectively communicate solely online (Stephens & Hartmann, 2004). Dezhi Wu and Starr Roxanne Hiltz (2004) found that online discussions improve students' perception of learning but caution that the instructor is responsible for promoting students' motivation. Similarly, Faridah Pawan, Trena M. Paulus, Senom Yalcin and Ching-FenChange (2003) recommend that to be effective, online discussions must be clearly structured. Charoula Angeli, Nicos Valanides and Curtis. J Bonk (2003) suggest that the instructor must situate online sharing within the larger structure of the class in order for students to perceive the importance of participating in the discussions. This last finding prompted the instructors in the current study to integrate peer response, both f2f and online, as part of the total class structure. Activities for interaction to promote motivation and build a comfort zone were intentionally incorporated into the class meetings prior to data collection.

Most of the studies of virtual peer groups are concerned with writing for L2 (second language) students and college-level students (AbuSeileek and Abualsha'r, 2014; Chang, 2012; Liu & Sadler, 2003; Oskoz, 2009). Literature focused specifically on the use of online peer review and improvement of writing, while not comprehensive, does highlight some important issues for consideration. Evidence supports 1) using online annotations for error correction as effective for revision (Liu & Sadler, 2003; Yeh & Lo,2009); 2) having an online record to monitor and mentor improvement in writing as a positive outcome (DiGiovanni & Nagaswami, 2003; Yang, 2010); and 3) providing time in asynchronous environments as an impetus for students to form more critical and thoughtful revisions (Black, 2005).

Mark Hawkes (2006) suggests that while online and f2f interaction might serve different purposes, similar discourse strategies appear in both, suggesting a reliable basis for comparing and examining the effectiveness of the two contexts. On the other hand, in a comparison of oral and computer-mediated peer group revision, Beth. L. Hewitt (2000) found that the two media created different types of talk about writing and prompted different types of changes in the writing. While the online environment focused more on concrete writing tasks and direct use of peers' ideas, the oral environment centered on abstract, global idea development and self-generated ideas for revision. Liu and Sadler (2003) compared asynchronous and synchronous feedback in both online and f2f environments. They found that students using the online environment worked more effectively to review peers' writing asynchronously than they did in synchronous chat rooms. Further, they determined that synchronous, f2f environments were more effective than asynchronous environments where feedback was written on a paper copy and returned to the writer. Another major finding of this study revealed that while the online group made a larger number of comments and revisions overall, the f2f group made a higher number of revisions based on respondents' comments. This finding contrasts that in another study (Hewitt, 2000) that concluded that students in the online environment made more revisions based on peers' comments, likely due to students interpreting the comments written in a computer-mediated environment as direct suggestions, whereas students in the oral environment perceived comments as idea-sharing. These factors led researchers in the current study to investigate a blended approach of online and traditional environments for peer sharing in order to investigate their differences and the advantages and disadvantages of each mode of response.

5. Research Questions

The guiding research questions for this study are: Do the benefits of using f2f peer writing groups, as identified in the research literature, also accrue to online peer response groups? What are the particular strengths and limitations of each context of response, f2f and online?

The second tier of questions comprises the following:

1. Are the rules for f2f peer groups equally applicable to online groups?
2. Is one environment (f2f or online) more supportive of specific aspects or kinds of feedback?
3. What aspects of peer group functioning are applicable to both environments? What aspects apply to only one environment or the other?
4. Which environment for giving and receiving response do students prefer?

Sub-question 1 investigates whether or not the rules for peer response, established in and practiced in classrooms since the 1970's for f2f groups, have purpose in online groups. Sub-question 2 is designed to look at the range and types of responses, including the focus of the responses, digressions, depth/level of response (superficial, sentence level, generic, detailed, etc.), types of suggestions, replies by the writer, communication loops, sequence of responses—such as threaded responses, responses that piggyback on another's comments and recursiveness of the responses (e.g., do members develop a history and make references to earlier papers, class lessons, etc.?) Sub-question 3 investigates the nature of responses with a focus on the affective domain and sense of community building, and considers whether or not the environment affects humor, tact, voice, tone, staying on task, sharing personal experiences, ownership of writing, etc. Sub-question 4 deals with the participants' comfort and preferences in receiving and giving feedback in the two environments.

Primarily, qualitative measures were used to address these questions. Quantitative data included time-on-task in each environment and responses to surveys.

6. Methods

This is a phenomenological study which does not include any intervention apart from the syllabus requirement in the course for participants to share one writing in an online environment and one writing in a f2f environment, with the same four-member peer groups. Except for a determination of time spent in online groups and f2f groups, which were analyzed using numbers, the research methods are qualitative in nature, involving email interviews, survey of technology competence, transcriptions of digital recordings, archived online postings, participant evaluations, pre- and post-tests of confidence in integrating technology and writing and in writing apprehension, post-course survey of experiences in f2f and online groups, and survey of participants' assessment of rules that should govern sharing of writing.

6.1. Participants & setting

The participants in this research were 16 K-12 classroom teachers across grade levels and content areas who were engaged in a month-long, all-day summer graduate-level course in the teaching of writing in a university setting. These teachers did not already use peer response groups in their teaching and were introduced to this practice in the course. They were randomly assigned to four-member writing groups and remained with the same groups throughout the course. As one of the course requirements, the teachers met in peer response groups in both f2f and online environments. The researchers felt that having this more homogenous group—all teachers taking a graduate level class—would mitigate the factor influencing response found in other studies; that is, students discounting the reviews by peers and preferring an "expert" reviewer (Hovardas et al., 2014). In a sense, all participants had similar expertise and background in using writing in their teaching. Since the participants shared the same preparation and practice for giving and receiving feedback, a common base was established before data collection.

6.2. Writing tasks

Two writing tasks were assigned in the same mode: personal expressive writing. One was a Writing Autobiography and the other was a Childhood Memory. This was done in order not to have the intrusion of content knowledge by respondents (e.g., noting that the facts are wrong) during the sharing. If each writer were the expert on his or her personal writing, it was assumed that the readers/respondents would not be influenced by shared prior knowledge which could prompt them to read-between-the-lines or fill in gaps, for example. Further, personal writing could evoke responses

beyond surface-level suggestions, and since one of the goals of this study was to investigate if and how personal, more emotional issues are addressed f2f and online, these topics were deemed the most appropriate for prompting the variety of peer responses we set out to study. Although much other writing was accomplished in the course after data collection, only these two formal assignments were part of the study.

6.3. Sources of data

The following research tools were utilized in this study:

Email Survey of Technology Background: Prior to their attending the first day of class, all participants received an email questionnaire with instructions to explain their facility and comfort with computers and online environments.

Demographic information collected on each participant to ensure that all were classroom teachers who used writing in their teaching.

Transcribed digital recordings of f2f meetings of peer response groups.

Descriptive statistics of time in f2f and online meetings for each group.

Archived online peer-responses.

Pre- and post-test scores on Writing Apprehension Test (Daly & Miller, 1975).

A 4-question post-course survey asking participants to rate various aspects of the peer response experiences online and f2f.

A lapsed-time survey about which rules, if any, should govern peer response f2f and/or online.

A course evaluation.

6.4. Procedures

Participants were provided with an overview of the research study and an Informed Consent agreement. Participation in the study was not a course requirement or part of the grade. All agreed to participate in the study.

The participants learned the rules for peer response (See following, adapted from Peter Elbow, 1974) in a skit and follow-up discussion prior to meeting in peer groups. The rules for peer response, as established for f2f groups, are as follows:

1. Group members sit facing one another, and—if possible—each member has a copy of the paper to be shared.
2. The writer reads his/her own paper without apology or explanation.
3. The listeners/readers do not interrupt during the reading, but may make checks or jots on their copies of the paper.
4. The group members take a moment of silence to allow for reflection and for formulating their responses.
5. Starting on the writer's right, the members respond in the first round with positive comments ("I like...") and/or sharing the impact of the writing ("Your story sounds familiar to me because my grandmother was the same good cook as yours...").
6. During these responses, for at least the first round, the writer does not say anything and should let the writing stand alone and speak for itself. The writer may take notes.
7. The responses keep going around the circle of members, and after the first remarks, the members may show where they were confused, ask for elaboration in the writing, suggest words, etc. After at least two rounds, the group members do not have to adhere to responding in order, and may have a more open discussion about the writing. If the writer is asked a direct question, he/she may respond, but it is best if the writer stays silent and takes in all suggestions.
8. Group members should elect/volunteer one person to monitor the response group, reminding participants to not apologize, helping stay within time limits, etc.

Peer editing and peer response were distinguished, although both are part of the peer group experience. Participants practiced giving responses according to the rules (protocol) using papers provided by the instructor in a f2f environment. The topics of these practice papers were in the expressive writing mode. Participants were also given guidelines for making responses online, including reminders about online etiquette, readable font size, etc. Additionally, they were provided time for practice with the technology website and how to upload their papers and share their responses in postings. This was done to assure that lack of facility with technology did not intrude on the online responses.

After meeting their peer group members in person, participants were instructed to take part in an online peer group where they provided asynchronous responses to the Writing Autobiographies, abiding by the response protocol they had practiced in class. For example, they rotated from person to person, rather than responding randomly in a synchronous chat room—the same rotation that they had practiced in class f2f. They were instructed to start with positive comments, to read and respond to the comments of their peers while the writer/author stayed quiet, and, in general, to follow the rules for responding that were demonstrated in class. Deadlines were set for each group member to post his/her Writing Autobiography, so that individual papers were not shared at the same time. Multiple drafts were encouraged to be submitted for response, but at least one draft was required. Since peer response occurred online, researchers had the digital archive of all interactions.

For the second assignment, participants shared their Childhood Memory drafts f2f and the sessions were digitally recorded. Again, they were instructed to follow the protocol of response practiced in class. A research assistant sat outside the group and took notes. The due date was the same for all groups, and the length of time for meeting was sufficient—at least 20 minutes for each reader.

Pre- and post-Writing apprehension tests (Daly & Miller, 1975) were administered before and immediately after the course.

At the end of the course, participants were asked about their preferences for f2f and online response, with the following four questions:

Where did you feel more comfortable receiving peer feedback?

Where did you feel more comfortable giving peer feedback?

In what environment did you feel that you could offer more effective critique of other's writing?

In what environment did you receive more useful information for your own writing?

Please add any additional comments or explanations.

7. Findings

The initial survey about participants' comfort and ease with using technology revealed that all members of the course were comfortable. So, we are satisfied that technology was not a barrier to giving and receiving responses. Further, all participants used writing in their teaching, but did not incorporate peer response groups. Thus, no participant was regarded as an expert on using peer feedback.

Two of the researchers, working independently, read the transcriptions of the f2f peer group meetings, the archived online records, and the survey results. The researchers then met to share their findings and to ensure that all aspects of the following research questions were addressed.

Research Sub-Question I: *To what extent do the rules for peer review apply to f2f and online groups?*

Edna H. Mory (2004) writes, "The first step in learning procedural rules involves determining if the procedure is required" (p. 762). For this question, we compared how f2f and online groups managed group processes, as guided by the basic rules for peer response groups established for f2f settings. The examination took two forms: participant responses ranking the importance of peer response rules, and review of interactions online by the instructors.

One year later, after participants had returned to their classrooms and experimented with managing peer response groups, they were surveyed concerning their opinions about whether or not rules are needed for peer response f2f or online. Eighty-one percent (13 of 16) of the participants responded to this survey. One hundred percent of the respondents stated that yes, rules were necessary for guiding peer groups. Further, they were asked if the rules were sufficient or needed to be changed, and to rank the rules from least to most important. According to the survey responses, the most important rules to keep are: 1) Writer does not apologize or predispose the group on how to respond (53% agreed); 2) First round of comments is positive (53% agreed); 3) Writer does not interrupt and does not respond until all group members have provided feedback at least once (69% agreed); and 4) Copies of the writing are required—either online or f2f (61% agreed).

Rules of lesser importance were 1) Members respond in order (76% agreed they did not have to respond in order); 2) Allow a moment of silence after reading so members can formulate their responses (61% agreed this is not necessary f2f, and not applicable online); and 3) Writer never speaks at all while members discus the writing (53% agreed this

is not necessary, but is helpful as a guideline.) Eleven of 13 respondents to the survey question about whether rules should differ for f2f or online environments indicated that the basic rules are sufficient for all response groups, with two saying that peers should create their own rules and the only really important rule is to be positive in the first round of response, offering suggestions later. One suggested they be called *protocol* instead of *rules*. (Three did not respond to this question.)

The instructors compared the actions of participants in their observations of f2f peer groups, and in reading the transcripts of online groups. Rule number 5 states that the members respond in the first round with positive comments. In the f2f setting, the first responses were consistently positive and subsequent rounds were more critical, as suggested by Peter Elbow (1974). In online groups, the first part of the posting was positive and the last part of the same posting was more critical. Thus, this rule (#5) was adhered to by members in both settings. However, in all f2f groups, and occasionally online, the writers broke rules #2 and #3 (2. The writer reads his/her own paper without apology or explanation; 3.The listeners/readers do not interrupt during the reading, but may make checks or jots on the copy of the paper.) Writers apologized, explained, or directed the group to certain parts of the paper, rather than waiting to see whether or not the readers would notice things on their own. In doing this, they circumvented getting unbiased feedback and predisposed the group to offer only certain kinds of responses. In one f2f group, all four members broke these rules. For example, L. responded to each comment given when she should have been quiet, and directed attention to specific parts ("Do you think maybe I need more specific description here?") K. apologized before she began reading, "I have sort of a snippet. I was working on it—it was pretty late, and I just couldn't make it go where I wanted it to go. I'm sorry. . .It's pretty short. . .I didn't proof it." Another reader, S., asked if she should just let the group comment first or explain her paper. L. blatantly broke the rule in answering her, "Just tell us first," thus, not letting the writing speak for itself. Finally, the last reader stated, "Mine is not as powerful. . .Sorry, I don't know [if it is funny]. You guys tell me. You're gonna' think that it's corny, 'cause it is, and you're gonna' think that I stole it off, like, a sit-com, but I swear this really happened the way that it reads." In the online setting for this group, K. apologetically said, "Here's my final copy. . .I hope it's not too rough. Let me know what you think!" And L. both apologized and directed the group, "This [L.'s draft] is rough. . .I need suggestions for title and elaboration."

Across four online groups, few members made comments as they posted their papers, and all these short comments broke rule #2 to not comment on one's own writing:

> J: ". . .warning: this is slightly (though only slightly, I think) R-rated. Hope you enjoy."

> R: ". . .[look at] part of my writing autobiography— the beginning?"

> A: "I'm terrible at titles."

> R: "Please comment on anything you like but particularly on a few things I've marked with highlight and strikethroughs."

The online groups had more instances of struggling to understand HOW to respond online:

> "I have question about the process. Are we supposed to go through these more than one time?"

> "I'm assuming we are supposed to work on this more?"

> "Sorry about posting this suggestion, but I'm confused about what we do in this part."

Finally, in both f2f and online groups, a role assumed by at least one member was to keep the group on task, to monitor the group (rule # 8). This is a needed role, so that time is shared equally. However, the downside is that sometimes the monitor became the authority in charge, using a teacher voice, and dominated the group interactions. In the f2f groups, monitors were on task, and reminded members of the rules. In the online group, often the monitor role was not taken, and in one group, the monitor took the tone of an authoritative teacher.

Research Sub-Question II: *What are the similarities and differences of the feedback in the two environments?*

We used several approaches to address this question, including a catalog of the nature of each response in the order in which it occurred in both settings. For example, in one f2f group, members made comments in this order:

- Main point, gist, overall impact
- Attention to word choice

- Pace of the writing
- Level of elaboration
- Use of scientific terminology (word choice)
- Repetition of verbs
- Ask for clarification
- Word choice
- Theme
- "I was confused about..."
- Suggestions on rephrasing, without comment from the writer
- Use of hedge words, such as "almost"
- Questions about the difficulty of writing the piece
- Voice
- Word choice
- Suggestions for sentence-combining
- Check on verb tense
- Verb choice ("Here you have a gerund instead of an active verb.")
- Sentence variety
- Parallel structure
- Punctuation ("You need to add a period.")
- Collaborative work on rephrasing sentences
- Word choice
- Word Choice
- Re-reading

  For this same group working online, comments followed this order:

- Praise ("I like how...")
- Connection ("I can relate...")
- Thanks from the writer
- More praise, followed by thanks from the writer
- More praise, followed by thanks from the writer
- Response to a second reading ("I was reading through your autobiography again and had a question.")
- Comments about the responses of others ("A. has several great responses.") followed by response from the writer
- More comments about the responses of others ("P. hit the nail on the head.") and another response from the writer
- Overall suggestion ("Have you thought about focusing on...?") followed by response from the writer
- More comments about the responses of others ("I totally agree with P. I think you may be trying to tackle too many things at once."), followed by response from the writer.
- Response to a second reading ("I gave myself a few days and went back and reread...Read the underlined part and see if a word is missing...")

  Evident is that in both groups, the types and levels of suggestions and responses were comprehensive and varied, with the group working collectively on improving the piece. In both groups, members piggy-backed on each other's comments, made peer-to-peer comments and additive comments, and remained mainly on task.

  In the online sharing for this group, the writers were much more involved in reacting to the responses they received, whereas in the f2f group, writers were better able to follow the rule to remain quiet. This intrusion into the response cycle by the writer could influence subsequent responses. For example, members may not want to hurt the writer's feelings so withhold suggestions, or may have a different opinion from the writer who has already explained him/herself. However, a discernable advantage of the online group was that the paper was preserved and the members returned to it and re-read, to prompt further responses. This group also experimented with other ways to provide online response, such as using the functions to highlight, strikethrough, and insert comments into a word file. Similarly, when they needed more time with a paper after f2f sharing, they agreed to email their papers to each other or handover their copies with their notes on them.

However, in the three other groups, the writers did <u>not</u> intrude on the online discussion, but also did <u>not</u> answer direct questions, as if the writer never attended to the comments he/she received. In three of the online groups, no references were made to returning to papers or to comments that had been posted, which might indicate that each member responded only once and perhaps members did not read the comments that followed after they posted their comments. In contrast, in the f2f meetings, each participant was present so all comments were heard. The comments posted online were also more summative in nature, where the responder read the whole piece, formed a response, and posted it. This was in contrast to f2f feedback which seemed to follow the order of the paper and members gave responses about each section.

Research Sub-Question III: *What aspects of peer group functioning and interaction are applicable to both online and f2f environments? To only one environment?*

All groups in this study met f2f in the classroom and were involved in getting acquainted exercises. They participated in training for giving response to personal expressive writing in f2f groups, for being tactful, and for following peer response rules. They also practiced with the online environment so the technology would not be a barrier. Although they shared their first writing online and their second writing f2f, they remained in the same peer groups.

For this research question, we investigated the **nature of responses** with a focus on the affective domain and sense of community. We first determined that time spent online and time spent in groups were about equal: the range was 43–85 minutes per group session, with an average of 68 minutes for sharing and responding to four papers. Thus, opportunity for community building was sufficient for both groups. We found that most, though not all, group processes and behaviors were similar in both environments. Participants shared humor and teased each other, thanked each other for the help, and created communities for safe sharing. One participant's comment in the survey summarizes the crossover between online and f2f response: "Our group even bonded well online before we had gotten used to each other, but after we had gotten to know each other, [we] could actually *hear* the voices behind the comments."

Rules for response groups are designed for writers to stay out of the communication loop until the end of the process of hearing their own writing discussed as an artifact, as if the group were analyzing and interpreting a piece of literature, discussing the voice in the writing as that of the *narrator*, not that of the peer seated right there with them. In both f2f and online groups, writers explained and commented before the group members had exhausted what they were saying. Also, in the online groups in our study, the writers rarely answered questions directed to them—perhaps because group feedback was gained over time—and, with the exception of those in one of the four groups, writers did not enter the online communication loop at all.

One interesting finding occurred in this study because all participants were teachers. One self-appointed monitor varied his tone and stance when he moved between f2f meetings and online responding. In the f2f meeting, he was hesitant in providing feedback, seemed obsequious, and not sure of himself. He used mitigating language, such as *maybe* and *perhaps*. His comments were not emphatic: "I mean, it's fine the way it is, too. . .I'm just saying that if you want to. . ." In contrast, his online comments were very well stated and articulate, but his tone was that of a teacher grading a paper, even ending with the comment, "Excellent work!"

Online responses were asynchronous, and f2f were synchronous which could influence some of our findings, such as whether or not all group members knew (heard or read) each others' responses. Also, in f2f groups, transcripts revealed that members often responded to what they were hearing, so the written piece did not carry the whole message as it did in the online forum. For example, oral intrusions occurred when R. was reading her paper aloud in her f2f group. A group member said, "Sometimes they. . . mess with the flow when you're reading it. . .like we wouldn't have noticed when we heard you reading it, but seeing it on paper. . ." Another writer noted that as he read aloud, he became an audience to his own writing: "It's different when you've got a group of people. . .I actually found some mistakes while I was reading it that I missed before." D. said to her group, ". . .it helps to read it out loud, to hear myself, and then hear things [from the group] that I wouldn't ordinarily. . ." Since the authors did not read aloud their writing, only posted it online, such insights did not occur online. (Of course, technology could allow for oral readings by the authors as well as written products online, but that was not a focus of this study).

Another time, a reader in her f2f group broke into tears as she read. She said that she could not write this issue, but she could tell the group about it. When she did, she received a lot of ideas for how to express her internal dialogue in writing. She commented, "I apologize for being emotional about it," and others came back with, "Don't apologize for emotions, that's just human." And "Sometimes the best writing you do comes out of, you know, something that really strikes you." And "At least you care about it. . .instead of being just detached from it." This writer not only gained

Table 1
Preferences on giving and receiving feedback.

Question	Online	Face-to-Face	No Difference
Where do you feel more comfortable receiving peer feedback?	6.2%	50%	43.8%
Where do you feel more comfortable giving peer feedback?	25%	43.8%	31.3%
In what environment did you feel that you could offer more effective critique of others' writing?	12.5%	68.8%	18.8%
In what environment did you receive more useful information for your own writing?	20%	60%	20%

some composing ideas, she also was handed a tissue and gained approval from her group. Although such support could occur online—such as by the use of emoticons—it did not in the asynchronous discussions in this study.

Further, f2f sharing, moreso than online sharing, prompted more ownership by the group of an individual's writing. For example, after a series of suggestions about rephrasing offered by the group, G. said, "How about if we said, 'Just a faint blue shadow. . .'" We did not see the use of the pronoun *we* in the online transcripts where all references were to *your* piece, not *our* work.

Research Sub-Question IV: *Which environment for giving and receiving do students prefer?*

All participants were asked to comment on preferences for giving and receiving feedback. This information was derived from a post-course survey with a 100% (16) response. Results of this survey, shown in Table 1, demonstrate that while the percentages of students who preferred f2f groups were, in all categories, greater than those who preferred online, there were in each category a number of students who indicated comfort with either environment.

Two questions from the survey related to participants' comfort in giving and receiving feedback. Comments from students who preferred the online environment noted the advantages of the asynchronous were that the more removed nature of the online environment was less intimidating ("I wasn't right in front of them reading my writing."), as well as that in the online environment, they had the ability to take more time to make responses to others and to revise their own writing ("I didn't have the author right in front of me so I could take more time with my response"). Comments from students who preferred the f2f environment centered around the immediacy of the audience responses ("The interaction fueled continuous feedback") and the more personal nature of the interaction ("Face-to-face gave me more information through visual and auditory cues, such as body language and tone of voice").

Participants also were asked to comment on where they thought they received and gave more effective and useful feedback. The majority of participants indicated that they preferred to offer and receive feedback f2f, citing such reasons as efficiency ("We definitely were more accountable when we were face-to-face. Sometimes [online] a person would forget to respond or respond real late."), the detail which could be given during a f2f discussion ("Face-to- face, I could verbalize, question the intent and explain my reasoning with suggestions."), and the personal aspects of the f2f exchanges ("I just feel that I am a people person so I related to face-to-face more").

Not surprisingly, given the percentages of participants who saw no difference in the two environments, many of the respondents advocated for a blended approach indicating that they recognized the advantages and constraints of both environments ("Both formats were useful to me. In person allowed us to have conversations with the author and each other. Online gave me more time formulate my response"). Participants also pointed out how the two environments complemented each other ("The online helped us get acquainted so when we were face-to-face we were ready to offer helpful suggestions in a safe environment").

8. Discussion and Recommendations

The guiding research questions for this study were:

1) Do the benefits of using f2f peer writing groups, as identified in the research literature, also accrue to online peer response groups?

The simple answer is yes, but the disadvantages of the two environments are also evident.

2) What are the particular strengths and limitations of each context of response, face-to-face and online?

The simple answer is that what is considered a strength or a limitation in each environment depends on the instructors' pedagogical goals.

In her review of the literature on virtual peer response to writing, Breuch (2004) noted that

> Contextualized accounts of virtual peer review appear sporadically. . ..However. . .virtual peer review in writing has not been highlighted in any substantial way in this scholarship, nor has it been addressed using any consistent vocabulary. More explicit connections to peer review theory and practice are clearly necessary to further explore the ramifications of virtual peer review" (p. 18).

This study is a push for further discussion of the topic while actualizing the guideline that *Learning goals for students are primary: Pedagogy in writing must drive the use of technology.*

One of the goals of this course was for teacher-participants to experience sharing their own writing and responding to the writing of others in order to feel competent and confident in these activities. Both environments offered practice in this. The pre- and post-tests of writing apprehension used in this study indicate that 14 of 15 participants who responded reduced their apprehension about writing and sharing drafts with peers. The course evaluation of the peer group component showed an overall score of 7.5 (out of a high of 8) for members' satisfaction with their peer groups. Not surprisingly, this study found that a group that works well f2f also works well online and vice-versa. Overall, these writers became facile with both online and f2f response. Sometimes after a draft was shared in person, the writer volunteered to post more drafts online for the group. As participants moved between online and f2f sharing, the benefits of each accrued, but the deficits of each were also evident. For example, one teacher illustrated an advantage of online sharing in her comment that she had returned to the archived online responses from her peers and looked at them in a new light. On the other hand, another member illustrated a disadvantage of online sharing when she told the writer that she noticed many errors and "will discuss those offline." This cheats the group members from benefitting from her comments and it deprives the respondent from practice in articulating her responses with a clear sense of audience. If she had posted these comments in writing, all group members could benefit.

As found in other research (Dennen & Jones, 2006), our findings indicate that certain drawbacks of f2f sharing were overcome in the online environment and vice versa. While the f2f environment provided practice in delivering oral feedback, the online environment provided opportunities for more writing, since feedback was posted. The online environment did not entail the rush to print hard copies or to make a spontaneous record of the suggestions given to the writer. The online environment did not ask participants to generate a response on the spot and before their peers, after having heard only one reading. The online responses also provided a digital record that the instructors could use to monitor instruction or (in this case) for research. These are all advantages of online sharing over f2f sharing.

Moreover, disadvantages of online sharing were compensated for f2f. For example, we found that comments that were not focused on the writing under discussion (asides, questions about the class, tangents) occurred more often f2f than in the online setting—seemingly, a drawback. However, even though these behaviors were off-task, they still contributed to building a social ease and community. Such asides and non-verbal responses in f2f settings included hugs, pats on the back, eye-contact, winks, etc. and these comprised feedback just as much as written comments did. Several instances in f2f meetings would not have occurred online, such as when K. spontaneously elaborated in talk about being the black sheep in her family and about her on-again-off-again relationship with her sister, topics that were skirted in her writing. Based on this oral outpouring, J. made a suggestion which solved a writing dilemma for K.:

> Um, it's just a suggestion. If there's been some bonding there, or she's [the sister] been really good, if there's a way to tie her back in, since you had the whole envy thing going between the two of you, then, I mean, if you don't want to force it. . .it kind of picks up on the theme that there's a bigger problem or bigger deals in life than appearance or whatever. I mean, that's just a suggestion.

J.'s comment opened a window for the writer to include family dynamics and know how to address the issue in her piece. Occasionally in this study, mini-dialogues did appear in online groups, but such revealing, personal talk did not occur.

This study also examined the basic rules for f2f peer response to writing, asking participants whether these rules, or any rules, are applicable to online response. Their response was yes—with particular rules seen as not only helpful, but necessary. This confirms other research (Yu & Lee, 2016) with Chinese students using peer feedback. In that study,

researchers identified a response strategy used in peer review called "adopting rules of group activity." These rules were both explicit and implicit: "Both explicit (e.g., role assignment and setting up the procedure of reviewing) and implicit rules (e.g., mutual respect, mutual help, and maintaining group harmony) were used by the participants to mediate the process of group peer feedback" (p. 6.). This suggests that instructors familiar with using f2f peer response groups should keep in mind that rules for response do need to be modeled and taught, whether for f2f or online environments.

This suggestion that class time needs to be devoted to having students practice HOW to provide response confirms the implications of other studies (Loretto et al., 2016).

This study revealed that for teachers in peer groups, giving and receiving feedback with peers involves a role change. Teacher feedback is commonly valued since students see the teacher as an expert while they are novices, and teachers become skilled as respondents. However, teachers also give feedback to "exert social and organizational control over the class" (Dennan & Jones, 2006, p. 249). Some teachers in our study never compromised their teacher roles and were intrusively in charge of the groups, monitoring their functioning. This issue needs to be addressed in training for peer response among teachers. Self-evaluation instruments should also be used after groups have shared, to make sure they are staying on track with the purposes of the sharing.

This study found that, overall, writing apprehension was reduced for participants, whether due to online or f2f peer response, as in accordance with numerous other studies. Further, in the current study, all participants preferred (48%–60%) f2f over online for both giving and receiving peer response. This concurs with findings from another study (Chang, 2012) which found that students were facile in giving and receiving response in an entirely online environment, but preferred a "blended" [including f2f] course, e.g. "...they exhibit more favorable attitudes and motivation when this process is conducted in a blended mode" (p. 63). A survey of American middle and high school teachers by the Pew Research Center (2013) supports the use of online response as a way for students to share their writing with a varied and wider audience, with 98% of those surveyed agreeing on this. Additionally, 79% of teachers in this survey agreed that online tools "encourage greater collaboration among students." Other studies (Rouhi & Azizian, 2013) have indicated that those giving responses make significantly more improvements in their writing than those receiving response. In the current study, we know only that 60% participants felt that the f2f environment provided them more "useful information" for their own writing than did the online environment. Other research showing that students like the anonymity of the online environment (Loretto et al., 2016; Razi, 2016) could account for this difference; that is, a student might assume more "ownership" of his or her writing when identified as the writer f2f or online, but be able to hide his or her identity in an anonymous online environment. In contrast to this view, Annelies Raes (2015) asserts that anonymity decreases peer pressure which could enhance participation. Moreover, anonymity could be more important for the younger writers (K-12) in the Loretto et al. study than for teachers in the current study where all members knew who was providing feedback. These contrasting explanations are in accordance with Hewitt's 2000 study which indicated that different media created different types of talk about writing and prompted different types of changes in the writing.

Other than the statements noted above from participants who stated why they preferred the f2f environment, we cannot specify other reasons since most of the processes and behaviors for the two environments were similar, confirming earlier work by Hawkes (2006) that indicated similar discourse strategies occurred in online and f2f interactions. Specifically, the detailed analysis indicated that the types and levels of suggestions and responses were comprehensive and varied in both environments. Additionally, the rules most broken (rule # 2: apologizing about or explaining one's writing; rule # 3: readers/listeners do not interrupt the writer) occurred in both environments. As mentioned, the only major difference in the nature of the feedback was that participants in the current study seemed to feel more "ownership" of an individual's writing in the f2f group, often using the pronoun "we" when talking about the writer. This did not occur in the online environment.

Writing in 2004, Breuch noted: "We are left knowing relatively little about the basic characteristics of virtual peer review or its primary differences from face-to-face forms of peer review—specifically, how computer technology changes the activity....Sometimes, the perception is that virtual environments are only worth looking at if we can prove that they are somehow better than face-to-face environments" (p. 37).

The purpose of our study was to act on what others have argued: that "...it is fruitless to pursue the matter, hoping to find that one environment is better or worse. A much better approach... is to consider the differences of these environments and ask critical questions about those differences" (Breuch, p. 37).

In asking such critical questions, we have illustrated differences of these two environments for peer response, differences due to time, physical presence, and social interactions which may be text-based or speech-based. Therefore,

we recommend a hybrid approach to balance the benefits and deficits of the two environments. This recommendation concurs with that given for L2 instructors (Lie & Sadler, 2003):

> In light of the differential effects within each commenting mode (Microsoft Word editing versus pen and paper) and interaction mode (MOO versus face-to-face), we suggest that the use of Word editing in an electronic peer review mode combined with face-to-face interaction in the traditional peer review mode may serve as a two-step procedure for effective peer review activities in L2 writing classrooms (p. 193).

Knowing the limitations and the advantages of using online peer response groups may lead some literacy instructors, reluctant to take on teaching in an online environment, to first try out only the peer response aspect. They can then determine themselves whether or not the time and effort is worth it. If teachers want to implement a hybrid approach, we suggest the chapter on teaching the writing process written by one of the researchers in the current study (Pritchard & Honeycutt, 2007). Following are a few suggestions to get started.

Begin the course with building an environment conducive to sharing. This involves getting-acquainted exercises, sharing your own writing drafts with students, praising and sharing "best parts" of compositions rather than entire pieces, and showing a general attitude that experimentation is valued.

Present the rules for response in an accessible manner (we used a skit with participants portraying exaggerated roles), then have students practice, practice, practice responding to lots of papers, including some of yours, during class.

Make sure that students are not daunted by using the online environment. Practice making posts during class time.

Begin with sharing personal writing f2f so that the writer is the expert on the content and members of writing groups get to know one another.

Usually, it is best to have odd numbered writing groups—3 or 5 members. Keep groups together for at least 3 different writing tasks so that they develop a comfort with each other. Monitor the groups to make sure all members are included and all are participating. Ask members to self-evaluate their contributions to the group. Meet with groups as needed.

Provide specific deadlines for both f2f and online responses. Sometimes writers will say they do not want to meet with their group because they have not finished their writing. Remind them that they have "response-ability" and that the group needs their input. Research (Rouhi & Azizian, 2013) shows that students improve in their own writing just by hearing the responses made to the writing of their peers; multiple types of response help build a repertoire for responding.

This study illustrates that peer response, commonly used f2f, also provides benefits when conducted online. It suggests that personal writing might be appropriate for introducing online sharing, since the writer is the expert on the topic and responses will include impact and emotions, and not focus so much on surface features. It shows that training students HOW to respond, whether f2f or online, is essential, and most of the rules that apply to f2f peer groups also applies to online response. It identifies those processes that are similar between the two environments and those that are different, while detailing the benefits and limitations of each environment. Finally, it suggests that a blended environment may be the most beneficial to writers.

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