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Kimberley Goh
Curtin University

Rebecca Walker
Curtin University

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Written Teacher Feedback: Reflections of Year Seven Music Students

Kimberley Goh
Rebecca Walker
Curtin University

Abstract: Providing effective feedback to students is a significant issue for Australian educators. The ability to provide effective feedback comprises one of the Australian Professional Standards for Teachers and is seen as being a key element of quality teaching. Much research has been conducted into what constitutes effective feedback. Yet in spite of this existing knowledge, evidence suggests that feedback continues to be poorly received by students. The overall purpose of this research was to explore how ten Year Seven students (aged 12-13) reflected on and responded to written teacher feedback on a music history/appreciation project. Data from this pilot study revealed that students reflected on and responded to feedback based on personal features, task perceptions and individual choices. Findings from this study are relevant to teachers and teacher educators interested in improving classroom feedback practices.

Introduction

Feedback is often identified as being a critical element of teaching, learning and assessment. In education, feedback can be defined as information that is provided by an agent regarding aspects of a student’s performance or understanding (Hattie & Timperley, 2007). Feedback can be provided through various means, for example, students may provide oral feedback to peers, and a computer program may generate automated feedback to a student. This study focusses specifically on written feedback provided by a teacher to individual students.

Teachers provide written feedback to students with the expectation that they will respond to it and make improvements in their learning. However, a problem exists in that students do not always receive and respond to feedback in anticipated or desired ways (O’Donovan, Rust, & Price, 2016). To address this issue, researchers have sought to identify characteristics or factors that contribute to increasing the effectiveness of feedback (e.g., Bangert-Drowns, Kulik, Kulik, & Morgan, 1991; Black & Wiliam, 1998; Hattie & Timperley, 2007; Shute, 2008). Much of this research has focussed on the mechanics of giving feedback and explaining or extending teachers’ feedback practice.

In more recent years, studies have shown the need to shift the focus to how students respond to feedback. That is, increased attention should be paid to how students receive, understand and use feedback rather than on how teachers provide it (Gamlem & Smith, 2013; Hattie & Gan, 2011). The pilot study reported in this article contributes to this emerging area.

The overall aim of this research was to explore how Year Seven students (aged 12-13) reflected on and responded to written teacher feedback. The research question guiding the study was: ‘How do Year Seven students reflect on and respond to written teacher feedback provided in the context of a music history/appreciation project?’ This study stemmed from the motivation of the first author to investigate her students’ experiences of written teacher feedback.
feedback, and to improve her own feedback practices as a professional teacher. The second author was a co-investigator on the project.

The following literature review will: 1) examine key theoretical perspectives on feedback, 2) locate feedback within the context of assessment, 3) explore the relationship between reflection and feedback and 4) identify characteristics of effective written feedback.

**Literature Review**

**Theoretical Perspectives on Feedback**

Feedback research emerged during the early part of the 20th century and was underpinned by behaviourist learning theories (Burke & Pieterick, 2010). These theories positioned feedback as a powerful external stimulus that could reinforce behaviour (Skinner, 1958; Thorndike, 1911). Behaviouristic views of feedback were predominantly concerned with reinforcing correct rather than incorrect responses (Mory, 2004). This was based on the assumption that feedback on error responses would upset students and should therefore be avoided (Kulhavy & Wager, 1993). Whilst this reasoning is debatable, it recognised that an emotional dimension is present in the feedback process and that errors have an inherently aversive nature.

In the latter part of the 20th century, the behaviouristic concept of feedback began to be questioned. Studies demonstrated that feedback following a correct response did not always act in a reinforcing manner (Anderson, Kulhavy, & Andre, 1971; Barringer & Gholson, 1979; Phye & Bender, 1989). Researchers’ focus then turned towards the mental processes involved in acquiring, organising, and using knowledge. This coincided with a shift in the wider field of psychology towards cognitive research. Cognitivism represented a fundamental change from an external view to an internal view, and emphasised that students do not receive feedback passively but rather actively interpret feedback information (Butler & Winne, 1995; Kluger & DeNisi, 1996). This significant development highlighted the importance of both directive feedback (indicating correctness or incorrectness) and facilitative feedback (providing guidance to help learners improve) (Kulhavy & Stock, 1989; Shute, 2008).

Feedback research in recent decades has predominantly been conducted from a cognitive perspective and this has contributed to the development of several major models of feedback (e.g., Bangert-Drowns et al., 1991; Butler & Winne, 1995; Kluger & DeNisi, 1996). The significance of cognitive models lies in the way in which they link external feedback to what takes place inside the “black box” of students’ thinking. However, limited research has been done to specifically explore how school-aged students experience, interpret and understand written teacher feedback. Cognitive perspectives, with their focus on feedback as information, are closely associated with the concept of formative assessment (Black & Wiliam, 1998; Sadler, 1989).

**Formative Assessment and Feedback**

Feedback is rarely positioned as an isolated act. Instead, it is typically situated within the context of assessment, and in particular, formative assessment (Black & Wiliam, 1998; Hattie & Timperley, 2007). Wiliam and Black (1996) identify that the primary purpose of formative assessment is to improve, enhance and promote student learning. Formative assessment helps students “bridge the gap” between where they are and where they need to be in their learning. It generates feedback to students about their learning and provides them with an opportunity to modify their thinking or behaviour. This stands in contrast to
summative assessment, or assessment that is intended to judge students’ performance or understanding at the close of unit of learning (Wiliam & Black, 1996). That said, summative assessments can also be considered “formative” if they provide feedback that can be used by students in similar upcoming assessment (Brookhart, 2008; Irons, 2008).

Hattie and Timperley (2007) are key proponents of feedback within a formative assessment context. They identify that effective formative feedback addresses three fundamental questions: 1) “Where am I going?”, 2) “How am I going?” and 3) “Where to next?” Little disagreement exists in relation to this stance as findings generally indicate that feedback is more effective when it relates to a specific learning goal or objective (Black & Wiliam, 1998; Dean, Hubbell, Pittler, & Stone, 2012; Kluger & DeNisi, 1996).

Situating feedback within a formative assessment context foregrounds the role of self-regulation, or the process of controlling and monitoring one’s own thinking or actions in order to achieve a goal (Boekaerts & Corno, 2005; Pintrich, 2005). Parr and Timperley (2010) identify that in order for feedback to be truly “formative”, it must work in tandem with self-regulation otherwise students are unlikely to act on feedback or transfer their learning to other situations. Several studies suggest that reflection can facilitate this process (Duijnhouwer, Prins, & Stokking, 2012; Quinton & Smallbone, 2010).

Reflection and Feedback

Reflection can be defined as a cognitive activity by which a person “takes an experience from the outside world, brings it inside the mind, turns it over, makes connections to other experiences, and filters it through personal biases” (Daudelin, 1996, p. 39). The purposes of reflection and feedback are highly compatible since it is essentially reflective, mindful reception of feedback that promotes learning (Bangert-Drowns et al., 1991). It is unsurprising then that studies show a positive correlation between post-feedback reflection and student performance (Duijnhouwer et al., 2012; Mutch, 2003; Quinton & Smallbone, 2010).

Although the role of reflection in the feedback process is largely uncontested, the emphasis that various feedback studies ascribe to reflection may vary. Some implicitly allude to its importance (e.g., Gamlem & Smith, 2013; Hattie & Timperley, 2007; Kluger & DeNisi, 1996) whilst a significantly smaller number of studies explicitly examine the connection between reflection and feedback (e.g., Duijnhouwer et al., 2012; Quinton & Smallbone, 2010). Studies in the latter category were predominantly conducted in tertiary education contexts. This does not imply that school-aged students are incapable of engaging in reflection. On the contrary, a range of studies exist that suggest otherwise (e.g., Bond & Ellis, 2013; Michalsky, Mevarech, & Haibi, 2009; Whitebread, Anderson, Coltman, Page, Pino Pasternak, & Mehta, 2005; Zuckerman, 2004). It simply indicates a paucity of research that simultaneously explores both feedback and reflection in school settings.

Reflection strategies used in schools are varied and can include think-pair-share activities, journals or ‘thinking books’, and graphic organisers (Wilson & Murdoch, 2006). However, Yinger (1981) identifies that written reflection can be very powerful due to the way in which writing “forces people to think in ways that clarify and modify their ideas” (p. 2). This process could be described as “thinking aloud on paper” (Suriyon, Inprasitha, & Sangaroon, 2013, p. 586). Written reflections on feedback appear to be well-aligned with the key focus of this study, namely, written feedback comments.
Characteristics of Effective Written Feedback

Feedback in the form of written comments is frequently used in schools. Nevertheless, before characteristics of effective written feedback are discussed, it would first be helpful to examine general characteristics of effective feedback. Extensive research has been conducted into the many variables that moderate the effectiveness of feedback, for instance, strategy (e.g., timing, amount, mode, audience) and content (e.g., focus, function, valence, clarity, specificity, tone) (Brookhart, 2008). Although results have not been entirely conclusive, four general recommendations can be identified:

1) feedback should address the needs of the student (Kulhavy & Stock, 1989);
2) feedback should be timely (Dean et al., 2012; Poulos & Mahony, 2008);
3) feedback should be clear and understandable (Hattie, 2009; Shute, 2008); and
4) feedback should focus on the task or task processes rather than on the individual (Hattie & Timperley, 2007; Kluger & DeNisi, 1996).

In specific relation to written feedback, Bruno and Santos (2010) identify that comments should be legible and direct, contain familiar and simple vocabulary, and avoid giving part of the answer. Regan (2010) observes that consideration should also be given to the tone in which written feedback is conveyed. This is important as teachers need to strike a balance between empowering students and motivating students to make necessary changes. Furthermore, written comments have the tendency to become overpowering and excessive (Askew & Lodge, 2000). This is likely to result in students not giving any notice to it (Shute, 2008) or becoming disheartened by the amount of corrections to be made (Bruno & Santos, 2010). Teachers should therefore be selective when providing written feedback (Brookhart, 2008).

The preceding discussion has been structured around four key constructs that relate to the provision of written feedback: theoretical perspectives, formative assessment, reflection and characteristics of effective written feedback. These constructs and the relationships that exist between them provided the conceptual framework for this study.

Research Aims and Methodology

The aim of this pilot study was to explore Year Seven students’ (aged 12-13) reflections on and responses to written teacher feedback provided within the context of a music history/appreciation project. A qualitative small-scale action research design was used to conduct a systematic inquiry into the first author’s professional practice as a teacher, and lead to recommendations for improvement. From henceforth, the first author will be referred to as the teacher-researcher.

Action research is typically conceptualised as a process which involves multiple cycles of observing, collecting and synthesising data, and taking action (Mertler, 2014). However, as this was a small-scale pilot study, a literature-informed, one-turn action research design was used (Cain, Holmes, Larrett, & Mattock, 2007). This involved just one cycle of planning, acting, observing and reflecting, yet still with the aim of effecting meaningful improvements in the teacher-researcher’s feedback practice.

Purposive sampling was utilised to select ten participants from the teacher-researcher’s Year Seven music classes in order to ensure both gender equity and academic diversity where possible. Given the special nature of the relationship between the teacher-researcher and her students, plain language statements provided to students and their parents/carers specifically mentioned that participation was entirely voluntary and any decision to withhold consent would not have an impact on grades. All student participants
and their parents/carers gave written consent to participate in this study.

Research was conducted on the campus of a private independent school in Perth, Western Australia, and took place in the context of compulsory Year Seven classroom music lessons during one school term. In this term, students completed a music history/appreciation project to demonstrate their understandings of the composer Sergei Prokofiev and his music. This task required students to conduct research and provide responses to the five items shown in Table 1. The music history/appreciation project addressed outcomes from the Music Responding strand of the Western Australian Curriculum (School Curriculum and Standards Authority, 2014) and had a 30 percent weighting towards students’ final marks for the term.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sergei Prokofiev was a famous composer. Provide a short biography of Prokofiev’s life.</td>
</tr>
<tr>
<td>2</td>
<td>‘Peter and the Wolf’ is a symphonic work for orchestra and a narrator. Explain what a “symphony” is. Explain what an “orchestra” is.</td>
</tr>
<tr>
<td>3</td>
<td>Music can be used to tell a story, express feelings or portray characters. Choose five characters from ‘Peter and the Wolf’. Describe how Prokofiev used the music and instruments to represent these characters.</td>
</tr>
<tr>
<td>4</td>
<td>Choose one of the musical themes from ‘Peter and the Wolf’. Draw a listening map to show the first five seconds of this theme.</td>
</tr>
<tr>
<td>5</td>
<td>Prokofiev wrote ‘Peter and the Wolf’ to encourage children to listen to orchestral music. Do you think ‘Peter and the Wolf’ encourages children to listen carefully to music played by an orchestra? Why or why not?</td>
</tr>
</tbody>
</table>

Table 1: Task Items in Music History/Appreciation Project

Students were required to complete a draft music project component and submit this draft music project component to the teacher-researcher for written feedback before proceeding to complete their assessed final music project submissions. All students in the teacher-researcher’s Year Seven music classes completed the music history/appreciation project and received written feedback on their work. However, only participating students’ data were collected for the purposes of this study.

Data for this study were collected in two phases. During Phase One, data were collected from students’ draft music project components and a Feedback Reflection questionnaire. From henceforward, this Feedback Reflection questionnaire will be referred to as Feedback Reflection 1 (FR1). FR1 was a one-page written reflection framework that followed a semi-structured open-ended questionnaire format. The instrument contained six questions that were adapted from Quinton and Smallbone’s (2010) feedback reflection framework for university students. Students individually completed FR1 immediately after receiving written teacher feedback on their draft music project component.

In Phase Two, data were collected from two sources: a second Feedback Reflection questionnaire and students’ assessed final music project submissions. From henceforward, this second Feedback Reflection questionnaire will be referred to as Feedback Reflection 2 (FR2). Students individually completed FR2 immediately after receiving written teacher feedback on their assessed final music project submissions. FR2 was identical to FR1 and was also administered under similar conditions. Students’ assessed final music project submissions were photographed and collected as data. This provided information as to how students’ reflections on written teacher feedback contributed to improving their assessed final music project submissions.
Data collected from the study were inductively and thematically analysed following Stringer’s (2008) four-stage method of: 1) reviewing the data, 2) unitizing the data, 3) categorising the data, and 4) sorting categories of data into broad themes. Data analysis took place iteratively throughout the process of data collection. Findings from the study are presented below.

**Findings**

Analysis of data revealed three key themes in relation to how Year Seven students in this study reflected on and responded to written teacher feedback. Students reflected on and responded to written teacher feedback based on 1) personal features, 2) task perceptions and 3) individual choices.

**Personal Features**

Students reflected on written teacher feedback based on personal features or self-related characteristics such as emotions, effort and past experiences. Students’ reflections showed that they experienced different personal emotions when they received written teacher feedback. The type of emotion they felt related to the type of feedback they received. Positive directive feedback was associated with feelings of happiness or confidence whilst facilitative feedback was associated with feelings of normality or annoyance. Table 2 shows the connection between the type of feedback provided and students’ corresponding emotional response.

<table>
<thead>
<tr>
<th>Student Pseudonym</th>
<th>Feedback Provided</th>
<th>Student’s Emotional Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubi</td>
<td>Excellent section! You described the music well.</td>
<td>It makes me feel happy with myself for receiving good comments.</td>
</tr>
<tr>
<td>Leah</td>
<td>Well done. This is a great short biography.</td>
<td>This feedback made me feel more confident with my work. It encouraged me.</td>
</tr>
<tr>
<td>Nicolas</td>
<td>This definition is not quite correct. It might be an idea to check a dictionary or encyclopedia.</td>
<td>This feedback makes me feel a bit annoyed but also good because it shows what I need to work on.</td>
</tr>
<tr>
<td>Brenton</td>
<td>This section needs more information. For example, where did Prokofiev study?</td>
<td>This feedback made me normal.</td>
</tr>
</tbody>
</table>

Table 2: Feedback Provided and Students’ Corresponding Emotional Response

Students also considered the amount of effort they had put into their work. Some students associated positive directive feedback with hard work, time expended or effort. For example, one student reflected, “I tried my hardest and spent a lot of time on it” (Keira). Other students who received facilitative feedback associated this with insufficient effort: “Probably put more effort into it next time and this time” (Nicolas).

Some students also reflected on feedback in light of their past experiences at school. Their reflections contained references to other school tasks. As one student explained, “This is not the feedback I had expected. I thought I would do fairly well and get most [sic] everything correct… I like to get 100% on school work” (Matilda).
Task Perceptions

A common feature of students’ reflective responses was the way in which their reflections were influenced by their perceptions of the task. Students evaluated their work and corresponding written feedback based on their own interpretations and understanding of the task. Students’ interpretations of the task were not always the same as the teacher-researcher’s. Table 3 highlights this disparity.

<table>
<thead>
<tr>
<th>Student Pseudonym</th>
<th>Feedback</th>
<th>Student’s Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keira</td>
<td>Great short biography! You have included all the important events in Prokofiev’s life.</td>
<td>This was not the feedback I expected. I did not think I had done that well.</td>
</tr>
<tr>
<td>Aaron</td>
<td>What “families” of instruments usually make up an orchestra? There are four specific families. See if you can find out what they are.</td>
<td>I disagree with the families of instruments because the question didn’t ask me to do that.</td>
</tr>
</tbody>
</table>

Table 3: Comparisons Between Teacher-Researcher and Student Interpretations of Task

Analysis of student’s final music project submissions showed the persistence of students’ interpretations of the task. This can be seen in the way that students continued to make improvements and changes to their final music project submissions even after having received positive directive feedback from the teacher-researcher.

Students’ responses to feedback also demonstrated that they experienced dissatisfaction and confusion when they did not understand a task, for example, Ellie reflected, “I explained my answer and she still asks me ‘why do you think so?’ I still don’t get it.” Similarly, Zac explained that even though he had received feedback, he still did not understand an aspect of the task, “The bit I got wrong - listening map was quite hard for me to get right. I still did not get that listening map.”

Selective Choices

Data from the study indicate that students made active choices when they reflected on feedback. They selectively attended to feedback and chose which aspects of feedback to regard and disregard. Table 4 compares the number of students who received facilitative feedback on items in their draft music project components with the number of students who reflected specifically on this feedback in FR1.

<table>
<thead>
<tr>
<th>Draft Music Project Component Item</th>
<th>Number of Students Who Received Facilitative Feedback</th>
<th>Number of Students Who Reflected on Facilitative Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4: Number of Students Who Received and Reflected on Facilitative Feedback on Draft Music Project Component Items

It is interesting to observe that Items 1 and 2 of the draft music project component
related to facts that could be readily acquired through research on the World Wide Web, whereas Items 3, 4 and 5 required aural analysis of musical excerpts and critical thinking about the purposes of a piece of music. Data suggest that students tended to reflect on feedback that was relatively easier to correct whilst avoiding reflection on more challenging items. Students also chose to respond to feedback with varying levels of certainty. Some students were categorical about how they would act upon feedback whilst others were more tentative. This could be seen in the contrast between key phrases such as “I will” as opposed to “I think” and “Maybe”.

When synthesised, these findings indicate that whilst students were aware of the purpose of feedback, self-related features and task perceptions affected how they reflected on feedback. Students also tended to selectively choose which feedback to focus on and made cognitive choices when responding to feedback. The implications of these findings will be discussed in the following section.

**Discussion and Conclusion**

Students in this study demonstrated different emotional responses to written teacher feedback. In particular, facilitative feedback was generally received with negative feelings. This was interesting given that the teacher-researcher had aimed to provide feedback that addressed characteristics of effective written feedback as suggested in the literature, for example, by focussing on task or task processes rather than on the individual (Hattie & Timperley, 2007). A possible explanation for this is that students may view facilitative feedback as a reflection on themselves rather than as an opportunity to improve their learning (Poulos & Mahony, 2008). They may also perceive an underlying “correspondent inference” in the feedback message (King, Schrodt, & Weisel, 2009). This can make it difficult for students to separate task evaluation from personal evaluation in spite of the teacher’s best intentions. Alternatively, Pitt and Norton (2017) suggest that regardless of what type of feedback is given, students’ level of emotional maturity can affect their response to feedback. Hence, the general recommendation to provide facilitative feedback and avoid “self-oriented” feedback alone is insufficient. Students need to be supported and taught how to interpret feedback from a less self-involved perspective.

Findings also showed that students actively make choices in response to written teacher feedback. Some students were categorical about how they would apply feedback in their future work whereas others were less so. This suggests that different factors can affect how students respond to feedback. For example, students may consider if responding to feedback is worth the effort and if they are capable of achieving success. This aligns with Hattie and Timperley’s (2007) research which identifies that students will engage with feedback based on their assessment of the “transaction costs” involved. Transaction costs could include how much effort is required to achieve one’s personal goals, how others will perceive these efforts and if one’s interpretation of feedback information is likely to be accurate. Although Hattie and Timperley (2007) were referring primarily to the transaction costs involved in seeking feedback, these concepts appear to be equally relevant to students’ responses to feedback. Students therefore need encouragement to engage with feedback, particularly feedback that they do not understand or feel is not worth the trouble to apply.

The persistence of students’ task perceptions was another interesting finding that arose from this study. Students evaluated their work in relation to their interpretations of the task and made changes accordingly despite the fact that positive directive feedback had already been provided. This supports Butler and Winne’s (1995) assertion that students self-regulate and respond to feedback in ways that are consistent with their existing beliefs and
experiences. Additionally, some students demonstrated confusion in relation to the task and to the feedback provided. Their reflective comments indicated frustration at not “getting it”. Nicol and Macfarlane-Dick (2006) suggest that students may not understand feedback due to gaps in their knowledge. In these situations, re-teaching may be more appropriate than providing feedback (Hattie, 2009). Nonetheless, teachers can also support students by providing them with opportunities to engage in discussion to clarify their understandings (Parr & Timperley, 2010), by complementing written feedback with oral feedback (Jonsson, 2012) and by explicitly teaching students how to use feedback (O’Donovan et al., 2016). Teachers cannot compel students to act upon feedback. However, they may be able to influence the choices that students make in relation to feedback (Handley, Price, & Millar, 2008).

A key implication for classroom practice is that whilst the provision of effective feedback may be important, it does not guarantee that students will use feedback. Students need to be intentionally supported and taught how to respond to the feedback they receive. For the teacher-researcher, this was a practical step that she began to take to improve her own pedagogical practice. For example, the teacher-researcher set aside class time to model how to interpret feedback and how to take further action in response to feedback. This outcome aligned with the aims of a literature-informed, one-turn action research study. A further implication is that teacher education programs should consider developing pre-service teachers’ competence not only in giving effective feedback to students but also in helping students use feedback effectively.

Two significant limitations can be identified in relation to the study reported in this article. Firstly, it is acknowledged that students’ awareness of the research focus and the nature of the feedback reflection framework utilised may have had an effect on students’ responses. This was a consideration in the interpretation of data. Secondly, as this was a small-scale action research study, more generalisable research is needed to build upon these initial findings and obtain broader insights into how students in schools receive written feedback. In spite of these limitations, findings from this pilot study were useful in revealing three preliminary themes:

1) students reflect on feedback based on personal features including emotions, effort, and past experiences;
2) students reflect on feedback based on their perceptions and understandings of a task; and
3) students respond to feedback based on individual choices.

These findings will potentially assist classroom teachers and pre-service teachers in empowering their students with the skills they need to use feedback more effectively. This is critical since “the power of feedback does not only lie in when and how it is given, but more in when and how it is received” (Gamlem & Smith, 2013, p. 151).
References


Parr, J. M., & Timperley, H. S. (2010). Feedback to writing, assessment for teaching and learning and student progress. *Assessing Writing, 15*, 68-85. [https://dx.doi.org/10.1016/j.asw.2010.05.004](https://dx.doi.org/10.1016/j.asw.2010.05.004)


