COMPARING THE USE OF WRITTEN AND VIDEO FEEDBACK IN PRE-SERVICE TEACHER EDUCATION: A CASE STUDY

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Abstract
The use of video feedback is relatively new. Reported benefits include improved personal connection, increased focus, and improved learning. However, limited research has been conducted on exploring student and teacher perceptions of written and video feedback in pre-service teacher education. The purpose of this study was to compare written and video feedback in pre-service teacher education. One instructor and 40 elementary school pre-service teachers (34 = female, 6 = male) participated in a mixed methods study including survey, open-ended response, and interview data. Elementary school pre-service teachers reported that video feedback was significantly clearer, more useful, detailed and personal than written feedback. Overall, video feedback was also rated significantly more useful and helpful with respect to learning than written feedback. Challenges with providing video feedback noted by the instructor included learning a new approach, controlling tone of voice, limited flexibility, and reduced efficiency. Benefits noted were an increased ability to provide greater detail, quality and personalization of feedback. Educational implications of this study and suggestions for future research on video feedback are discussed.

Keywords: video feedback, written feedback, assessment, pre-service teachers.

1 INTRODUCTION

1.1 Overview
Feedback is an integral part of the assessment cycle in which communication is delivered about a gap between actual performance and desired outcomes [1]. Hattie’s synthesis of over 500 meta-analyses identified feedback as one of the most important factors in improving student achievement [2]. Hattie & Clarke [3] added that feedback could precipitate increased effort, motivation, and the restructuring of understanding. Brookhart [4] identified key aspects of effective feedback including clarity, providing sufficient detail, avoiding judgement and/or personal comments, using a respectful tone, recognizing positive attributes, identifying opportunities for growth, and helping students move toward the desired learning goals.

Feedback can be delivered in a number of different modes including written, oral, demonstrations and conversations [4]. One relatively new format is video feedback [5, 6, 7]. Reported benefits of video feedback include building social presence, and personal connection [5, 6, 8], increased motivation and engagement [7, 8, 9, 10], greater focus and attention on feedback provided [11], and increased learning and understanding [6, 12]. A number of studies reported that video feedback was better than written feedback with respect to quantity [10, 11], quality [8, 10, 11], and comprehensiveness [7, 8, 9].

Several studies have looked at instructor perspectives with respect to providing video feedback. After learning the software and establishing a workflow, higher education faculty reported that providing video feedback took the same amount of time as providing written or typed feedback [10, 11, 12] or less [6, 9].

To date, limited research has been conducted on exploring student and teacher perceptions of written and video feedback in pre-service teacher education [8, 11]. The purpose of the current study, then, was to examine pre-service teacher and student experiences with written and video feedback.

1.2 Research Questions
Two primary research questions were addressed in this study:

1. What was the teacher’s experience providing written versus video feedback?
2. What were students experiences with respect to receiving written vs. video feedback?
2 METHODOLOGY

2.1 Participants
Forty primary-junior pre-service teachers (34 = female, 6 = male) out of 136 participated in the study, for a response rate of 29%. Age groups were 20 to 25 (n=23), 26 to 30 (n=7), 31 to 35 (n=5), and 36 to 40 (n=5). The Bachelor of Education (B.Ed.) degree at this university, located in a suburban area with close to 650,000 people, was an eight-month consecutive program. All pre-service teachers were required to have three- or four-year undergraduate degrees to be accepted into the B.Ed. program. The teacher was a female who had taught the course for five years.

2.2 Context
The pre-service teachers were enrolled in the Foundations of Teaching course. For the purpose of this study, the impact of feedback on two assignments was assessed. The first assignment, worth 15% of their grade, required pre-service teachers to produce a reflective summary on planning for a learning environment. Pre-service teachers received written feedback on this assignment. The second assignment, worth 15% of their grade, was also a reflective summary, this time focussing on actually creating an effective learning environment. Pre-service teachers received video feedback on this assignment. Specifically, screencasting software (Camtasia© and Jing©) was used to record the teacher providing feedback while scrolling through each student's reflective summary. On average these video clips were 5 to 10 minutes long.

2.3 Data Collection

2.3.1 Demographic Variables
A survey was used to collect demographic data about the participant’s gender and age.

2.3.2 Teacher Interview
The teacher, who provided both written and video feedback to the students, participated in a 45-minute interview asking questions about her philosophy of giving feedback, the process of providing written feedback, the process of providing video feedback, and the similarities and differences between offering written and video feedback.

2.3.3 Usefulness of Feedback, Grades and Grade Satisfaction
Pre-service teachers were asked to provide their grade, rating of usefulness (4-point Likert scale) and overall satisfaction with their grade (3-point Likert scale)

2.3.4 Ratings of Written and Video Feedback
An 11 item, five-point Likert scale was used to compare written and video feedback based on clarity, amount of detail, helpfulness, learning and understanding, focus, the potential for growth, and personal connection. Finally, pre-service teachers were asked one open-ended question about what they perceived were the differences (if any) between receiving written and video feedback.

2.4 Procedure
All pre-service teachers were enrolled in a 9 week, 36-hour course on the foundations of teaching. The feedback from two assignments was examined in this study. Pre-service teachers completed the first assignment, a reflection on planning lessons, and received written feedback. Pre-service teachers then completed the second assignment, a reflection creating an effective learning environment. Next, pre-service teachers completed an online survey asking them about their background (2 items), usefulness of feedback, grades and grade satisfaction (6 items), attitudes toward written feedback (11 items), and attitudes toward video feedback (11 items) and an open-ended question about the difference between written and video feedback (1 item).
3 RESULTS AND DISCUSSION

3.1 Teacher Perspective

3.1.1 Feedback Philosophy

The teacher in this study based her feedback on pre-established assessment criteria that were communicated to the pre-service teachers.

“When I plan an assignment, it’s based on what I’m going to teach them, and then I give them the assessment criteria, we go through it, and then I provide the feedback based on the assessment criteria.”

She would provide detailed written or video feedback on whether the student achieved the criteria and how they could improve.

“I try to make a suggestion as to how they can improve to get a level 4 or how, or if they’ve excelled, I talk about why it’s good.”

Finally, she always attempted to provide balanced feedback, focusing on what the student did well and opportunities for improvement.

“I always find a positive and I try to write a positive comment first. I find something that they did well, so a strength and then an area to work on.”

3.1.2 Written Feedback

The teacher noted two challenges in giving written feedback including sensitivity to feedback and physical strain. The teacher noted that adult students can be quite sensitive and that she had to be careful and detailed with her comments. For example,

‘If it was to a grade 4 child, I would circle the instructions, and I would put “read carefully please.” If I did that with an adult, they take it very personally, and they get very upset. So, I have to, I have to temper my comments, and I have to be very, be much more careful, so I’ll write ‘you clearly thought about this, but I suggest next time you pay more attention to the rubric’ I don’t want them to be upset, if they’re upset, they won’t see the message.”

The teacher also noted that their hand was physically sore after providing extensive written feedback to over 130 students, stating, “I find my wrists are really sore by the end of it” and “I still spent about 15 minutes - it’s just my hands were hurt because I do write so much so I would still have to stop.” When they used video feedback, there was no hand fatigue.

“I was happy because my hands didn’t hurt as much. They really hurt at the end of the large assignment. So that part was good.”

3.1.3 Video Feedback

At least six issues emerged regarding the use of video feedback: learning a new approach, tone of voice, flexibility, efficiency, feedback detail, and personal nature of feedback. First, it took some time for the teacher to adjust to giving video feedback.

“At first when I started doing it, I was listening to myself, and I was, so that was time-consuming because I [said] “oh and umm and okay” so those things, I started listening, and then I realized this was just silly and then I just spoke more naturally, so there was a little bit of a learning curve there.”

Second, the teacher was very aware of her tone and the message it might send, especially when she was tired.

“I’m alert when I’m marking it, but it’s more my tone of voice changes when I’m tired, the fluctuation.”

“The tone of voice and the emotional tone I think that was the key part.”

“But with [video feedback], when I was doing the verbal, I’d get tired, and I started slurring my words. And I’d have to stop because I wasn’t mentally alert to speak.”
Third, the teacher noted that she had more flexibility about when and where she could provide written feedback, whereas video feedback had to be created where the technology was available.

“One of the challenges was I couldn’t just mark in Starbucks. Okay, so I was limited by my location [when giving video feedback].”

Fourth, sometimes video recording was not efficient because the teacher would make a mistake and have to redo the entire feedback session, unlike when she made a mistake writing and could simply cross out the text.

“I would have to re-record, and then I’d forget everything that I said. And I did that a few times, I re-recorded a few times, and I didn’t say what I really wanted to say.”

“If the phone rang, or if I marked at my mothers the cat would come up and start meowing and playing with me, so that was interesting.”

Fifth, the teacher claimed that she was able to provide far more detailed, accurate explanations to students with video feedback.

“They were really good I mean some of the lowest marks I’ve ever given I gave through this feedback. I felt more confident in giving those lower marks because I was able to give them more feedback and explain why.”

“I was more confident that they would get it [with video] because I was actually very specific and some of them did say [after they received the feedback] “you know when you told me [this] that made so much sense, and I completely didn’t think about it.”

Finally, the teacher felt that she was able to make more personal connections with the students when using video feedback.

“It was much more personal. I started making connections. For example, there was a student who I was able to connect something to their lives, I hope you’re enjoying your time in grade 2, I know you were nervous, and I’m sure you’re doing a great job – so I was able to add a little personal element at the end.”

“I actually had some students on practicum email me and just say thank you so much I just had such a rough day, and I heard your feedback and just that little pep talk at the end [of the video].”

3.2 Usefulness, Grades & Grades Satisfaction

Two-thirds of the preservice teachers rated written feedback as being useful compared to 94% for video feedback usefulness (Table 1). A paired samples t-test revealed that video feedback was perceived as significantly more useful than written feedback \((t=4.34, df=36, p<.001)\). The average grade and grade satisfaction were similar for written and video feedback assignments.

<table>
<thead>
<tr>
<th>Item</th>
<th>Written Feedback</th>
<th></th>
<th>Video Feedback</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Disagree</td>
<td>Agree</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Usefulness</td>
<td>2.76 (0.7) (^1)</td>
<td>3%</td>
<td>65%</td>
<td>3.35 (0.6) (^1)</td>
</tr>
<tr>
<td>Average Grade</td>
<td>86.49 (3.3)</td>
<td></td>
<td>87.53 (3.3)</td>
<td></td>
</tr>
<tr>
<td>Satisfied with Grade</td>
<td>2.58 (0.4) (^2)</td>
<td>89%</td>
<td>18</td>
<td>2.95 (0.2) (^2)</td>
</tr>
</tbody>
</table>

\(^1\) Based on a 4-point Likert scale (Not at all useful to Very Useful)

\(^2\) Based on a 3-point Likert scale (No, Sort of, Yes)

3.3 Written vs. Video Feedback

3.3.1 Survey Data

With respect to the quality of feedback, video feedback was perceived as significantly clearer, more detailed, and more personal (Table 2). Over ninety percent of pre-service teachers agreed that video feedback was clear and detailed compared to 70 to 78% agreement for written feedback. Only 16% of
the pre-service teachers agreed that written feedback was personalized compared to 81% for video feedback.

Pre-service teachers agreed that they learned significantly more from video feedback than from written feedback (Table 2). Specifically, they reviewed video feedback closely, agreed that it helped them better understand what they did correctly and where they went wrong (Table 2). About half the pre-service teachers agreed that written feedback helped them learn and that they would do better next time as a result of having received this type of feedback. By contrast, about 90% of the pre-service teacher agreed that video feedback improved their learning and chances of future success (Table 2).

Overall, pre-service teachers rated video feedback as significantly better than written feedback (Table 2). About 15% of the students agreed or strongly agreed that written feedback was better than video feedback. On the other hand, over 60% of the students rated video feedback was superior to written feedback.

Table 2. Student Perceptions of Written vs. Video Feedback (n=37)

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (SD)</th>
<th>Agree</th>
<th>Mean (SD)</th>
<th>Agree</th>
<th>T value</th>
<th>Cohen’s D</th>
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<tbody>
<tr>
<td>Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback was clear</td>
<td>3.89 (0.7)</td>
<td>78%</td>
<td>4.49 (0.5)</td>
<td>100%</td>
<td>4.53*</td>
<td>0.98</td>
</tr>
<tr>
<td>Writing/Voice was clear</td>
<td>3.62 (1.0)</td>
<td>65%</td>
<td>4.46 (0.7)</td>
<td>95%</td>
<td>4.28*</td>
<td>0.97</td>
</tr>
<tr>
<td>Feedback was detailed</td>
<td>3.84 (0.6)</td>
<td>70%</td>
<td>4.62 (0.5)</td>
<td>97%</td>
<td>5.81*</td>
<td>1.41</td>
</tr>
<tr>
<td>The feedback was personalized</td>
<td>2.54 (1.2)</td>
<td>16%</td>
<td>4.27 (0.8)</td>
<td>81%</td>
<td>6.15*</td>
<td>1.70</td>
</tr>
<tr>
<td>Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I read/listened to feedback carefully</td>
<td>3.92 (0.9)</td>
<td>76%</td>
<td>4.43 (0.6)</td>
<td>97%</td>
<td>2.92 ***</td>
<td>0.67</td>
</tr>
<tr>
<td>Feedback helped me understand where I went wrong</td>
<td>3.78 (0.8)</td>
<td>62%</td>
<td>4.32 (0.7)</td>
<td>89%</td>
<td>3.53 **</td>
<td>0.72</td>
</tr>
<tr>
<td>Feedback helped me understand what I did right</td>
<td>3.81 (0.7)</td>
<td>73%</td>
<td>4.49 (0.5)</td>
<td>100%</td>
<td>4.83 *</td>
<td>1.12</td>
</tr>
<tr>
<td>Feedback helped me learn</td>
<td>3.62 (0.8)</td>
<td>51%</td>
<td>4.35 (0.6)</td>
<td>95%</td>
<td>5.52*</td>
<td>1.03</td>
</tr>
<tr>
<td>I feel I could do better next time because of the feedback</td>
<td>3.62 (0.8)</td>
<td>57%</td>
<td>4.24 (0.7)</td>
<td>86%</td>
<td>3.85*</td>
<td>1.03</td>
</tr>
<tr>
<td>Overall Impression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I liked this type of feedback better</td>
<td>2.59 (1.0)</td>
<td>14%</td>
<td>3.89 (1.0)</td>
<td>62%</td>
<td>4.74*</td>
<td>1.30</td>
</tr>
</tbody>
</table>

*p < .001; ** p < .005; *** p < .01

3.3.2 Open-Ended Responses

Pre-service teachers offered 70 comments about their experiences with written (n=9) and video (n=61) feedback. Seven themes emerged from the content analysis including general impressions, personalization, understanding, detail, reference, focus, and time. With respect to general impressions (n=8, 11% of the comments), pre-service teachers appeared to enjoy the experience of receiving video feedback and found it useful. Sample comments were:

“I thoroughly enjoyed the video feedback.”

“I felt like I understood the feedback and it was extremely useful for me.”

“I really like the idea of video feedback on big assignments that can really help the students in the future.”

Over one third (n=23) of the comments focused on the personalized nature of receiving video feedback. Typical comments included:

“It feels more personal.”
“Personable feedback is important and memorable.”

“More personally comes out and the excitement from the teacher comes out in the video feedback.”

“The video feedback was a lot more personal than the written feedback.”

“The instructor’s tone of voice conveyed approval more clearly than can be done in writing.”

“It was personal and made me feel that the instructor cared and wanted me to do well.”

Almost 20% (n=17) of the comments reflected pre-service teachers increased understanding as a result of receiving video feedback. Students remarked:

“I felt like I understood the feedback.”

“It was extremely helpful to see what I did right and where I could improve myself for next time.”

“I preferred the video feedback because it was easier to tell what I did right.”

“I just felt that I was provided with a lot more feedback than would be provided with written feedback. As a result, I learned more about where I went wrong and what I could do to improve for the next assignment.”

Over 15% (n=11) of the comments noted that video feedback was more detailed than written feedback. Representative comments were:

“The teacher was able to include much more feedback than if it was written feedback.”

“The professor is able to give much more detailed feedback with video versus written feedback.”

“Video feedback provided me with a detailed description of the assignment and the rationale behind the mark given.”

About 10% (n=8) of the comments showed a preference for written feedback with respect to having a reference point to return to when reviewing feedback. Sample comments were:

“Written feedback is much more easily accessible. Therefore, reading it multiple times is not as onerous as listening/watching would be.”

“I would be more likely to go over the feedback on a written paper, rather than listening/watching the video feedback again, after the fact.”

“Written feedback is on the paper, so I was able to see where the feedback was directed while I was unable to view my work while listening/watching to the video feedback.”

Approximately 10% (n=6) of the comments suggested that preservice teachers were better able to focus when receiving video feedback. Representative comments were:

“With written feedback, I am more preoccupied with seeing the mark and usually skim over the written feedback to get to the end. However, when video feedback was given, I listened to feedback in full to understand where my mark was derived from and what areas I needed to focus on.”

“I listened and paid closer attention to what was being said than if I just had written feedback.”

“Written feedback while somewhat clear is often short and lacks detail.”

Finally, two comments suggested that digesting video feedback may have been time-consuming.

“I found it difficult to access the video feedback and more time consuming than looking at written feedback.”

“Video feedback may be too long compared to the written.”
4 CONCLUSIONS

4.1 Summary

This study looked at both teacher and student perceptions of written and video feedback. The teacher in this study noted benefits and challenges for each approach. The key benefit of providing written feedback is that you could grade assignments anytime, anywhere, whereas video feedback had to be created in a more secluded environment with a computer. On the other hand, written feedback was physically challenging (e.g., sore wrist) and the teacher had to be very careful with wording as to not offend what was perceived as a sensitive population. Key benefits of video feedback were being able to provide more detailed explanations and rationale for grading, as well as creating a more personal connection. However, it took some time to learn and adjust to creating video feedback videos and sometimes videos had to be re-created due to interruptions. Overall, though, it appeared that the teacher was better able to communicate her thoughts and suggestions about student assignments using video feedback. Overall, pre-service education students preferred video feedback over written feedback because it was of higher quality (clarity, detailed, personalized) and offer increased learning value. The one drawback was that some students were less inclined to review video compared to written feedback at a later date.

4.2 Educational Implications & Future Research

The results of this study are based on a small sample size, so any recommendations should be treated cautiously. Based on the perceptions of the teacher, it would be prudent to provide sufficient training and guidance to instructors before asking them to provide video feedback. Furthermore, it might be wise to have teachers add concise, typed comments to an assignment to act as “talking points” for providing feedback. These comments might make it easier for students to review key suggestions later on. Based on the positive student feedback, it might be tempting to suggest that teachers provide video feedback on a regular basis, instead of written feedback. However, the scalability of this type of feedback on a large scale needs to be tested further. While the teacher in this study did not suggest that video feedback took longer to provide, more research focussing on a larger sample is needed to determine whether offering regular video feedback is practical. Finally, a more in-depth analysis of the key qualities quality of video feedback focussing on what does and does not work well would be helpful to guide future teachers in creating effective videos.

REFERENCES

