November 2011

Writing Helpful Feedback: The Influence of Feedback Type on Students' Perceptions and Writing Performance

April L. McGrath
Mount Royal University, amcgrath@mtroyal.ca
Alyssa Taylor
The Humber Institute of Technology and Advanced Learning, alyssa.taylor@humber.ca
Timothy A. Pychyl
Carleton University, tpychyl@connect.carleton.ca

Writing Helpful Feedback: The Influence of Feedback Type on Students' Perceptions and Writing Performance

Abstract

Written feedback on students' assignments is a common method that instructors and teaching assistants use to inform students about their performance or guide revisions. Despite its frequency of use, written feedback often lacks sufficient detail to be beneficial to students, and additional empirical research should examine its effectiveness as a teaching tool. The current study examined the effectiveness of two different types of feedback, developed and undeveloped, in terms of its influence on students' subsequent writing performance and students' perceptions of the feedback. Results demonstrated that the type of feedback significantly affected students' perceptions, with developed feedback related to higher ratings of fairness and helpfulness; however, this feedback did not have a significant positive effect on students' written performance.

Les commentaires écrits sur les travaux sont une méthode courante utilisée par les enseignants et les aides-enseignants pour renseigner les étudiants sur leurs performances ou pour orienter les révisions. Malgré leur fréquence, il arrive souvent que les commentaires écrits ne soient pas assez détaillés pour être profitables aux étudiants. De plus amples recherches empiriques devraient se pencher sur l'efficacité de cet outil d'enseignement. La présente étude porte sur l'efficacité de différents types de commentaires élaborés et sous-élaborés; sur leur influence sur la performance écrite subséquente des étudiants et sur la perception de ces derniers à propos des commentaires. Les résultats démontrent que le type de commentaires influe significativement sur la perception des étudiants, les commentaires élaborés entraînant des évaluations supérieures en ce qui a trait à l'impartialité et à l'utilité; cependant, ces commentaires n'ont pas d'effets positifs importants sur la performance écrite des étudiants.

Keywords
writing, feedback, response, writing process, student perception

"The true mark of a teacher lies in the ability to provide targeted feedback that will lead to enhanced performance." (Piccinin, 2003, p. 32)

The ability to communicate clearly in written language is a skill both required and prized across many academic disciplines. Instructors value writing assignments because through such assignments students learn to write and also write to learn (Emig, 1977). One of the main forms of guidance students receive about their writing comes in the form of written feedback. Instructors in many disciplines focus on content during class time rather than the writing process. As such, written assignments are often completed by students outside of class and instructors provide guidance through written feedback. The margins of students' papers provide spaces for learning where an instructor can initiate a dialogue about one's written work. There is an assumption that students will value feedback and improve their writing because of it. Yet researchers have questioned the effectiveness of feedback (Haswell, 2008; Hodges, 1997; Kluger & DeNisi, 1996; Monroe, 2002; Sommers, 1982). The intention of written messages can become garbled (Higgins, Hartley & Skelton 2001) and ultimately may not result in the desired improvement in student writing (Crisp, 2007). For example, students may misinterpret the meaning of comments (Chanock, 2000), and although they may believe feedback is valuable, its helpfulness can vary greatly. Students perceive written feedback that is vague and focused on negative aspects of their writing as unhelpful (Weaver, 2006). Indeed partly because of a concern about how feedback may affect a student, Elbow (1997) has suggested at times providing minimal feedback that remains positive. Clearly instructors need to be thoughtful in their construction of feedback if students are to value it and benefit from it.

Despite questions about its effectiveness, feedback is a technique used by course instructors to communicate to students about their writing. As such, it is of the utmost importance to determine the type of feedback students find most beneficial. Further, scholars should seek to understand the type of feedback that can lead to improvements in student writing. In the present study we begin examining these complex issues with an empirical investigation involving students in an introductory psychology class.

In an effort to improve communication with students about their writing, researchers have begun to focus on the feedback process (e.g., Anson, 1997; Higgins, Hartley, & Skelton, 2002; Huxham, 2007). Many authors have proposed guidelines to help instructors write feedback that will be beneficial to students (e.g., Elbow 1997; Ferris 2003; Fulwiler, 1982; Hodges 1997; Holt 1997; Lunsford 1997; Willingham 1990). We term the feedback produced by following these guidelines as developed, by which we mean: clear, specific, and explanatory in nature. For example, composition scholars encourage instructors to use a conversational tone that provides specific rather than abstract comments listed in a hierarchy reflecting relative importance (Willingham, 1990). Also, written feedback should include explanations (*developed*) as opposed to vague abbreviations or single-word (*undeveloped*) comments (e.g., Hodges, 1997; Holt, 1997; Lunsford, 1997).

Thoughtful and developed comments respond to specific parts of a student's text and engage that student in conversation. Asking questions is thought to encourage a student's revising process and promote conversation (Willingham, 1990). For example, if a student wrote in an essay "All women throughout history have been subject to

oppression" a developed comment would ask the student to reconsider that position or to reflect on why she has made that claim: "Do you think this is the case for all women or are you overstating the claim? What evidence supports your claim? Why do you take such a strong stance?" An undeveloped and less helpful comment might read "All women?" Such a short comment does not create a conversation with the student and requires little more than a "yes" or "no" response on her part. Furthermore, developed comments that ask questions do not risk appropriating the student's text (Brannon & Knoblauch, 1982; Willingham, 1990). We want to encourage students to develop their writing; we do not want to do this for them.

Another guideline worth considering is deciding which mistakes or issues to focus on in a student's essay because instructors do not have time to comment on every problem. It is also unlikely that such overwhelming feedback would be beneficial to students. For example, in the case of grammatical errors, instructors may want to decide which are the most problematic and devote time to explaining them (Holt, 1997). Writing developed feedback requires time and thoughtfulness on the part of instructors but these demands can be partly countered by being purposeful and focused in what one writes. Beyond developing prescriptions for writing effective feedback, researchers have also examined the elements of feedback that students find helpful. In our study we wanted to assess if these prescriptions for producing effective feedback are actually perceived by students as effective.

Recent empirical work has investigated students' reactions to feedback and identified particular aspects of feedback that students find helpful. Lizzio and Wilson (2008) found students value feedback that is fair, encouraging, and has a developmental focus. Students perceived feedback to be fair when it was presented clearly and provided a consistent message about the evaluation of one's work. Encouraging feedback addressed the emotional aspects of writing and enhanced motivation by acknowledging what the student did well or the effort invested in the writing. Feedback with a developmental focus was most strongly associated with perceptions of feedback effectiveness. Feedback that is developmental in nature provides students with strategies and information to guide the writing of current assignments but that is also transferable to other tasks.

More recent findings concerning students' perceptions of feedback tend to agree with the qualities outlined above (Ferguson, 2011). In this study, both undergraduate and graduate students noted the importance of feedback that was clear, provided positive comments, and was constructive. Specifically, participants appreciated feedback that provided information on the overall structure and approach of their essays and that focused on the key points of their work. Positive comments were recognized as motivating, and students reported being receptive to a balance of positive and critical comments if the focus was improvement.

Our goal in the present study was to bridge the gap between what we know about students' perceptions of feedback effectiveness and the guidelines suggested for developing quality feedback. Does thoughtfully developed feedback based on the recommendations of teaching and writing scholars result in positive student evaluations of said feedback? Does this type of feedback influence students' performance on later writing tasks? Research that has examined the effects of different types of feedback in controlled classroom studies has focused on second language (L2) student writers. For

example, feedback focused on error correction that varied in its explicitness helped L2 students better self-edit their work compared to students who received no feedback (Ferris & Roberts, 2001). Yet the extent to which the feedback was explicit did not produce differential effects in self-editing. In another study with L2 students, different types of feedback produced more dramatic results (Kepner, 1991). Feedback that focused on the content of the students' writing produced improvements in the student's ability to convey analysis, interpretation, and evaluation in written form. By comparison, feedback focused on surface-level error correction did not produce significant improvements in writing. Although research has been conducted on feedback with L2 populations, findings regarding students with English as their mother tongue are still lacking. Feedback guidelines for such students are based largely on instructors' personal experiences and anecdotal evidence and remain empirically untested.

We wanted to extend research on feedback types beyond L2 environments by conducting a classroom experiment with introductory psychology students that varied the quality of the feedback they received. Given that feedback is the main form of response that students receive about their writing (Wall & Hull, 1989, p. 265), it is of the utmost importance to determine what type of feedback is most beneficial to students. There is a gap in the current pedagogical literature concerning the effectiveness of different forms of feedback. In order to begin addressing this gap we conducted an empirical study in a classroom that compared students' perceptions and performance on writing tasks when given either developed or undeveloped feedback.

We hypothesized that written feedback following the proposed guidelines found in the relevant pedagogical literature, based mostly on Willingham (1990), would be perceived by students as more effective and would perhaps be followed by an improvement in students' grades on a subsequent writing assignment. To test these hypotheses, we collected data from students over two assignments in a single course. In addition to surveying student opinions about the effectiveness of the feedback they received on these assignments, we examined student writing performance on a subsequent assignment to determine if the developed feedback had a beneficial effect on student writing ability when compared to the performance of students who received undeveloped written feedback (i.e., not developed as suggested in the literature, but typical of what some instructors provide).

Method

Participants

One hundred students (representing 58% of the students in the class) enrolled in a summer section of an introductory psychology course offered at a large Canadian, research-intensive university participated in the study for grade-raising course credit. Students were told that the study concerned the evaluation of different aspects of their course (e.g., lectures, demonstrations, feedback, etc.). Providing this background information to students was necessary to ensure that participants did not know that the researchers were interested in assessing types of written feedback. Student participation involved the completion of two questionnaires at two times in the semester. However, because of the two data collection points in the study, only 30 participants (18 women

and 12 men) completed both measurements. These participants were almost evenly divided among the experimental conditions (16 versus 14) and similar to the initial 100 participants in terms of the following background characteristics (i.e., no significant differences existed between those who participated and those who did not with ps > .05). Students were between 18 and 54 years old (M = 24.28, SD = 8.34) and in their first to fifth year of undergraduate study (M = 2.15, SD = 1.38), with most students being freshmen. Grade point averages (GPAs) ranged from 3.50 to 11.00 (on a 12-point scale), with the mean GPA at 8.45 (SD = 2.07), between a B and B+ letter grade. Furthermore, it was determined that the distributions of all the dependent measures were normally distributed, as indicated by non-significant Kolmogorov-Smirnov test statistics (ps > .05).

Lastly, independent sample t-tests were conducted on age, year of study, and GPA to determine whether our two groups of participants randomly assigned to conditions were equivalent in terms of these variables. Non-significant results (ps > .05) from these tests revealed that both groups were equivalent on these characteristics.

Procedure

Students enrolled in an introductory psychology course were given two writing assignments as part of the course requirements. Students were provided with a grading rubric (see the Appendix) that detailed how their assignments would be graded. Content, organization, and style (including aspects of technical writing) were evaluated. Each section of the rubric was broken down into relevant elements, with content being worth 10 points overall and the other two sections each being worth five points. Students were also given assignment sheets that were reviewed in class. They did not receive additional instruction in writing beyond this. Students could receive individual support from the instructor or teaching assistant (TA), but no participant in the study did this. Each assignment required students to write a two-page paper on a topic relevant to the class material. For the first assignment students wrote about a psychology topic covered in class and how it related to a personal experience. The second assignment required students to relate a topic covered in class to a specific example from popular culture and explain the connections between the topic and the chosen example.

In order to test the effectiveness of feedback that follows guidelines from the pedagogical literature, a teaching assistant provided one of two types of written feedback on student papers. Students were randomly assigned to one of two groups prior to the grading of their first paper. One group of students was given developed written feedback on their first paper (i.e., feedback that followed pedagogical guidelines), whereas the other group was given undeveloped written feedback (i.e., feedback that did not follow pedagogical guidelines). Subsequently, for the second paper, the group treatments were reversed such that students who received developed feedback on the first paper received undeveloped feedback on the second paper, and vice versa for the other group.

Consistent with the policies of the university's ethical review board, all students had the opportunity to rewrite her or his second assignment. This decision was based on the possibility that students who received developed feedback on the first assignment may have an unfair advantage in the writing of their second assignment over students who received the undeveloped feedback on assignment one.

The developed feedback provided on student papers was created based on the suggestions of several authors (Hodges, 1997; Holt, 1997; Lunsford, 1997; Willingham, 1990). Specifically, the developed feedback included an opening comment on the title page alerting the student to the main issues raised in the paper. For example, on one paper the teaching assistant wrote, "Jane, Your argument was very good. My comments address the development of your ideas and your personal examples." Also included was an end comment that contained three main points that were listed in a hierarchy of importance. One end comment read, "Jane, You did an excellent job explaining your topic to the reader with sufficient background information. To improve your writing ensure that your personal examples are concrete and relate back to the academic material. Also proofread your paper to avoid errors." Comments made throughout the paper were well-developed (rather than abbreviated words). For example, when positive comments were made, they were accompanied by a brief explanation about the comment and its placement (rather than simply writing one-word, vague encouragements). A limited number of grammatical errors were identified when present, and specific comments were provided on these grammatical problems (e.g., if a comma splice was present, then the feedback included a brief note about what a comma splice is and how to fix it). Lastly, the developed feedback was written in a conversational tone that asked students questions about the content of their paper, which was intended to make students continue to think about their logic with the intention of initiating a dialogue between the student and feedback-provider (e.g., How does this affect X? Can you define this concept or expand on it? Why did this happen? How did your preferences for activities change?).

By comparison, the undeveloped feedback included no opening comment, and the end comment simply provided one statement about the overall quality of the essay (e.g., "well done" or conversely "writing needs work"). Also, abbreviated or one-word comments were used throughout the essay (e.g., awk, tense, tone, vague), and positive comments were brief (i.e., no explanation was given as to what the students did well, and instead checkmarks were commonly used). Grammatical errors were simply highlighted or corrected without providing information on what the error was, and no effort was made to write the feedback in a conversational tone (i.e., no dialogue-inducing questions were posed to students). The undeveloped feedback took approximately half the time to write in comparison to the developed feedback.

The teaching assistant for the course was responsible for marking and providing both types of feedback for both groups during the term. It was not possible for the teaching assistant to be blind to the experimental manipulation, but she was not told the purpose of the study. This individual was trained using a grading rubric to ensure that the type of feedback she was writing on the papers did not influence her grading. She also received feedback guidelines and training for both forms of feedback from the first author. After the training was completed, the teaching assistant marked several papers and the researchers reviewed them to ensure that the different types of feedback were implemented properly. Subsequent papers were also selected at random and reviewed by the instructor (the second author) to ensure that the feedback guidelines were being followed and that there was agreement on the grading based on the grading rubric.

The in-class procedure for this study involved returning students' papers in class and providing approximately 5 minutes for students to review their work and feedback. Questionnaires that contained evaluative additional items about the course (e.g., filler

items such as lecturing style, textbook, course requirements) and items specific to feedback about the writing assignment were then distributed and completed by those who had volunteered to participate.

Measures

Students' perceptions of feedback quality. Students completed a questionnaire developed by Lizzio and Wilson (2008) that evaluates the perceived effectiveness of assessment feedback. The questionnaire includes 15 items rated on a Likert scale from 1 (not at all effective) to 7 (very effective). The questionnaire has three subscales that assess developmental feedback (7 items; $\alpha = .89$), encouraging feedback (4 items; $\alpha = .88$), and fair feedback (4 items; $\alpha = .76$). Example items for each dimension include: "Comments helped me focus on areas I could improve"; "Positive comments were made"; and "Feedback was inconsistent or contradictory," respectively.

Writing performance. The effectiveness of the two feedback methods on writing ability was assessed by comparing the grades students received on their two assignments under the different treatment levels. These assignments were graded out of a total possible 20 marks and each accounted for 10% of the students' final grade.

Data Analysis

Students' perceptions of the quality of developed versus undeveloped feedback were assessed by examining how they evaluated each type of feedback in terms of its developmental helpfulness, fairness, and degree of encouragement. A series of dependent-samples t-tests were conducted to determine whether students differed in their evaluations of the feedback types. Order effects were controlled for by analyzing rating differences for feedback types separately for each group. That is, ratings from students who received developed feedback at time one followed by undeveloped feedback at time two, were analyzed with dependent-samples t-tests on each dependent variable, and then this analysis was repeated for students who received the undeveloped feedback followed by the developed feedback.

Results

Students who received developed feedback on the first paper rated that feedback as more developmentally helpful ($M = 5.24$, $SD = 1.18$) than the undeveloped feedback they received on the second paper ($M = 4.68$, $SD = .98$), $t(15) = 2.66$, $p = .018$, $d = .67$. The developed feedback was also perceived as fairer ($M = 5.96$, $SD = 1.00$) than the undeveloped feedback ($M = 5.16$, $SD = 1.15$) that students received on the second paper, $t(15) = -3.30$, $p = .005$, $d = .83$. However, these students did not perceive the developed feedback ($M = 5.30$, $SD = 1.40$) to be more encouraging than the undeveloped feedback ($M = 5.30$, $SD = 0.91$), $t(15) = .002$, $p = .998$. Conversely, students who received undeveloped feedback on the first paper did not rate the developed feedback on their second paper as more developmentally helpful, fair, or encouraging ($ps = .22, .44, .76$, respectively), suggesting an order effect.

To determine whether feedback type was related to students' performance on the second assignment, difference scores were calculated for each group. Students who received developed feedback first earned an average grade of 17.81 (SD = 1.65) on the first paper and an average of 15.12 (SD = 2.77) on the second paper (difference score = -2.69). Students who received undeveloped feedback first earned an average grade of 18.86 (SD = 1.31) on the first paper and an average of 15.75 (SD = 2.89) on the second paper (difference score = -3.11). Grades were lower overall on the second assignment because it was more challenging than the first assignment. The difference of average grade decrease between groups was not statistically significant $t(28)$ = -.47, p = .64. Although not statistically significant, the students who received the developed feedback on the first paper did demonstrate less of a decrease in their grade on the second paper when compared to the grade decrease of the other group.

Discussion

The purpose of our study was to examine the effectiveness of writing feedback that is based on guidelines found in the literature. By varying the type of feedback students received, we sought to determine whether developed feedback is perceived as more effective than undeveloped feedback. Furthermore, we assessed whether developed feedback results in improvements in students' written work. We first review the findings related to students' perceptions. We follow this with a discussion of the behavioural results.

Students' evaluations revealed that the developed feedback first given by the teaching assistant was perceived to be more developmentally helpful than the undeveloped feedback given second, represented by a medium to large effect size (Cohen, 1992). Furthermore, the same finding was found in terms of the perception of fairness about the feedback, represented by a large effect size. These effect sizes are consistent with much of the published literature in terms of assessing the impact of teaching activities on learning (Tomcho & Foels, 2008). As such, it is possible to conclude that these students did notice meaningful differences between the two types of feedback.

As we hypothesized, manipulating the type of feedback students received on their papers significantly affected students' perceptions about the quality of the feedback. Specifically, students evaluated developed feedback as fairer and more developmentally helpful than undeveloped feedback. However, this relationship was only true of students who received the developed feedback first. That is, students who received undeveloped feedback on the first paper did not evaluate the developed feedback on their second paper as higher in quality. This finding suggests an important order effect. According to the adaptation-level phenomenon, individuals quickly adapt to a given level of stimulation and then use this as a reference point for judgments about future stimulation levels (Helson, 1964). This concept has been used to examine the meaning students attribute to grades (Pollio, Eison, & Milton, 1988), and it may also help explain the presence of an order effect in our study. Perhaps students who received developed feedback on the first assignment expected to receive this feedback again. Then when they were presented with less and lower quality feedback on the second assignment they noticed a difference. Alternatively, receiving the developed feedback on the second assignment may not have

been perceived as more effective simply because there was no motivation for its use as there was no subsequent assignment to which this feedback could be applied. Even though students could obviously benefit from feedback on their writing in subsequent courses, there was no third assignment and so it is possible that most students failed to look at the benefits beyond the specific course requirements.

Interestingly, perceptions about how encouraging the developed and undeveloped feedback was did not differ between the two types of feedback. Both feedback types provided students with encouraging feedback, but in different ways. Specifically, with undeveloped feedback, encouraging remarks were made with checkmarks or comments (e.g., "good", "great"). By comparison, encouraging remarks in the developed feedback condition included more detailed comments (e.g., "good use of academic material to support your argument", "excellent example that describes a practical application of research to the real world"). It would seem that the students in this study found both types of feedback encouraging, regardless of the form. This finding emphasizes the importance of praise when providing students with feedback. Although students may find unspecific critical comments (e.g., awk or vague) unhelpful or even frustrating, unspecific positive comments (e.g., good) actually offer encouragement to students. Daiker (1989) has underscored the importance of written praise because positive comments can reduce student anxiety about writing, build confidence in students as writers, and motivate students to engage in writing and revising.

We also assessed the relationship between type of feedback received and subsequent improvements in student writing. Developed feedback did not significantly positively affect the quality of student writing (as measured by grades), although a trend was observed whereby students who received developed feedback on the first paper performed less poorly on the second paper when compared to students who received the undeveloped feedback on the first paper. Although this result was not statistically significant, it may be worthwhile to explore this trend in future research to determine if feedback type can positively affect students' writing performance. Research has shown that feedback and feedback coupled with revision can improve student writing, with larger gains obtained through a combination of feedback and revision activity (Hillocks, 2008). Indeed much of the research on written feedback in the composition literature highlights the need for revision and students are expected to revise their work based on the instructor's comments (Willingham, 1990). Therefore, it may be important to combine investigations of the usefulness of different types of feedback with classroom activities that explicitly require students to use the feedback (e.g., requiring revised drafts of essays based on the feedback given). While it is also possible that stronger variables are at play in student writing (e.g., motivation, ability), we believe that providing students with high quality feedback is an important responsibility of instructors and teaching assistants, and one that may significantly improve student writing. This is an avenue for future research.

Limitations and Future Research

In our study, we were able to measure both students' perceptions of and objective learning outcomes associated with two types of feedback in a classroom setting and make meaningful conclusions about the use of these differences in feedback with respect to student writing. Despite these promising findings with respect to taking the time to

provide more developed feedback, there were still several noteworthy limitations that must be considered.

Firstly, as in all educational studies, conducting research in the classroom presents practical constraints. Attrition was a problem in our study because many students were not present for both measurement time points, and this is a problem common to many repeated measurements studies (Kazdin, 2003). Fortunately we know that the participants who did complete the study were not significantly different from participants who failed to complete the study on a number of characteristics (i.e., age, year of study, GPA). Although our sample was smaller than preferred we still found medium to large effect sizes based on our manipulation. We recruited students from a summer course that may have more sporadic attendance than a course offered during the academic school year. Interested researchers should replicate this study with more participants during the academic school year in order to reduce attrition rates. Ultimately we believe the ecological validity gained by conducting this research in a university classroom with students outweighs the drawbacks that are produced by not conducting a controlled laboratory study.

Secondly, although we had an approximately equal number of students in both conditions these students did participate through a process of self-selection. Students were awarded bonus points on their final grades for completing the study. This may mean that particularly motivated students elected to participate, or conversely that students who expected not to do well in the course were more likely to participate. This is an issue with many psychology studies that rely on large pools of introductory students. Thus our results may not generalize to larger student populations, and as such, similar research should be conducted among other student populations.

Thirdly, our measurement of improved writing ability was the comparison of student grades on only two assignments and the second assignment was more difficult than the first. This change in the difficulty of the assignment may have obscured any effects based on feedback type. Future studies should include assignments with a similar level of difficulty to allow for a clearer understanding of the effects of feedback. Also, because the comparison of grades was based on only two writing assignments this may have resulted in a measurement sensitivity problem. For example, students who received developed feedback first may have learned about specific mistakes by reading this feedback, but on their second paper they may have committed different mistakes that would still affect their grade and also obscure the positive effects of developed feedback on their writing. Therefore, researchers should likely use multiple measures of writing ability (e.g., journaling, essays, and short grammatical tests) in future studies. Furthermore, future studies should include more than two written assignments. This approach will allow researchers to track potential feedback effects longitudinally, likely enhancing our understanding of how feedback affects student writing. In addition, a multiple-measures approach will provide students with more writing opportunities, which has been found to enhance learning and improve one's overall writing ability (Sorcinelli & Elbow, 1997).

Lastly, as previously mentioned, the developed feedback took approximately twice as long to write as the undeveloped feedback. While we were unable to find significant results supporting the learning benefits of receiving developed feedback, positive student perceptions of this type of feedback were present. Perhaps most

significant is the result indicating that students perceived any type of positive feedback as encouraging. Providing students with positive feedback is important, regardless of improvements in grades, because it can nurture positive attitudes toward writing (Gee, 1972). It is possible that students' positive perceptions of developed feedback could affect student motivation (Lucas, 1990), feelings of academic self-efficacy, or perhaps increase students' ratings of instructors who provide developed feedback. However, future research would need to examine whether any of these relationships exist.

Instructors are ultimately left with the decision as to whether or not spending the additional time (or having their teaching assistants spend additional time) to provide developed feedback is worthwhile (Crisp, 2007). As with all course assignments and instructional techniques, instructors must decide where to invest their time. Future studies are required if we are to develop a better understanding of how different quality feedback influences student writing. Instructors may find that the most beneficial use of their time could be divided between providing high quality feedback and opportunities for students to reflect on such feedback and actually incorporate it into their writing. Responses to student writing can take many forms (Anson, 1989), and we encourage instructors to reflect on how they want to include writing and response in their classrooms. We are aware that many instructors do not receive explicit instruction on how to teach writing and how to respond to student writing. Similarly, many teaching assistants also lack training when it comes to responding to students' written work. We view the guidelines represented in this study as a starting point for both instructors and teaching assistants interested in improving their response skills. It may be particularly important for instructors to provide teaching assistants with feedback guidelines, and not just grading rubrics, because teaching assistants are students themselves and may be at a loss in terms of focusing the comments they write on students' work. The most effective exercises in peer review occur when students are given instruction and specific guidance in how to provide feedback (Herrington & Cadman, 1991), and we think the case should be no different for teaching assistants.

University instructors are responsible for determining the learning objectives of their courses. These objectives may often include a range of higher-order skills (e.g., the ability to critically analyze content or to apply one's knowledge to a new task). Student writing is frequently used as a means to discern the development of these skills and is oftentimes deemed an important outcome in its own right. Supporting students through the writing process is important for both students wanting to further their academic careers and for those seeking non-academic careers. On the basis of our study, we certainly believe that the investment of time in developing quality feedback is worthwhile, simply because students perceive developed feedback to be fair and helpful, contributing to a classroom atmosphere of respect and trust.

References

Anson, C. M. (Ed.). (1989). *Writing and response: Theory, practice, and research.* Urbana, IL: National Council of Teachers of English.

Anson, C. M. (1997). In our own voices: Using recorded commentary to respond to writing. *New Directions for Teaching and Learning, 69*, 105-113. http://dx.doi.org/10.1002/tl.6909

Brannon, L., & Knoblauch, C. H. (1982). On students' rights to their own texts: A model of teacher response. *College Composition and Communication, 33*, 157-166. http://dx.doi.org/10.2307/357623

Chanock, K. (2000). Comments on essays: Do students understand what tutors write? *Teaching in Higher Education, 5*, 95-105. http://dx.doi.org/10.1080/135625100114984

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155-159. http://dx.doi.org/10.1037/0033-2909.112.1.155

Crisp, B. R. (2007). Is it worth the effort? How feedback influences students' subsequent submission of assessable work. *Assessment & Evaluation in Higher Education, 32*, 571-581. http://dx.doi.org/10.1080/02602930601116912

Daiker, D. A. (1989). Learning to praise. In C. M. Anson (Ed.), *Writing and response: Theory, practice, and research* (pp. 103-113). Urbana, IL: National Council of Teachers of English.

Elbow, P. (1997). High stakes and low stakes in assigning and responding to writing. *New Directions for Teaching and Learning, 69*, 5-13. http://dx.doi.org/10.1002/tl.6901

Emig, J. (1977). Writing as a mode of learning. *College Composition and Communication, 28*, 122-128. http://dx.doi.org/10.2307/356095

Ferguson, P. (2011). Student perceptions of quality feedback in teacher education. *Assessment & Evaluation in Higher Education, 36*, 51-62. http://dx.doi.org/10.1080/02602930903197883

Ferris, D. (2003). *Response to student writing*. Mahwah, NJ: Lawrence Erlbaum.

Ferris, D., & Roberts, B. (2001). Error feedback in L2 writing classes: How explicit does it need to be? *Journal of Second Language Writing, 10*, 161-184. http://dx.doi.org/10.1016/S1060-3743(01)00039-X

Fulwiler, T. (1982). Teaching teachers to teach revision. In R. A. Sudol (Ed.), *Revising: New essays for teachers of writing* (pp. 100-108). Urbana, IL: National Council of Teachers of English.

Gee, T. C. (1972). Students' responses to teacher comments. *Research in the Teaching of English, 6*, 212-221.

Haswell, R. H. (2008). Teaching of writing in higher education. In C. Bazerman (Ed.), *Handbook of research on writing: History, society, school, individual, text* (pp. 331-346). New York: Lawrence Erlbaum.

Helson, H. (1964). *Adaptation level theory*. New York: Harper & Row.

Herrington, A. J., & Cadman, D. (1991). Peer review and revising in an anthropology course: Lessons for learning. *College Composition and Communication, 42*, 184-199. http://dx.doi.org/10.2307/358198

Higgins, R., Hartley, P., & Skelton, A. (2001). Getting the message across: The problem of communicating assessment feedback. *Teaching in Higher Education, 6*, 269-274. http://dx.doi.org/10.1080/13562510120045230

Higgins, R., Hartley, P., & Skelton, A. (2002). The conscientious consumer: Reconsidering the role of assessment feedback in student learning. *Studies in Higher Education, 27*, 53-64. http://dx.doi.org/10.1080/03075070120099368

Hillocks, G. (2008). Writing in secondary schools. In C. Bazerman (Ed.), *Handbook of research on writing: History, society, school, individual, text* (pp. 311-329). New York: Lawrence Erlbaum Associates/Taylor & Francis.

Hodges, E. (1997). Negotiating the margins: Some principles for responding to our students' writing, some strategies for helping students read our comments. *New Directions for Teaching and Learning, 69*, 77-89. http://dx.doi.org/10.1002/tl.6907

Holt, S. L. (1997). Responding to grammar errors. *New Directions for Teaching and Learning, 70*, 69-76. http://dx.doi.org/10.1002/tl.7008

Huxham, M. (2007) Fast and effective feedback: Are model answers the answer? *Assessment and Evaluation in Higher Education*, *32*, 601-611. http://dx.doi.org/10.1080/02602930601116946

Kazdin, A. E. (2003). *Research design in clinical psychology* (4th ed.). Needham Heights, MA: Allyn & Bacon.

Kepner, C. (1991). An experiment in the relationship of types of written feedback to the development of second-language writing skills. *The Modern Language Journal, 75*, 305-313.

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*, 254-284. http://dx.doi.org/10.1037/0033-2909.119.2.254

Lizzio, A., & Wilson, K. (2008). Feedback on assessment: Students' perceptions of quality and effectiveness. *Assessment & Evaluation in Higher Education, 33*, 263-275. http://dx.doi.org/10.1080/02602930701292548

Lucas, A. F. (1990). Using psychological models to understand student motivation. *New Directions for Teaching and Learning, 42*, 103-114. http://dx.doi.org/10.1002/tl.37219904211

Lunsford, R. E. (1997). When less is more: Principles for responding in the disciplines. *New Directions for Teaching and Learning, 69*, 91-104. http://dx.doi.org/10.1002/tl.6908

Monroe, B. (2002). Feedback: Where it's at is where it's at. *The English Journal, 92*, 102-104. http://dx.doi.org/10.2307/821956

Piccinin, S. J. (2003). *Feedback: Key to learning*. STLHE Green Guide No. 4. Halifax, NS: Society for Teaching and Learning in Higher Education.

Pollio, H. R., Eison, J. A., & Milton, O. (1988). College grades as an adaptation level phenomenon. *Contemporary Educational Psychology, 13*, 146-156. http://dx.doi.org/10.1016/0361-476X(88)90015-X

Sommers, N. (1982). Responding to student writing. *College Composition and Communication, 33*, 148-156. http://dx.doi.org/10.2307/357622

Sorcinelli, M. D., & P. Elbow. (Eds.). (1997). *Writing to learn: Strategies for assigning and responding to writing across the disciplines*. San Francisco: Jossey-Bass.

Tomcho, T. J., & R. Foels. (2008). Assessing effective teaching of psychology: A meta-analytic integration of learning outcomes. *Teaching of Psychology*, *35*, 286-296. http://dx.doi.org/10.1080/00986280802374575

Wall, S. V., & Hull, G. A. (1989). The semantics of error: What do teachers know? In C. M. Anson (Ed.), *Writing and response: Theory, practice, and research* (pp. 261-292). Urbana, IL: National Council of Teachers of English.

Weaver, M. R. (2006). Do students value feedback? Student perceptions of tutors' written responses. *Assessment & Evaluation in Higher Education, 31*, 379-394. http://dx.doi.org/10.1080/02602930500353061

Willingham, D. B. (1990). Effective feedback on written assignments. *Teaching of Psychology, 17*, 10-13. http://dx.doi.org/10.1207/s15328023top1701_2

Appendix

Grading Rubric

Content / 10
Appropriate choice of topic (e.g., from textbook or lecture)   Summary of the main ideas of the topic   Accurate psychological material included   Logical connection between the topic and personal experience/pop culture example   Adequate depth of discussion
Organization / 5
Clear introductory statement about the concept to be examined   Integration of psychological material with personal experience/pop culture example   Clear transitions between thoughts   Balanced discussion of concept and personal experience/pop culture example   Conclusion statement that summarizes main points
Style / 5
Proper title page   Correct grammar and sentence structure   Appropriate formatting (e.g., length, font size, double spaced, etc.)   Coherent flow throughout the paper   Correct referencing of sources