Designing holistic feedback systems in secondary classrooms

WHITEPAPER

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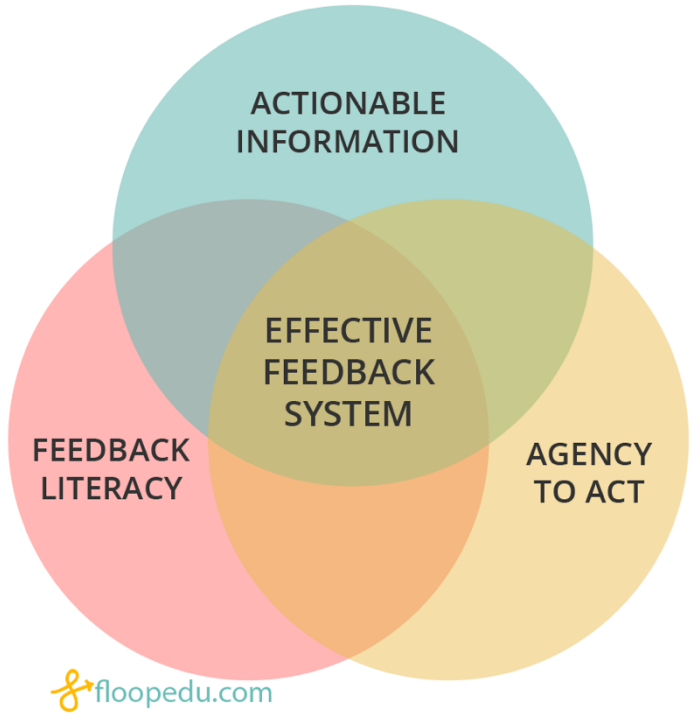
ABSTRACT

The problem with feedback is that it is commonly seen as simply pieces of information, when it's actually a complex process. Educators have been innovating on feedback for decades, developing practical strategies for providing feedback more quickly, reliably, and effectively. However, simply giving more feedback is not the solution. For feedback to result in transformative student learning, educators must support students in developing *proactive recipience*. This requires that holistic feedback systems go beyond the provision of *actionable information* to include integrated *feedback literacy* activities and create an instructional environment that gives students the *agency to act* on their feedback.

Armed with a greater knowledge of the importance of developing a holistic feedback system, educators can evaluate feedback interventions against evidence-based criteria and instructional technology companies have a responsibility to look beyond the automation and feedback-delivery tools most frequently requested by overwhelmed educators to develop tools that also support *feedback literacy* and *agency to act*.



THE PROBLEM WITH FEEDBACK

The achievement gains from formative feedback are some of the greatest of any instructional intervention available to educators (Teaching & Learning Toolkit, 2015; Black & Wiliam, 1998; Hattie & Timperley, 2007). Feedback can also be a powerful tool for equity (Black & Wiliam, 1998). In 2005, a study by The Organization for Economic Co-Operation and Development's Center for Educational Research and Innovation found that "schools which use formative assessment show not only general gains in academic achievement, but also particularly high gains for previously underachieving students. Attendance and retention of learning are also improved, as well as the quality of students' work" (p. 2). Yet here at Floop, we are consistently hearing from teachers that the seemingly simple practice of commenting on student work is proving unsustainable and ineffective.

A symptom of this problem is the way the U.S. school system uses a limiting definition of *feedback*. In the words of one of our teachers:

> *"[Feedback is] info on how to improve. It tells students what they need to do to get to where they need to be" (HS teacher, 2017).*

Researchers and educators in the United Kingdom, Australia, and New Zealand are elevating the term *feedback* to encompass more than just the information transmitted from teacher to student.

"FEEDBACK IS THE PROCESS IN WHICH LEARNERS MAKE SENSE OF INFORMATION ABOUT THEIR PERFORMANCE AND USE IT TO ENHANCE THE QUALITY OF THEIR WORK OR LEARNING STRATEGIES" (HENDERSON ET AL., 2018, P. 16).

This definition of *feedback* goes beyond just providing comments about student work. It is a term that should be used to describe the entire process of using information resulting from a task to improve on that task. This definition is much closer to the definition of feedback used in the environmental and physical sciences: "The

modification or control of a process or system by its results or effects" (Feedback, 2019).

Examining this definition, it becomes clear why isolated strategies added piece-meal into a traditional classroom setting may be insufficient to generate transformative learning outcomes. The problem with feedback is that it is commonly seen as just pieces of information, when it's actually a complex process.

THE REALITY OF FEEDBACK

A 2013 U.S. study found that, on average, teachers were spending nearly 60% of their time on classroom instruction and only 11% on grading and feedback (OSCD, 2013). A 2016 study found that the average full-time public-school teacher in the U.S. spends 53 hours per week on all school-related activities. In 2015-16, the average middle school class size in the US was 26.8 and high school was 26 (USDE, 2016). With classes this large, a high number of classes each week, and limited time available for grading, it's no wonder that formative feedback becomes a source of stress and anxiety for teachers.

When we interviewed teachers about their feedback practices, they reported that giving detailed feedback to students can take anywhere from one hour to half a day per assignment. Teachers are discouraged by the amount of feedback they are expected to give and the amount of time that it takes to communicate and deliver that feedback.

> *"I'm not very good at [communicating with students], I give them whatever [score] they got, I don't really write comments or anything like that. I used to, but it was just taking forever, so I just stopped. It just takes a very long time, if I were to write feedback to every single student, it would take a very long time, and sometimes the kid might not even read it." (HS chemistry teacher, 2016).*
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> *"It would probably add a good 4 minutes per test if I were to give feedback by hand. With 150 tests to grade...you can do the math. That*

would be an additional 600 minutes of time. Handwriting feedback comments would be challenging" (HS math teacher, 2016).

Teachers also feel frustrated with the variability of the impact that feedback seems to have on student outcomes. A number of teachers cited concerns over the value of personalized feedback, particularly when they perceived that students had low engagement with those comments.

> *"[Feedback is] such a time-consuming thing. I need to look at my return on investment. I don't have time to [give] hours and hours of feedback" (HS math teacher, 2017).*
>
> *"Students don't always look at feedback. I think when there was a grade, they wouldn't look at my notes" (MS math teacher, 2017).*
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> *"Students haven't been checking [the learning management system] for the feedback I post to them, even when I make announcements to do so" (HS math teacher, 2017).*
>
> *"Sometimes students will not understand what I mean when I give feedback, or why they got something wrong if they weren't in class to hear the explanation, then they miss why they got it wrong" (MS science teacher, 2016).*

A FRAMEWORK FOR FEEDBACK SYSTEMS

There are many factors that influence the quality and usefulness of feedback, including the timing, content, and mode of delivery. What is often overlooked is student readiness for or receptiveness to feedback and their knowledge of how to recognize and use it once it arrives (Price, Handley, & Millar, 2011). Feedback comments without active engagement are not going to have an impact great enough to justify the time and effort they require (Crisp, 2007).

Winstone, Nash, Parker, & Rowntree (2017) argue that *proactive recipience* is necessary for students to fully benefit from feedback information. Proactive

recipience is "a state or activity of engaging actively with feedback processes, thus emphasizing the fundamental contribution and responsibility of the learner" (p. 17).

The information communicated in formative feedback is just part of the equation; it won't have significant impacts on student learning unless students also develop *feedback literacy* and the *agency to act* on feedback. A variety of frameworks have been developed to describe the conditions necessary to foster proactive recipience.

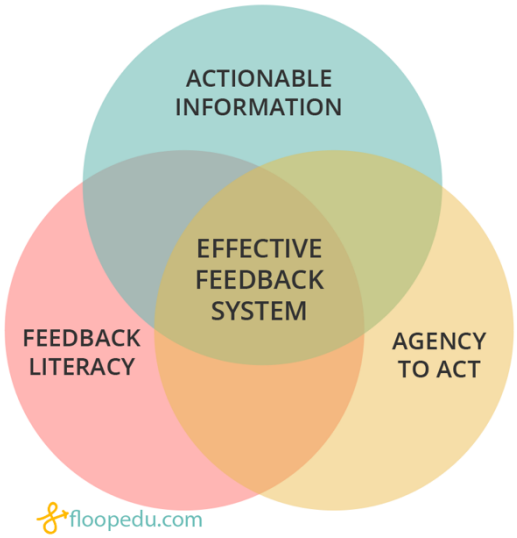
The Centre for Research in Assessment and Digital Learning, an Australian higher education research organization, describes three categories of conditions for successful feedback practices:

- **Capacity** for Feedback: promoting student capacity for receiving feedback
- **Designs** for Feedback: designing instruction and curriculum around feedback
- **Culture** for Feedback: developing a culture that values and accommodates feedback (Henderson et al., 2017)

Windstone et al. (2017) categorize conditions for successful feedback recipience into a four-part SAGE framework:

- **S**elf-Appraisal: judging one's abilities
- **A**ssessment Literacy: understanding the grading process, standards, and criteria
- **G**oal-Setting & Self-Reflection: being goal-oriented and monitoring progress to meet outcomes
- **E**ngagement & Motivation: having an attitude of receptiveness to performance information

Hattie & Timperly (2007), in their seminal work "The Power of Feedback", even point out that "providing and receiving feedback requires much skill by students and teachers... [It] requires high proficiency in developing a classroom climate, the ability to deal with the complexities of multiple judgments, and deep understandings of the subject matter to be ready to provide feedback about tasks or the relationships between ideas, willingness to encourage self-regulation, and having exquisite timing to provide feedback before frustration takes over" (p. 103).



Common to all of these frameworks is the understanding that the feedback process is effective at impacting student learning only when feedback comments are communicated as *actionable information* that is part of a holistic feedback system. The system must include *feedback literacy* activities integrated into the curriculum and create an instructional environment that gives students the *agency to act* on their feedback.

ACTIONABLE INFORMATION

The research is clear: the content, focus, timing, and tone of feedback information all affect how useful the information is for student learning.

> WHERE AM I GOING?
> HOW AM I GOING?
> WHERE TO NEXT?
> -Hattie & Timperly, 2007

For feedback information to be useful, it must communicate: Where am I going? (What are the goals?), How am I going? (What progress is being made toward the goal?), and Where to next? (What activities need to be undertaken to make better progress?). Effective feedback information focuses on task, process, or regulation, while feedback about the person (both personal praise and personal criticism) is rarely effective. Useful feedback must be both timely and actionably written if it is to benefit student learning (Hattie & Timperley, 2007).

Educators and the instructional technology industry have spent a great deal of time and resources developing innovative strategies for delivering feedback information. Strategies like recording audio comments, screen-casting assessment markup, and Short Messaging Services have been successful at reaching some students in some instructional environments. Unfortunately, "no single feedback strategy or model has been shown to work across all contexts" (p. 2). More notably, a diversity of sources and modes of feedback is most beneficial. Simple strategies of feedback, particularly

when added piece-meal into courses, don't reliably work across disciplines and environments (Henderson et al., 2017).

FEEDBACK LITERACY

Many of the teachers we interviewed expressed frustration that their efforts to deliver detailed, task-oriented feedback are often met with lackluster response. Teachers report that students commonly fail to follow through with collecting feedback, don't thoroughly read it, or disregard it as less than useful. Though these behaviors may feel to educators like disinterest or simple disengagement, there may be a deeper emotion present. Feedback can make students anxious and that can lead to feedback avoidance (Nash & Winstone, 2017).

> *"I dislike being wrong a lot and when all of the work I did wrong is criticized it makes me feel a bit insecure" (HS student, 2018).*

The way that feedback messages are perceived can differ greatly depending on the relationship between the provider and the recipient. Feedback comments that are perceived as negative feedback by one student may be received as positive feedback by another.

Acknowledging the emotional nature of receiving feedback and selecting intervention strategies that support students in becoming open to feedback information is key to fostering proactive recipience.

CLASSROOM APPLICATION

EDUCATORS SHOULD CONSIDER MODELLING THEIR OWN STRUGGLE WITH RECEIVING FEEDBACK AS A WAY OF VALIDATING THE FEELINGS OF STUDENTS (PARKER & WINSTONE, 2016).

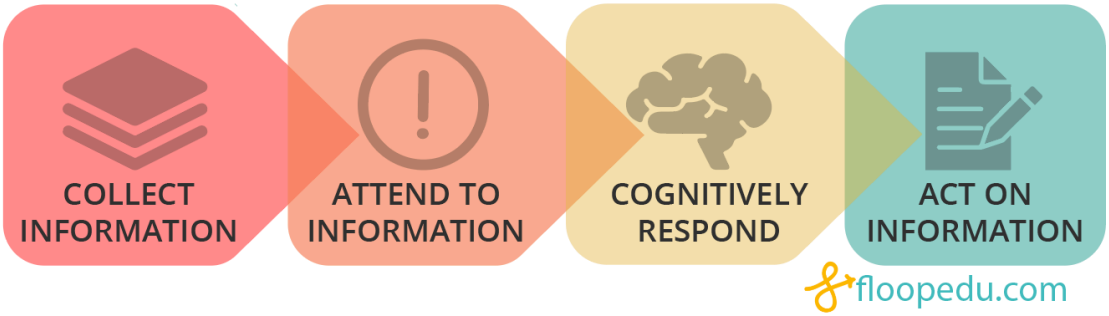
Our surveys of secondary students receiving spot-annotated teacher feedback and general peer feedback have revealed the signs of passive engagement commonly reported by teachers:

> *"I read the feedback in order to know what I did wrong/could do better. I haven't refined any work (other than doing it if I forgot) because I'm lazy*

and don't want my grade to not reflect my initial effort." (HS student, 2018).

"I rarely read feedback, but I refined my work when there was a big [score] difference in what I submitted and what was expected" (MS student, 2018).

Though emotional openness is important, feedback literacy goes beyond feeling emotionally receptive to critical and constructive comments. In order for students to receive and apply feedback information for learning, they must collect it, attend to it, cognitively respond, and act on it in a timely manner (Price et al., 2011).



To move beyond a scaffolded and incentivized version of this process, students must develop an active mindset of readiness for feedback. This active mindset requires "their attitude of commitment and willingness to expend effort on implementing advice, rather than just being willing to receive it" (Nash & Winstone, 2017, p. 3). Feedback literacy is both an active mindset of readiness for feedback and a proficiency in the skills of attaining and making use of feedback to improve.

CLASSROOM APPLICATION

INTERVENTIONS LIKE SELF- AND PEER-ASSESSMENT, ENGAGING WITH GRADING CRITERIA, AND WORKED EXAMPLES CAN SUPPORT STUDENTS IN DEVELOPING FEEDBACK LITERACY (WINSTONE ET AL., 2017).

AGENCY TO ACT

Students who have developed a robust feedback literacy and are provided with actionable information about their performance are primed for transformative revision, either of their ideas, processes, or work. Without a means of applying that actionable information, however, learning cannot take place. The third condition, agency to act, requires that instructional sequencing, curricular focus, and assessment

practices are designed to accommodate, encourage, support, and value revision of existing work or transfer of feedback to future work (Nash & Winstone, 2017).

CLASSROOM APPLICATION

INTERVENTIONS THAT SUPPORT CATEGORIZING, ORGANIZING, AND REFLECTING ON FEEDBACK INFORMATION CAN SUPPORT STUDENTS IN MAKING SENSE OF THE FEEDBACK THEY RECEIVE. FEEDBACK PORTFOLIOS, OPPORTUNITIES FOR DIALOGUE AND DISCUSSION, SCAFFOLDED ACTION PLANNING, AND ALIGNING FEEDBACK WITH RESOURCES ARE ALL STRATEGIES THAT SUPPORT STUDENTS' AGENCY TO ACT ON FEEDBACK (WINSTONE ET AL., 2017).

RECOMMENDATIONS

FOR EDUCATORS & INDUSTRY

The instructional technology industry offers a wide range of tools for monitoring student progress and delivering feedback; and educators have been innovating on feedback for decades, developing low-tech strategies for providing feedback more quickly, reliably, and effectively. Hattie & Timperly (2007) advise that the automation of tasks in the classroom can free up more time for teachers to be responsive to feedback in the classroom, but that simply giving more feedback is not the solution. Armed with a greater knowledge of the importance of developing a holistic feedback system, educators can evaluate feedback interventions against evidence-based criteria. Instructional technology companies have a responsibility to look beyond the automation and feedback-delivery tools most frequently requested by overwhelmed educators to develop tools that also support feedback literacy and agency to act.

FOR RESEARCHERS

The lack of diversity, both geographically and in level of study, of the sources referenced in this review make evident the growing need for research into feedback practices involving secondary students, particularly in U.S. schools. A search in 2014 revealed that only 6% of feedback-related research involved secondary students (Winstone et al., 2017). We need more evidence—particularly objective, experimental evidence that does not rely solely on student self-reporting. Instructional technology feedback tools can be a fountain of valuable data for this work, as long as they are designed to focus on measures of student engagement with feedback.

INTERVENTION EVALUATION TOOL

The Intervention Evaluation Tool can be used to determine the fit of an educational strategy or instructional technology tool into a holistic feedback system. The intervention should meet criteria from at least two of the conditions and should complement interventions already in place, so that the feedback system as a whole meets as many of the criteria as possible.

ACTIONABLE INFORMATION

- ☐ Focuses feedback on task, process, or regulation
- ☐ Supports timely communication of feedback information
- ☐ Structures feedback to include information about goals, progress, and activities for improvement
- ☐ Aligns feedback with standards and criteria
- ☐ Supports a variety of assessment and feedback types

FEEDBACK LITERACY

- ☐ Supports guided self-assessment
- ☐ Supports guided peer-assessment
- ☐ Supports worked examples
- ☐ Supports engagement with grading criteria
- ☐ Asks students to specify the feedback they would like to receive
- ☐ Encourages students to thoroughly read feedback information
- ☐ Encourages students to revisit prior feedback information
- ☐ Emphasizes the connection of one assignment to the broader learning outcomes
- ☐ Supports a positive relationship between feedback provider and recipient

AGENCY TO ACT

- ☐ Makes evident when feedback information has been used to improve work
- ☐ Promotes dialogue and discussion around feedback information
- ☐ Supports sequencing of tasks to promote application of feedback
- ☐ Supports sharing of tailored resources or alignment of resources with learning needs
- ☐ Supports goal-setting and reflection in response to feedback
- ☐ Supports development and execution of an improvement or revision plan
- ☐ Supports revision and resubmitting of work
- ☐ Supports the organization of feedback to reveal patterns and themes
- ☐ Supports the showcasing of work that evidences growth in response to feedback

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