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Fabienne Van Der Kleij & Lenore Adie

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Towards effective feedback: an investigation of teachers' and students' perceptions of oral feedback in classroom practice

Fabienne Van Der Kleij  and Lenore Adie 

Institute for Learning Sciences & Teacher Education, Australian Catholic University, Brisbane, Australia

ABSTRACT

Few studies have examined how teachers' oral feedback in whole-class interactions is received, perceived and used by students to enhance learning. This paper details an in-depth study of secondary teachers' and students' reflective comments on classroom oral feedback. The study examined perceptions of teachers and students in English and mathematics classroom interactions. Key findings showed that much teacher feedback was not recognised by students, and that when feedback was recognised it was often not perceived as the teacher had intended. Further, feedback in mathematics was more often recognised and perceived as intended compared to English. If feedback is not received by students, or not perceived as intended by the provider, it is unlikely that the feedback message will achieve its intended effect of supporting student learning. The study provides evidence that feedback perceptions – and thus feedback effectiveness – are context-dependent, subject-dependent, and individual-dependent.

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Introduction

Feedback has long been advocated as one of the most effective teaching strategies to enhance student learning (e.g. Black & Wiliam, 1998, 2009; Hattie & Timperley, 2007). It is a critical aspect of the Assessment for Learning approach, characterised by feedback on formal assessments (e.g. written essays) as well as ongoing oral feedback during classroom interactions (Brookhart, 2018; Van der Kleij et al., 2015). Although much research has focused on how feedback can best be provided (e.g. Hattie & Timperley, 2007; Shute, 2008), only a limited number of studies have focused on how it is received within a whole class setting, and how it may or may not result in enhanced learning (Hattie et al., 2016).

Understanding the intended and perceived purpose, meaning and value of feedback by students is a critical first condition for effective feedback uptake. Feedback purpose can affect the content, structure and delivery of the feedback message (Shute, 2008). Feedback can have different meanings dependent on an individual's interpretation of the information contained in the message (Gamlem & Smith, 2013). The construction and accuracy of the feedback, as well as the affective dimensions of how the message is delivered and received, will reflect the value attributed to the feedback (Lipnevich et al., 2016).

The present study focuses on examining similarities and differences in feedback perceptions related to the purpose, meaning and value of oral classroom feedback among teachers and students. Specifically, this paper reports on an in-depth study of similarities and differences of teachers' and students' reflective comments on oral feedback. The paper addresses the following research question:

What can be learnt about effective teaching strategies by analysing the similarities and differences in teachers' and students' perceptions of oral feedback instances in classroom practice?

Here, the term effective teaching strategies refers to feedback that progresses student learning. Black and Wiliam (2018) describe evaluative feedback that promotes learning as 'the elicitation, identification and interpretation of evidence [which] is an indispensable component of effective instruction' (p. 561). Thus, in this paper, the term 'effective' signals the realisation of the intended learning.

Evidence of effective feedback strategies

Research has identified several aspects of feedback that appear to be important in determining its effectiveness. For example, feedback that is elaborated and provides explanations is more effective than simple corrective feedback (Shute, 2008). Further, feedback needs to be provided in a timely manner to ensure students have an opportunity to act on it (e.g. Lipnevich et al., 2016; Shute, 2008). However, numerous studies show that, despite the provision of what research suggests is effective feedback, learning does not necessarily improve, and effects on individual students' learning outcomes vary widely (e.g. Hattie et al., 2016; Shute, 2008). In practice, feedback may be differentially effective for individuals dependent on multiple variables, including whether it is received and how it is perceived (e.g. Black & Wiliam, 1998; Brookhart, 2018).

Recent literature has identified that the critical determining factor in feedback effectiveness is how individual students engage with it (Hattie et al., 2016; Lipnevich et al., 2016; Nicol, 2013). Engagement with feedback involves receiving, perceiving, interpreting and understanding it, and using it in some way to improve learning (Handley et al., 2011; Hargreaves, 2011; Nicol, 2013). Feedback may lose its potential to positively influence learning in each of these stages of engagement. For example, if students do not recognise feedback (reception), do not perceive it to be useful (perception), do not understand feedback (interpretation), or do not have time or opportunity to use it or are unwilling or unable to do so (use), it will not influence their learning in any positive way (Brookhart, 2018; Gamlem & Smith, 2013; Havnes et al., 2012). These stages of engagement with feedback should not be seen as a linear process. Rather, they interact as students employ cognitive and affective mechanisms in interaction with the feedback message (Lipnevich et al., 2016; Van der Schaaf et al., 2013).

Much of the research considering the student perspective has focused on students' perceptions of feedback, in particular their views on the purpose, meaning and value of feedback. Effective feedback has been linked to students' positive perceptions about the feedback message (Van der Schaaf et al., 2013). Butler and Winne (1995) theorised that an external feedback message (i.e. teacher feedback) is 'filtered' (p. 254) 'according to a student's prior knowledge and beliefs before cognitive tactics and strategies are applied' (p. 264). In other words, students' perceptions of the feedback message based on their individual

characteristics and contextual circumstances determine the meaning of a feedback message, and influence its potential to affect cognition.

Differing feedback perceptions between providers and receivers have been reported as a major barrier to engagement with feedback. For example, studies have revealed that while teachers believed they provided students with helpful feedback and that students used their feedback to improve their learning, many students did not perceive this feedback as helpful, and claimed not to use it (Carless, 2006; Havnes et al., 2012). The literature reviewed has shown that while effective feedback is a condition for learning, how this can be achieved in practice is integrally connected with individual cognitive and affective characteristics and the learning context, and that taking account of individual student perceptions is critical to feedback effectiveness.

Measuring perceptions of feedback

Perceptions of feedback have been examined across a variety of concepts. As noted, feedback perceptions encompass what students believe to be the purpose of feedback, how they value feedback, and their interpretations of feedback. Lipnevich et al. (2016) have suggested that feedback needs to be examined ‘as situated in two different planes; that is, (a) state, transient and situation-specific response to feedback, and (b) trait, a more typical response to feedback’ (p. 179). A state response to feedback is evident as the immediate in-the-moment reactions to feedback, whereas a trait response is recognisable as the more reflective, analytic response. How students *generally* perceive feedback – their disposition towards feedback – will influence situation-specific responses to feedback in a particular context. On the other hand, situation-specific responses to feedback may over time influence students’ general disposition to feedback.

Most studies that have examined students’ perceptions of feedback have focused on generic perceptions of feedback practice, not specific to a particular feedback message. For example, studies have examined generic feedback perceptions using surveys (e.g. Harris et al., 2014; Williams, 2010), focus groups (e.g. Peterson & Irving, 2008), or interviews (e.g. Williams, 2010). Several studies have compared teacher and student generic perceptions of feedback (e.g. Burnett & Mandel, 2010; Carless, 2006). Only one study was identified that examined students’ in-the-moment reactions to specific feedback, the first plane distinguished by Lipnevich et al. (2016); Mahfoodh and Pandian (2011) used think-aloud protocols to gauge students’ affective responses and perceptions of written feedback on their draft essays.

Other studies have focused on measuring student perceptions of specific feedback, but with a delay. For example, several studies have used specific written feedback on students’ assessments as a stimulus for discussion in student interviews (e.g. Hyland, 2003; Murtagh, 2014) or group discussions (Weaver, 2006). A small number of studies (e.g. Rakoczy et al., 2013; Van der Schaaf et al., 2013) measured perceptions of specific feedback using a survey.

Only a small number of studies have focused on perceptions of *oral* classroom feedback. Gamlem and Smith (2013) and Kerr (2017) both used classroom observations and student interviews to examine generic and specific perceptions of oral feedback, with Kerr (2017) also including an examination of learning diaries. Hargreaves (2012, 2013) and Tjeerdsma (1997) used classroom observation videos as a stimulus for recall in

student interviews to examine specific perceptions of feedback. Van der Kleij et al. (2017) also used video-stimulated recall to gather teacher and student perceptions of specific feedback in one-to-one teacher-student conversations.

Our review of the literature has identified a plethora of research investigating general perceptions of feedback practices. Only a limited number of studies have focussed explicitly on oral feedback in the classroom context. This study addresses a gap in the literature by detailing the similarities and differences in both teachers' and students' reflective perceptions of the same specific oral classroom feedback interactions that occur within daily classroom practice. Addressing this gap provides further insight into effective feedback strategies during classroom interactions by taking account of how feedback is received and perceived.

Our research method bridges the state and trait responses to feedback, as proposed by Lipnevich et al. (2016) by asking teachers and students to view a video of a segment of classroom interaction and identify what they perceived as feedback and their reactions to the feedback, bringing the past into the present. Thus, we asked participants to provide a reflective account of their in-the-moment responses. The positioning of our research method, bridging state and trait planes, introduces a middle plane into the Lipnevich et al. (2016) model to present a three-level structure of feedback perceptions as visualised in Figure 1.

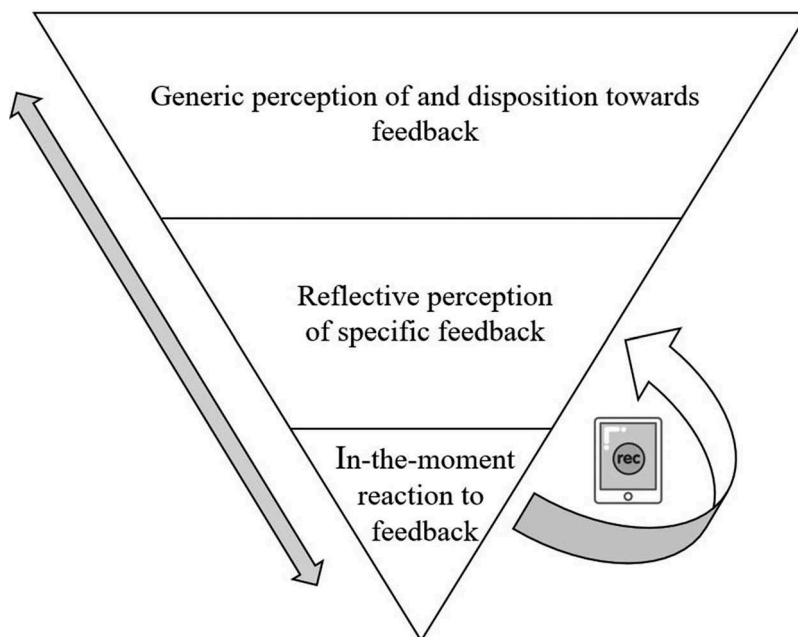


Figure 1. Three-level structure of students' feedback perceptions (after Lipnevich et al., 2016's two-plane conceptualisation of feedback perceptions). Our research method bridges the state and trait responses to feedback by using video-recorded segments to capture reactions as well as reflective perceptions of feedback interactions.

The first level, situation-specific responses to feedback, corresponds with Lipnevich et al.'s (2016) first plane. However, we believe it is methodologically useful to distinguish between students' reflective perceptions of specific feedback messages, and generic perception of and disposition towards feedback at a broad level. As identified, these different layers of feedback perceptions interact. The inverted triangle aims to visualise the reduced degree of specificity of perceptions within each layer.

Methods

Context

This study involved the gathering of detailed, focused data in one Australian secondary school. The school was situated in an urban area within a major capital city. The school's socio-educational index was slightly higher than average, based on the school's Index of Community Socio-Educational Advantage (ICSEA¹). The classroom observations took place in one Year 8 English class consisting of boys only ($n = 14$) and one Year 8 mathematics class consisting of a mix of boys and girls ($n = 16$).

The two different discipline areas were chosen to determine if there were any discipline-specific differences in how feedback was perceived by students. For example, feedback in English has been recognised as highly subject to interpretation, which can be acted upon in many different ways by students (Marshall, 2004). In contrast, feedback in mathematics has long been perceived as focusing on 'getting right answers to very direct questions' (Small & Lin, 2018, p. 169).

Participants

Due to the in-depth nature of this study, a case study design was used, with the case defined as the classroom feedback practices within a discipline area. Thus, this study investigated two cases, one conducted in the discipline of English teaching, and the other in mathematics. In line with Creswell's (2002) suggested minimum sample size for case studies of three to five participants, each case included five students with one classroom teacher. The participants included one experienced English teacher and one experienced mathematics teacher, both of whom were new to the school, and the students in their respective Year 8 classes (students aged 13–14). Teachers selected five students in their class for participation in the interviews to represent a range of Australian Curriculum student achievement levels (seven student participants in total, as three students were selected for participation by both teachers). To safeguard students' anonymity in their contributions to the research, students were assigned random labels from A to G. Students A, B and C took part in both English and mathematics interviews.

Instruments and procedures

This study extended the methods used by Van der Kleij et al. (2017, 2019) to a whole classroom setting. One English and one mathematics lesson, each of 40-min duration, were observed and video-recorded by one of the researchers using a combination of Swivl and iPad technology. The Swivl is a robot enabling 360° video capture with a smartphone

or tablet. It automatically tracks a marker with a built-in microphone. The iPad camera faced and tracked the teachers, who wore the marker around their necks. The teacher and students in turn participated in individual video-stimulated recall (VSR) interviews (Lyle, 2003), during which the classroom observation video was displayed on the iPad. These sessions took place in a small room in the school.

One 40-min lesson was selected to enable in-depth interrogation of a teaching sequence from the introduction to conclusion of the lesson. The teachers watched the full classroom observation video for VSR. The students watched a shortened version of each video (approximately 20 min) based on the teachers' VSR comments. Our previous research had identified that the optimal time for students of this age group to maintain attention on the video in a VSR interview was between 10 and 20 min (Van der Kleij et al., 2019). Therefore, the decision was made to reduce the video to 20 min using those segments that teachers had identified as feedback, thus focusing data collection on the alignment with the teacher-identified feedback instances.

During the VSR sessions, participants were asked to pause the video whenever they identified feedback, and comment on this particular feedback instance. The VSR interviews were predominantly unstructured, but the researcher sometimes asked questions to request elaboration or verification. Participants were not prompted about the meaning of the term 'feedback' so that they would identify instances that *they* perceived as feedback. The researcher took note of the time in the video where participants paused the video. The shortened classroom observation video and audio-recorded VSR interviews were transcribed for analysis.

Data analysis

This paper focuses specifically on differences and similarities in individual participants' perceptions of feedback by examining their non-overlapping and overlapping VSR video pauses and the nature of their VSR commentary. The joint analysis of teacher and student data in relation to the same feedback instance enabled analysis of the similarities and differences in their feedback perceptions.

Analysis involved four steps. First, video pauses were numbered sequentially for each participant. The time points when students paused the video and the numbered video pauses were added to the VSR transcripts. For the teacher VSR, the points in time when they paused the full classroom observation video was back-mapped to the shortened video to enable comparison of teacher and student perceptions of feedback. A spreadsheet was created which included the time-stamped shortened video transcript and corresponding teacher and student video pauses. Pauses were classified as overlapping when they had been triggered by the same observed event in the displayed video.

Second, these data were visualised to provide an initial impression of feedback instances identified by teachers and students. The degree of overlap between different participants' video pauses was calculated using descriptive statistics. Third, all VSR data were thematically coded using a purposefully developed coding scheme (see Table 1) using NVivo 11 (QSR International, 2015), as there were no previous existing schemes that suited the context of this study. The initial development of the coding scheme drew on existing coding schemes and relevant literature (Adie et al., 2018; Gamlem & Smith,

Table 1. VSR coding scheme.

Code (sub)theme	Description (sub)theme
FS	Feedback strategy
QC	Asking questions to prompt self-corrective or self-assessment
QL	Asking questions to prompt thinking about lesson content
Ch	Checking individual student work
C	Confirmation – including acknowledgement of student's response
Ex	Expand on or reformulate student response
E	Explanation of content
NF	No feedback
NV	Non-verbal
RE	Requesting elaboration of student response
RF	Requesting feedback
WK	Requesting students to write down key points
A	Specifying attainment
I	Specifying area for improvement
S	Specifying strategies for improvement
Su	Summarising key points made by teacher or student
TP	Task-specific prompts
TFI	Type of feedback interaction
S-TP	Individual student – teacher privately
S-T	Individual student in whole class – teacher
<i>M-T</i>	<i>Myself – teacher in whole class</i>
S-S	Student – student (peer feedback)
T-SW	Teacher – individual student in whole class
T-SP	Teacher – individual student privately
<i>T-MP</i>	<i>Teacher – myself privately</i>
<i>T-MW</i>	<i>Teacher – myself in whole class</i>
T-WD	Teacher – whole class (discussion)
T-WO	Teacher – whole class (one-directional)
W-T	Whole class – teacher
RFI	Reflection on feedback impact
<i>RFI-A</i>	<i>Affective</i>
<i>RFI-CD</i>	<i>Cognitive (direct)</i>
<i>RFI-CI</i>	<i>Cognitive indirect (written down for future reference)</i>
<i>RFI-M</i>	<i>Meta-cognitive</i>
RFV	Reflection on value of feedback strategy
<i>RFV-H</i>	<i>Helpful</i>
<i>RFV-N</i>	<i>Neutral</i>
<i>RFV-U</i>	<i>Unhelpful</i>
RMF	Reflection on motivation for feedback strategy
RT	Reflection on teaching
CC	Classroom climate
O	Other

Note. Themes and aggregated totals for subthemes are displayed in boldface. Themes in italics only applied to the student data, underlined themes only applied to the teacher data.

2013; Lipnevich et al., 2016). It was adjusted to respond to the study context of teachers and students in oral classroom interactions.

Fourth, thematic coding of teacher and student VSR commentary was added to the spreadsheet (see Step 1) to enable analysis of:

- (1) non-overlapping video pauses – to identify patterns in the types of feedback that had been recognised only by the teacher, or by a student or students but not the teacher;
- (2) similarities and differences in feedback perceptions for overlapping video pauses and patterns of similar or different feedback perceptions across feedback

strategies – three categories of similarity and difference were established from the data, drawing on the coding (see Step 3), and also on the nature of what was said. For example, participants could talk about the same feedback strategy, but express different perceptions of the situation.

In presenting the results, (sub)theme classifications (Table 1) are reported in parentheses. Further analysis examined patterns in how the most frequently teacher-identified feedback strategies were perceived by students.

Results

Analysis of video pauses made by participants

The number of VSR video pauses varied between participants, with the broadest range observed in mathematics. Both teachers paused the video more frequently than their students (English $n = 36$; mathematics $n = 37$ [37 of the mathematics teacher's 43 video pauses referred to instances included in the shortened video]), meaning that they perceived more feedback instances to have occurred during the lesson. An overview of the number of video pauses made by each student and degree of overlap with the teacher and/or other students is provided in Table 2.

The degree of overlap as represented in numbers and percentages in Table 2 indicates that students identified the same interaction as feedback as did the teacher in over 60% of the video pauses. While Table 2 shows the degree of overlap between individual student video pauses and the teacher and other students, it does not show *which* instances were recognised as feedback in common across the teacher and students.

Figure 2 for English and Figure 3 for mathematics provides further information by visualising the connections between teacher and student video pauses (teacher-student; student-student; isolated instances). In contrast to Table 2, the figure representation illustrates a lack of overlap between a substantial number of teacher and individual student video pauses. This shows that teachers perceived much of what they did in the lesson as feedback, but students did not recognise many of those instances as feedback. Notably, there are no feedback instances that were identified by either teacher and recognised by all five interviewed students. Figures 3 and 4 show that over a third of

Table 2. Number of video pauses made by students and degree of overlap between participants' pauses in English and mathematics.

	English			Mathematics		
	<i>n</i> video pauses	<i>n</i> (%) overlap with teacher	<i>n</i> (%) overlap with another student	<i>n</i> video pauses	<i>n</i> (%) overlap with teacher	<i>n</i> (%) overlap with another student
Student A	8	5 (63%)	4 (50%)	10	7 (70%)	9 (90%)
Student B	9	6 (67%)	6 (67%)	13	8 (62%)	7 (54%)
Student C	6	4 (67%)	4 (67%)	7	7 (100%)	6 (86%)
Student D	10	7 (70%)	6 (60%)	-		
Student E	4	3 (75%)	2 (50%)	-		
Student F	-			10	9 (90%)	9 (90%)
Student G	-			30 [31 ^a]	25 (83%)	22 (73%)

Note. ^a 30 of Student G's 31 video pauses referred to instances included in the shortened video.

the feedback identified by the teacher was not recognised as such by any of the students in both English and mathematics (39% in English and 33% in mathematics).² Yet, all students except for Students C and F in mathematics also paused the video at instances that their teacher had not identified as feedback.

Figures 2 and 3 show instances recognised as feedback by the participants, however they do not show whether teacher and student perceptions of these feedback instances were similar or dissimilar. The following section presents an analysis of the nature of feedback that was not recognised as such by teachers or students; and the subsequent section focuses on the examination of the nature of teachers' and students' feedback perceptions for overlapping video pauses.

Mismatches of feedback recognition between teacher and students

Mismatches refer to the instances identified in Figures 2 and 3 as not connected to another participant. In English, most instances that the teacher had identified as feedback, but students had not, were when the teacher had expanded on a students' response (Ex; $n = 6$), either in a whole-class discussion, one-directional to the whole class (T-WO) or directed at a student in a whole class setting (T-SW). Three instances identified by the

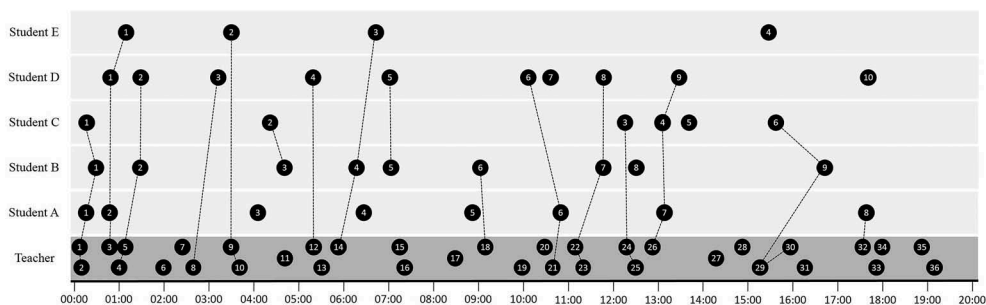


Figure 2. Visual overview of overlapping video pauses for English.

Note. Connected lines illustrate video pauses triggered by the same feedback instance in the displayed video. Numbers in circles refer to the video pause numbers for each participant.

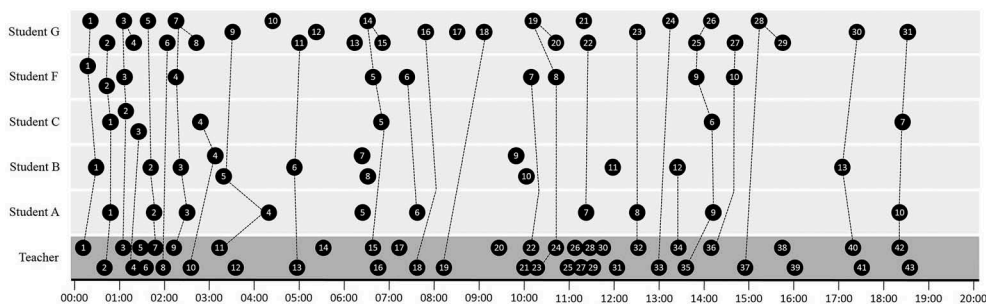


Figure 3. Visual overview of overlapping video pauses for mathematics.

Note. Connected lines illustrate video pauses triggered by the same feedback instance in the displayed video. Numbers in circles refer to the video pause numbers for each participant.

teacher but not by students related to teacher questioning (QL) in whole-class discussions (T-WD), two related to explanations of content (E) to the whole class (T-WO), and one related to an instance when a student's response to a question had signalled good understanding of the topic (S-T).

In mathematics, most feedback instances ($n = 6$) identified by the teacher, but not by students, related to questioning (QL and/or QS). This feedback strategy was often used in combination with various forms of feedback, and directed to a student within the whole class (T-SW), the whole class in a discussion (T-WD), or between the teacher and an individual student privately (T-SP). Other feedback instances that were not recognised by any students included those where the teacher had specified what students (T-SW and T-WO) had done well (A; $n = 2$); expanded on a student's response (Ex; T-SW; $n = 2$); requested elaboration of a student's response (RE; T-SW; $n = 1$); acknowledged a good student contribution, inviting them to repeat this to the whole class (C; S-SP; S-T; S-S; $n = 1$); or checked on a student's work ($n = 1$).

In English, eight student pauses were at moments that the teacher nor any of the other students had identified as feedback. Three of these pauses were not coded as feedback. Two pauses related to the teacher explanations of content (E), two related to teacher whole-class questioning (QL; T-WD), and one related to teacher task-specific prompts (TP). In mathematics, eleven student video pauses did not overlap with the teacher, with one relating to an instance not included in the shortened video which a student recalled from memory. In four of these pauses, students commented on an aspect of teacher whole-class questioning (QL; T-WD). Students commented on the teachers' explanations (E) in three of these pauses. Student commentary in other pauses related to allowing students to directly apply what was being taught in their books (WK), explaining content (E), making students write down key points (WK), identifying areas for improvement (I), and suggesting strategies for improvement (S).

Further, some students paused the video in relation to the same instance, which had not been identified as feedback by the teacher (4 instances in total). For example, in English, Students B and D (#5) both perceived the teacher's request for students to note down key points as feedback (WK; T-WO; RFI-CI; RFV-H). They identified this strategy as helpful because the instruction to make a note signalled information that was important to remember for their assessment. An example in mathematics is when Students A (#7) and G (#22) demonstrated different perceptions of the same feedback instance. Student A talked about the teachers' questioning strategy as a way of taking students through a procedure step-by-step, so students are confident with it (QL; E; T-WD; RFI-A; RFI-CD; RFV-H). Student G noted that the class gave non-verbal feedback to the teacher by not answering, and this made the teacher explain 'what exactly he was looking for in the answer' thereby steering them towards the correct response (QL; NV; T-WD; W-T; RFI-CD; RFV-H).

The nature of teachers' and students' perceptions of overlapping video pauses

Figure 4 shows the categorisation of overlapping teacher-student video pauses as reflecting similar or dissimilar perceptions of feedback. The VSR commentary is used to illustrate the nature of teachers' and students' perceptions.

Figure 4 shows different patterns in the nature of feedback perceptions between English and mathematics. Overall, teachers and students held more similar perceptions

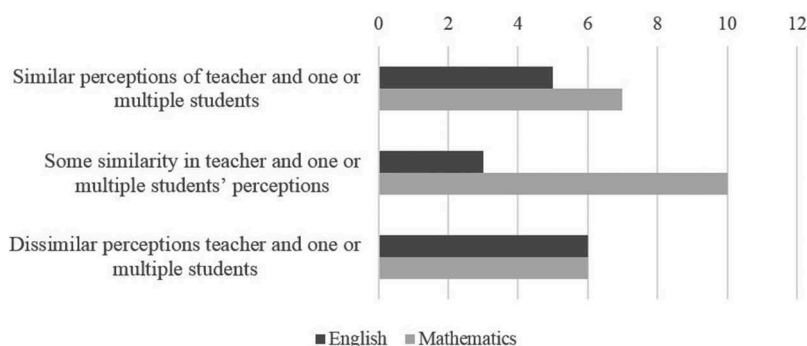


Figure 4. Categorisation of similar and different feedback perceptions between teachers and students in English and mathematics.

of feedback in mathematics compared to English. Significantly, the similarity of perceptions was only partial in the majority of mathematics feedback instances, that is, the teacher's and students' commentary reflected similar as well as different perceptions. Whereas feedback in English was more often perceived in a different way than the teacher had intended. These differences may be explained by the nature of feedback practices in the different subjects.

In the overlapping video pauses, expanding on a student's response (Ex) and questioning about lesson content (QL) were the most frequently used feedback strategies in English. In mathematics, the most frequently used feedback strategies in the overlapping video pauses were confirmation of student response (C), checking on individual students' work (Ch), questioning (QL), expanding on a student's response and explaining (E). While some students perceived these feedback instances in a similar way to the teacher, other students did not, and there was no consistent pattern of similarity or dissimilarity in perceptions of feedback. The following sections illustrate the nature of perceptions of feedback, first in English then in mathematics.

Feedback perceptions in English

Interactions in the English lesson were more extensive in nature than those in mathematics and often took the form of discussions. The teacher stated that in her lessons she aimed to use a combination of teacher- and peer-feedback as well as direct instruction to enhance student learning. She thus saw students as co-constructors of knowledge: 'it's like that negotiation of meaning is happening all the time as well'. The teacher indicated that feedback went beyond corrective information because 'there's not really a right or wrong most of the time'. However, students mostly saw feedback in English as consisting of corrective information. This may explain why a lower percentage of teacher feedback in English was recognised by students compared to mathematics.

An example of similar feedback perceptions of teachers and students occurred during the start of the lesson. The teacher's strategy involved gauging students' knowledge on the topic (#1). She identified her feedback strategy of expanding on student responses (Ex) in whole class discussions (T-SW and T-WD; #2). Consistent with the teachers' perception,

all three students (A, B and C #1) identified the strategy of expanding on student responses, which they perceived as helpful (RFV-H).

An example of different teacher and student perceptions occurred during instruction where the teacher was seeking student responses across three categories of interpretation. In this video pause, the teacher stated that she briefly addressed column one, moving quickly to the third column which she identified was most important for the purpose of the lesson (#26; RT). She did not identify the brief discussion regarding column one as feedback. Students A (#7), C (#4) and D (#9) paused the video at the column one interaction. Student A stated that he liked ‘how she gives students a chance to read out their answer, so say if they did something a bit wrong she can expand on it, she can help them, which is really important’ (Ex; T-SW; RFV-H). Students C (QL; S-S; T-WD; RFI-CD; RFV-H) and D (QL; S-T; S-S; T-WD; RFI-CD; RFV-H; CC) expressed that they learned from their classmates in such class discussions. For example, Student D identified that hearing the different perspectives made it ‘easier to understand’.

Although students generally found classroom discussions helpful, at times students identified the teacher’s questioning as unhelpful. For example, Student D (#3; RFV-U) stated that ‘she asks a lot of questions and sometimes the kids don’t really understand the question, so not much feedback is given from the students to the teacher’ (QL; NF; T-WD; W-T). In another example, Student B (#4) remarked that asking students randomly was a good thing to do if students do not pay attention, but it can be ‘awkward’ if students do not know the answer (QL; T-SW; RFI-A; RFI-CD; RFV-H). The strategy of asking questions used by teachers to gauge students’ understanding is shown in these examples to be differentially perceived by students dependent on their prior knowledge and understanding.

Feedback perceptions in *mathematics*

The observed mathematics lesson often involved questions requiring brief student responses. Teacher feedback was mostly in the form of acknowledging student responses as well as addressing the mathematical process and extending student responses. However, students seemed to perceive the nature of interactions more in terms of ‘right’ or ‘wrong’ answers than the teacher. For example, the teacher (#42) identified when he gave feedback to students on their responses which were different but both correct: ‘both of them were giving a right answer, for different reasons’ (QL; C; E; T-SW; T-WD; RMF). This was perceived by Student G as one student giving the correct answer, and another student giving an incorrect answer: ‘[the teacher] explained why he got the question wrong ... because [Student 1] got it right, he was just explaining to [Student 2] and the rest of the class why [Student 1]’s answer was correct’ (C; E; T-SW; T-WO). Students A (#10) and C (#7) perceived that the teacher asked students to justify their answers (RE; T-SW).

The teacher also identified (#18) how he checked on individual students’ work (Ch) and used student work errors to provide feedback to the whole class. For example, he noticed that one student had not drawn the bars in the chart at equal width, which he ‘used ... as an opportunity to tell the whole class, just in case’ (E; T-WO). Student G recognised this strategy, and observed it was helpful that the teacher ‘reminds you of

the things that he either wants you to do, or the correct things to do ... so you can improve on your work' (E; S; T-WO; RFI-CI; RFV-H).

At times, this strategy (Ch) was perceived differently by students. For example, in pause #15, the teacher reflected on his motivations for checking on students' work and providing verbal comments (Ch; TP; T-SP; RMF). Students C (#5), F (#5) and G (#14 and 15) recognised this strategy (Ch; T-SP), but their perceptions were varied. Student C thought that the teacher was doing this to see how they completed a task, 'and even if they did it wrong he says what they could improve next time' (S; T-SP). Student F perceived that the teacher was telling students they were doing well (A). Student G perceived that the teacher checked on student work to ensure students understood the content, and that the teacher was open to questions and answered 'really well and he explains it' (Ch; E; RF; S-TP; T-SP; RFI-A; RFV-H; CC).

Similar to English, students overall perceived that feedback through whole-class discussions was helpful. However, Student B (#4) commented that the teacher 'asks too many questions', and 'takes a long time' to get to the point, which caused him to 'get lost in like, what he's talking about' (QL; T-WD; RFV-U; RT). Thus, teacher questioning can be perceived as unhelpful if students cannot distil key points from the discussions.

Discussion: Evidence of feedback perceptions in classroom interactions

This study has provided detailed insights into the nature of similarities and differences in feedback perceptions between teachers and students. There were four key findings. First, over 30% of teacher feedback was not recognised by any of the students as feedback. Second, at no point did all of the students recognise the same interaction as teacher feedback. Third, of the feedback that was recognised, only 36% in English and 30% in mathematics was perceived by one or more students as the teacher had intended. Thus, our detailed analysis showed that feedback messages can be easily misunderstood. Fourth, feedback in mathematics was more often recognised and perceived as intended compared to English. This evidence supports the notion that 'feedback quality' is subjective (Black & Wiliam, 2009), and differs between feedback providers and receivers, as well as between receivers.

The results suggest that feedback perceptions may be subject-specific (Goetz et al., 2018) as well as context-specific (Lipnevich et al., 2016), highlighting the distinct epistemological differences between English and mathematics. There was a greater overlap between feedback instances identified by students and teachers in mathematics compared to English, signalling that much of the feedback interactions in English were not recognised as such by the students. Perceptions of specific feedback strategies were also context-dependent. In both English and mathematics, teachers and students held both similar and different perceptions across a range of feedback strategies, such as expanding on a students' response and questioning about content. These differences appeared to have been influenced by individuals' views of intent behind feedback strategies, which may be underpinned by prior experiences, beliefs about themselves as learners, subject-specific beliefs and motivations, and in-the-moment feelings, in other words, their identities as learners.

From our analysis, it is evident that assessment identity impacted on feedback perceptions. Teacher assessment identity has been conceptualised as encompassing knowledge, confidence, feelings, perceptions of role, and beliefs (Looney et al., 2018). We extend this

notion to pertain to students' identities in assessment interactions. For example, students described the affective impact of feedback (feeling awkward, confident), with their levels of prior knowledge appearing to impact on the extent to which feedback was received and perceived as intended by the teacher. This finding is consistent with those of previous research, such as by Goetz et al. (2018) and Lipnevich et al. (2016). Similarly, inferences about teachers' and students' perceived roles in the feedback process can be made from the findings. Teachers were perceived to be the primary feedback providers by students who positioned themselves as mostly receivers of feedback, with a limited role in requesting or providing feedback. Student beliefs regarding the purpose and value of feedback varied from assisting with learning to highly directive information intended to correct mistakes. The differences in teachers' and students' individual perceptions of feedback was apparent in the interplay of the various components of their assessment identities. These differences in knowledge, confidence, feelings, perceptions of role, and beliefs accentuates the importance of teachers following up to check on student receipt and understanding of, and response to, feedback, as other studies have found (Gamlem & Smith, 2013; Van der Kleij et al., 2017).

Dialogic feedback has been suggested as a strategy to overcome differences in feedback perceptions (e.g. Carless, 2013; Gamlem & Munthe, 2014; Kerr, 2017; Van der Kleij et al., 2017). First, engaging in dialogues about intentions behind feedback can make the feedback process more transparent, thus leaving less room for misunderstanding of intent. Second, dialogues have the potential to enable in-the-moment evaluations of common understandings or misunderstandings. The feedback practices observed in this study were dialogic to some extent, in that the teachers invited student contributions to classroom interactions, which enabled them to evaluate student understanding, and provide further tailored feedback. However, students did not always perceive these dialogues as productive and helpful to their learning or self-esteem. For example, students viewed classroom dialogues including teacher questioning as opportunities to receive feedback on how they were progressing with their learning. When teachers asked too many questions or when students did not understand the questions, then feedback between the teachers and students was inhibited. Dialogic feedback practices require a shift in roles for both teachers and students (Van der Kleij et al., 2017; Van der Schaaf et al., 2013). While teachers need to invite and genuinely value student contributions to discussions and request feedback from students, students need to take responsibility for their learning by requesting and providing feedback to clarify their understanding.

The results further suggest that teachers need to find a balance between co-construction of knowledge and explicit instruction, thus moving between paradigms of teaching and learning. Students generally appreciated and identified learning from class discussions, and identified that they learned from feedback given to other students. This finding is consistent with earlier research by Hargreaves (2013) and Ohta (2000), which suggested that students self-select relevant feedback in classroom interactions. However, students also emphasised the value of explicit instruction in the form of explanations or expanding on or reformulating a students' response, as well as teacher identification of key learning points.

Limitations

Although the study has provided detailed insights into similarities and differences in teacher and student feedback perceptions, several limitations need to be acknowledged. First, the in-depth nature of the study had implications for the sample size. To be manageable, the research involved only two teachers and five students per subject. Second, teachers watched the full classroom observation video for VSR, but students watched a shortened version of 20 min, which had been edited based on segments identified as feedback by the teacher. As a result, other segments not identified by the teacher as feedback but that the students may identify as feedback were not included in the shortened video. Third, it might be that the number of feedback instances identified by students was influenced by the extent to which they felt comfortable during the VSR interviews. It was evident that students were not used to talking about feedback, and sometimes had difficulty finding the language to express their thoughts and feelings.

Conclusion and implications

Analysing the similarities and differences in teachers' and students' perceptions of oral feedback instances in classroom practices has shown that feedback perceptions – and thus feedback effectiveness – are context-dependent, subject-dependent, and individual-dependent. Much of the guidance available for teachers has focused on how to provide effective feedback. However, the findings of our study have shown that many other dimensions of feedback including the variables affecting receipt and productive use of a feedback message need to be included in models of effective feedback. Central to our argument is the apparent mismatch of understandings around the nature and purpose/s of feedback between teacher and students and among students. Our findings suggest that oral feedback provided during class interactions will be differentially received by students, and frequently not perceived as intended. If feedback is not received by students, or not perceived as intended by the provider, it is unlikely that the feedback message will achieve its intended effect of supporting student learning. Substantial differences were observed in the self-reported impact of feedback on learning by students, with students identifying the same feedback strategies as helpful or unhelpful in different situations. Hence, the findings suggest that conversations about the purpose of feedback may contribute to learners recognising and productively engaging with feedback.

It was clear from the findings that effective feedback is individual and situational, and one size does not fit all. It thus seems critical that alongside the provision of models of effective feedback (e.g. Hattie & Timperley, 2007), teachers are equipped with a repertoire of teaching strategies to notice, probe and respond to student perceptions of teacher feedback. Thus, future research could investigate the interaction of feedback perceptions across different contexts, disciplines and related teaching strategies with the multiple aspects of individual teacher and student assessment identity. Figure 5 provides a framework for further research based on the findings of the literature review and present study. The framework proposed in Figure 5 is intended to be used alongside comprehensive models of feedback such as those developed by Lipnevich et al. (2016).

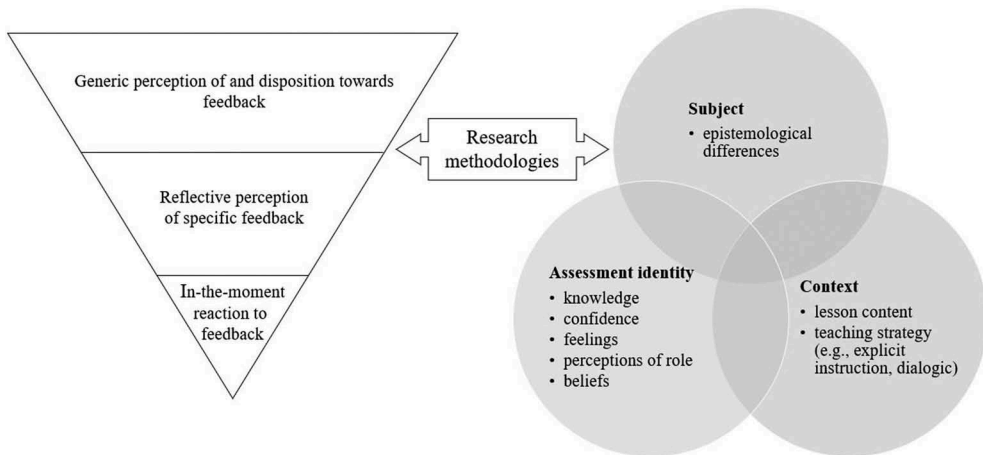


Figure 5. Evidence-based framework for researching perceptions of feedback, which includes methodologies at three levels (after Lipnevich et al., 2016), taking account of subject, context and individual differences. The assessment identity components were derived from Looney et al. (2018).

Figure 5 proposes a methodological framework for future investigations of feedback perceptions that critically engages with subject, context and individual levels as well as the different levels at which feedback perceptions may be examined.

Notes

1. The Index of Community Socio-Educational Advantage (ICSEA) values are calculated using a combination of data on parental occupation and education, remoteness of a school, percentage of indigenous students, and a combination of Language Background Other than English and percentage of parents who have not completed education beyond Year 9. The Average ICSEA value across Australia is 1000, with a standard deviation of 100. Source: http://docs.acara.edu.au/resources/Guide_to_understanding_ICSEA.pdf.
2. There were 16 instances of the English teacher pausing the video, 12 of these instances were coded as feedback. In mathematics, there were 19 instances of the teacher pausing the video, 12 of these instances were coded as feedback. In instances where commentary in video pauses was not coded as feedback, teachers or students provided commentary or explanation as background to the context.

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Notes on contributors

Dr Fabienne Van Der Kleij is a former Research Fellow in the Assessment, Evaluation and Student Learning (AESL) research area in the Institute for Learning Sciences and Teacher Education (ILSTE), Australian Catholic University (ACU). Her research covers various topics in the area of formative assessment and teacher-student feedback interactions. Recent and ongoing research has focused on teacher and student perceptions of classroom feedback, formative assessment for diverse students, assessment for learning in classroom practice, and curriculum in the Australian context. Twitter: @FabiennedKleij.

Dr Lenore Adie is Associate Professor in Teacher Education and Assessment, and a Senior Research Fellow at ILSTE, ACU. Her research focuses on assessment processes as these contribute to supporting teachers' pedagogical practices and student learning across all phases of education. She has extensive professional experience working in schools as a teacher and in leadership positions, and in teacher education for over 30 years. Twitter: @LenoreAdie.

ORCID

Fabienne Van Der Kleij  <http://orcid.org/0000-0002-1013-0218>

Lenore Adie  <http://orcid.org/0000-0003-3874-397X>

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