HOW CAN EDUCATORS MAKE USE OF FEEDBACK TYPES AND PROCESS TO OPTIMIZE STUDENT PERFORMANCE?

By

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(In the name of Allah, the Entirely Merciful, the Especially Merciful. All praise and thanks to Allah, Lord of the Worlds.)

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CHAPTER ONE

Introduction

Feedback is considered to be one of the most influential factors toward students’ performance at school. It can either positively or negatively affect students’ intellectual development, reaction, and reflection of their cognitive ability. Although feedback can greatly impact learners’ experiences, not all feedback providers are well aware of how to optimize their feedback when evaluating one’s work. Instead of supporting learners, an educator’s comments may discourage feedback receivers, and in the long term, could affect their self-esteem.

I became aware of the influence of feedback on learners during my student teaching experience at a public high school. It all began when my supervisor gave me a research paper that covered how feedback can leave positive, negative, or no effect on students. The research study was astonishing to me, and it helped me understand that there was a link between my students’ performance and the feedback I gave to them. In this setting, I witnessed a tremendous difference in student performance when considerate feedback was given to them. The research paper and my experience in giving students feedback became a starting point in discovering feedback types and their effects on students.

Both the research paper and my student teaching experience ignited my interest to conduct this research project. The purpose of this paper is to explore the answer to the question: “How can educators make use of feedback types and process to optimize student performance?” This chapter will introduce my personal experience with feedback during my student teaching. Then, I will explain the root of my interest in knowing about feedback. Finally, I will state my main motivations and purposes of covering this topic.
Background

In 2018, I was a student teacher in a public high school for three months. I taught math to students in 9th to 12th grade. Most of my time was spent leading two Geometry classes. Within the two classes, I found a significant difference in the way students performed. This difference, based on my analysis, was a result of the distinctive feedback that I gave my students.

The content that was taught in the two Geometry classes and its students age group were similar. Hence, both classes had similar outcomes with regard to the first two summative unit exams. However, when the third test came, the student performance in one class was significantly better than the other class. Therefore, I started to question the factors that contributed to the difference in performance. I decided to begin by investigating the events that happened before the tests.

Prior to the test, I taught a Geometry unit, in which I spent plenty of time planning, recording, and writing feedback to students. During that time, my teaching was recorded, edited, and then submitted to Teacher Performance Assessment (edTPA). edTPA is an assessment that allows institutions to prepare, support, and measure candidates’ teaching skills (Darling-Hammond, 2012; Lu, 2013). The institution later will issue teacher licensures to the candidates if they meet the requirements from the assessment. The assessment is used nationally in forty states in the United States (Stanford Center for Assessment, Learning, and Equity [SCALE], 2015). To pass the assessment, educators need to demonstrate that they can independently lead a classroom and ensure students’ learning is happening. While the plan and recording were used for both classes, it took me longer to write feedback for students in one class than the other one.
In the beginning, I was not sure about which class’ videos to submit for my edTPA; hence, I had planned, taught, and recorded both classes with the same process. In addition, the last task of my edTPA was to evaluate and give feedback to students. At this point, I had to choose a class to submit my edTPA. When writing comments to students from the chosen class, I followed the edTPA’ assessment rubric very carefully. Meanwhile, although I still spent plenty of time for the other class’ feedback, the quality of my comments for that class were not as good as the former class using the edTPA guide.

Interestingly enough, I started to have improved relationships with my students in the edTPA class after completing my edTPA requirements. I felt more comfortable reminding students of what they were not supposed to do and even joking with them without fearing offending them. On the contrary, I did not have the same relationship with the students from the other class. Besides this connection, the most tangible evidence for the change in my students’ performance was an observation of the average exam score from the succeeding units. I observed that students in the edTPA class had higher scores than students from the other class. The distinction in learning outcomes between the two student groups inspired me to continue questioning the factors that led to the differences.

One of the reasons for this remarkable mismatch was probably the differing quality of feedback that I gave the two groups of students. The students from the two classes received the same teaching materials and they were both recorded. Therefore, the discrepancy might not stem from my instruction. However, as my feedback for the edTPA class was more thoughtfully and carefully written than the other class, students in the edTPA class might have appreciated my time and effort better. They may have also been more confident with their prior knowledge and knew how to fix their mistakes.
Their trust, appreciation in me, and confidence in their knowledge could have led to their exceeding performance in comparison to the students from the other class. This brought me to believe that feedback could have a significant effect on students' mental and psychological development.

**The Development of My Interest**

Soon after I started my theory about feedback, my supervisor recommended me to read a research paper which discussed different types of feedback and their influence on students. I was surprised when I learnt that feedback may be ineffective or even leave a negative impact on learners’ motivation. Since then, I began to be more mindful of my comments to students when grading them. I also pondered on the types of feedback that were the most useful and effective to students.

**The Roots of My Interest**

Knowledge about the impact of different feedback types on students’ performance was crucial for me due to my interest in avoiding the negative consequences of misusing feedback. Also, I had an urge to build strong, consistent relationships with students that would help them to become better learners. As an educator, the last thing that I wanted for my students was to make them lose their passion in a subject or doubt their own abilities. Although the initial purpose of feedback is to improve students’ learning and motivate them, feedback can cause other impacts if it is being employed improperly. Later on, in this study, I will address some consequences of misusing feedback such as discouraging students, distorting their self-identity, and lowering their self-esteem. In essence, knowing the influences of multiple types of feedback on students can prevent educators from leaving negative outcomes, short-term or long-term, on learners.

Another reason for my interest in learning about feedback was the support of feedback in strengthening the relationship between me and my students. After the edTPA
week, my students from the chosen class were more comfortable with me. They were less hesitant to ask questions and more open to receive my advice. Therefore, their grades improved significantly compared to the previous units. They also had higher average scores than the other class. The short-term and long-term benefits of precise feedback application thus inspired me to explore this topic even further.

**Motivations and Purpose**

As a result of witnessing the impacts of feedback, including short-term and long-term influence, as well as my eagerness to optimize students’ productivity in learning, I was determined to conduct this research project to utilize feedback in my classroom and benefit other feedback users. Feedback could be practiced among not only educators but also students. This is because peer feedback can strengthen the knowledge of both students who provide and receive feedback. Assigning feedback to students also allow teachers to be more productive in evaluating and advising students.

Because of the great benefits of teacher feedback and peer feedback on educators and learners, I have developed this project primarily for teachers and students. It can serve them in creating a feedback routine for educators and instruction for their students when being assigned to offer peer feedback. The application of the project is not limited to any age groups and subjects; rather, the results discovered about feedback are quite universal. Regardless of age and subject, educators and learners can benefit from feedback if they have knowledge about the most productive types and process of writing feedback. On top of that, the project can be extended to other fields such as business, medical, and sports, wherever trainings take place and feedback on individuals’ performance is demanded.
Conclusion

In this chapter, I have explained the origin and development of my interest in researching the influences of feedback. Here, I also justified the rational for my passion in the topic. In chapter two, I will explore multiple research studies about feedback in order to answer the question, “How can educators make use of feedback types and process to optimize student performance?” I will begin with defining feedback and its use in education. I will then categorize multiple types of feedback and address the impact of each type on students. Finally, I will suggest the best practice of feedback for learners. This chapter will be followed by Chapter Three where I describe in detail my research methods and steps in my presentation.
CHAPTER TWO

Literature Review

Introduction

Feedback is one of the most influential tools that are widely used in education (Alqassab, Strijbos, & Ufer, 2018). It can be applied in various subjects such as math, language arts, and sports (Alqassab et al., 2018; Konukman & Petrakis, 2001; Victoria, 2018). Feedback is considered as internal or external sources of information that is given to learners, usually being applied to help students detect their errors or consolidate their correct understanding (Anderson, Kulhavy, & Andre, 1972; Birenbaum & Tatsuoka, 1987; Kulhavy, 1977). Therefore, feedback allows learners to evaluate their skills or knowledge, and later strengthen or modify these abilities by self-discovering the correct answers (Coker, 2004; Mory, 2004). This chapter will cover the importance of answering the question: “How can educators make use of feedback types and process to optimize student performance?”

This chapter will examine the three subtopics: (1) the various effects of feedback, (2) types of feedback, and (3) how to improve feedback qualities. The beginning part of this chapter will provide extensive studies on how feedback affects learners’ performance. The second section categorizes feedback based on four aspects: the positivity of feedback (e.g. praise or criticism), the levels of feedback (e.g. task level, process level, self-regulation level, and self level), the language used in feedback (e.g. nouns or verbs), and the forms of feedback (e.g. verbal or visual feedback). This section will also highlight the ways students respond to the mentioned feedback types.

The final section of the chapter demonstrates strategies or platforms to help educators optimize the quality of feedback on learners. This part not only considers (a)
teacher feedback, but also (b) peer feedback, where students evaluated and advised their peers on particular learning tasks. While suggesting the optimal peer feedback methods, this section will target three main issues: (i) types of peer feedback, (ii) levels of peer feedback, and (iii) peer feedback instructions. In the types of peer feedback subsection, this paper demonstrates multiple types of feedback and suggests the most effective kinds. The second subsection provides the steps that a student should take when giving peer feedback, which aids them in being more organized and productive while doing the task. The last subsection illustrates instructional processes that an educator should apply to help students avoid common mistakes in feedback.

**Various Effects of Feedback**

Research has shown that feedback was one of the top ten influential factors to learning (Hattie, 2009). Yet, students’ responses to feedback varies (Hattie & Gan, 2011; Kluger & DeNisi, 1996; Mory, 2004). It can either cause positive, negative, or no effect to learners (Kluger & DeNisi, 1996). Mayer (2004), for instance, suggested that feedback could deepen students learning when it is used during problem solving. Brainerd (1972) also indicated an outstanding improvement in kindergarteners’ justification skills while feedback is used in the classroom. In addition, Phye and Bender (1989) claimed that the absence of feedback can lead to a higher chance of students repeating the same memorial errors. Meanwhile, when feedback was present, students’ speeds of strategy generation were more likely to be higher (Alibali, 1999).

Despite the evidence of the positive effects that feedback potentially brings to learners, several studies also detected negative or no effects from feedback. Kluger and DeNisi (1996), for example, suggested that feedback may give significant positive effects on students; yet, more than one third of the results showed negative influences after feedback was applied. Moreover, the increase in exploration skills was only found in
some groups of students, but not in the entire class (Hattie & Gan, 2011). Therefore, a question that could be raised was “Which factors contribute to the diversity in students’ responses to feedback?”. To answer this question, this paper will demonstrate different types and methods of feedback and their effects on learners, helping readers to determine whether these factors could cause students to react differently.

**Types of feedback**

**The Positivity of Feedback**

The positivity of feedback is the first important factor. Feedback could either provide praise, provide criticism, or be neutral. Out of the various types of feedback, praising is the most common type of feedback, which highlights half of the total feedback from educators on average (Hyland & Hyland, 2001). Besides praise, criticism is also quite common, which is usually used to point out students’ errors. This section will only tackle praise and criticism because those two are the most popular positives of feedback.

Praise and criticism are totally opposite; while praise is a positive evaluation to an objective, a person’s performances, or attributes, criticisms are often applied to help students detect their shortcomings in order to improve in the future (Kanouse, Gumpert, & Canavan-Gumpert, 1981, p. 98). The differences in the nature of the two types of feedback may lead readers to think that the two kinds could cause totally opposite effects, but this is not necessarily true. In fact, studies show that both criticism and praise can give students negative, positive, or no significant change in responses (Beaman & Wheldall, 2000; Burhans & Dweck, 1995; Kamins & Dweck, 1999; Mueller & Dweck, 1998; O’Leary & O’Leary, 1977). For instance, O’Leary and O’Leary (1977), a study of praise, showed a relatively exceeding performance in students, who felt motivated and persistently put effort in conquering the challenges. Yet, Mueller and Dweck (1998) illustrated weakened performance, in which students felt helpless as they associated their
failure to their capability of studying. Meanwhile, Beaman and Wheldall (2000) showed no significant change in students' reactions to feedback. Like praise, criticism also leads to multiple responses in students. While some students tend to lose their motivation to work on a given task after feedback is provided, others are more stable toward their failures and continued trying to work on their assignments (Burhans & Dweck, 1995; Kamins & Dweck, 1999). If praise and criticism do not contribute to the differences in students’ responses, what factors do?

While researching on praise and criticism, researchers found some common patterns in students’ reactions to the methods of praising and criticizing. Multiple studies (Corpus & Lepper, 2007; Dweck, 1999; Henderlong & Lepper, 2002; Kamins & Dweck, 1999) have found a strong relationship between the learners’ coping patterns and educators’ feedback methods. These research studies suggest that teachers’ choice of feedback strategies can influence one’s perceptions about current and future tasks (Henderson & Dweck, 1990; Heyman & Dweck, 1998; Heyman, Dweck, & Cain, 1992; Kamins & Dweck, 1999). Some common terms being used like “clever” or “smart”, direct students to focus on their traits; yet, other comments’ objectives are to give information about students’ efforts or strategies (e.g. ‘You found a good way to do it’) (Dweck, 1999; Kamins & Dweck, 1999). However, some other comments do not make much of a difference to students due to the shallowness of information about students’ performance that the feedback contains (Hattie’s, 2009).

The Levels of Feedback

In Hattie and Timperley (2007), feedback was divided into four levels, each one measured based on their multiple effects on students’ performance. The four levels were (1) task level, (2) process level, (3) self-regulation level, and (4) self level. Task level includes feedback that indicates the correctness of their learners’ answers or solutions
(e.g. “your solution is incorrect”). Process level, on the other hand, comprises of feedback that illustrates learning processes and strategies applied by students (e.g. “your answer should apply the Pythagorean theorem”). Self-regulation feedback level represents comments that guide students to evaluate and regulate their goals (e.g. “what would happen when you double the width?”). Feedback givers do not provide the correct answers to learners in this stage, but rather they motivate students to reflect on their learning instead. Self level feedback is feedback about the students’ traits (e.g. “you are very smart”), which is usually used to motivate the feedback receivers. This feedback is different from self-feedback, as self-feedback is an evaluation of the learners’ own performance, while self level feedback could be given by one individual to another (Butler & Winne, 1995). This type of feedback does not provide learners with information about their performance, but instead it targets students’ traits.

Within each type of feedback, receivers are impacted in different ways. Task level of feedback only provides information about the receivers’ answers or solutions but does not indicate their performance level. On the other hand, process and self-regulation levels are more effective as they provide deeper and more flexible learning experience (Hattie & Timperley, 2007). Besides, students who receive the two types of feedback are encouraged to be involved in the learning task in a meaningful way (Hattie & Timperley, 2007). The last type of feedback, self level, is the least effective and could even cause reverse influence on the students, since it usually shifts students’ focus from the learning task to their own selves (Kluger & DeNisi, 1996).

The research emphasizes the explanation for the multiple consequences of traits. In the study, Kamins and Dweck (1999) justified a student’s distorted self-perception with the fact that those who receive self level feedback often associate their traits to their achievements. This later will make them perceive a fixed mindset of success or failure,
which in return is harmful to them if they miss their goals. Further, students could
attribute failures to their inability to learn, short of intelligence or skills, and ultimately
feel helpless. On the other hand, praise that focuses on students’ strategies, effort, or
behaviors are more likely to motivate students to discover alternative answers or methods
of solving problems. Although the third level, self-regulation, does not inform students
about their performance, it stimulates students to continue learning in order to answer the
questions in the feedback (Hattie, 2009). The questions assist learners by guiding them to
the more correct direction and fostering deeper learning. Another benefit of this level of
feedback is it does not directly tell students whether their answers are correct or not.
Therefore, this can prevent discouraging students, while protecting their self-confidence.

A similar pattern was shown for criticism. The research shows that there is a link
between categories of criticism and its results. Kamins and Dweck (1999) has
distinguished criticism into two types: criticism that focus on traits and criticism that
provides information about strategies. Like praise, the self level of feedback tends to
lower student motivation, while students who receive process level are more persistent in
completing the task. This is because feedback about traits lead students to believe in
stability, and when faced with failure, they attribute it to their abilities (Kamins &
Dweck, 1999; Burhans & Dweck, 1995)

**The Language Used in Feedback**

The forms of language used when giving feedback to students also have strong
influence on the learning outcome. Gelman and Heyman (1999) claimed that children
tend to judge characteristics of others when the feedback is used in noun forms (she is an
early waker), in comparison to verbal predicate (e.g., she wakes up early whenever she
can). Similar results were also found in Cimpian, Arce, Markman and Dweck (2007),
who suggested that feedback using nouns tended to cause frustration and helpless
behaviors in children while feedback including verbs, helped children associate the behavior to the event itself, not the abilities. Therefore, feedback containing nouns was more likely to decrease ones’ motivation in studying.

The difference in the effect of feedback using nouns and verbs was also indicated in Cimpian et al. (2007). In the study, researchers conducted an experiment on feedback that contained similar words but in different orders and forms. They mentioned that feedback using verbs tend to focus on students’ traits (e.g., ‘You are a good drawer’), while the other that contained nouns aimed at learners’ strategies (e.g., ‘You did a good job drawing’). The two types of feedback, although similarly worded, produced significantly different results. It was shown that students were less likely to fix their mistakes and resorted to quit the tasks in response to the feedback containing nouns. It was also demonstrated that students were more persistent with their assignments when they received feedback using verbs.

This significant difference can be linked to the self level and process level of feedback being mentioned above. This is because sentences that uses nouns are more likely to describe one’s traits and can be categorized as self level of feedback. At the same time, feedback containing verbs has the tendency to refer to learners’ strategies or performance; hence, it might be listed as process level of feedback. Therefore, it is reasonable to consider language used in feedback as a subcategory of feedback levels.

**The Forms of Feedback**

Besides the language used in feedback, the forms of feedback (e.g. verbal or visual) is also crucial. The two forms have been widely studied for years due to their viral application in education (Newell, Morris, & Scully, 1985). Many studies found that both forms of feedback were essential in helping individuals to learn and control their physical motor, which is a system that controls body movement (Coker, 2004; Kawashima et al.,
Although verbal and visual feedback are usually used together to support each other, researchers claimed that these forms of feedback may provide students with different experiences, and thus, could impact learners’ performance differently (Dwyer & Arnold, 1976). Verbal cues are often used by coaches in order to give direct feedback to athletes, which is supported by indirect visual feedback. William and Jasiewicz (2001) showed that one form of feedback, either verbal or visual, could be more helpful than the other form in specific settings. However, Kirazci (2013) did not find any significant differences in the effect of verbal and visual feedback to students’ learning progress. Kirazci (2013) explained that the inconsistency in results could stem from the differences in participants’ age. While Kirazci (2013) focused on students from 15 to 19 years old, William and Jasiewicz (2001) targeted students who were older than 20 years old.

**Conclusions about the Effects of Feedback Types to Learning Efficiency**

From the studies above, it can be concluded that certain categories of feedback types can influence a student’s performance. The positivity of feedback, whether feedback is given as criticism or praise, does not influence the responses of students (Hattie & Timperley, 2007; Kamins & Dweck, 1999). Yet, feedback level is crucial in determining students’ learning progress. Students respond more positively to feedback that describe their strategies or feedback under the form of a follow up question. This is true for both praise and criticism. However, learners are more likely to be frustrated and lose motivation to continue the task when educators praise or criticize their traits (Hattie & Timperley, 2007). Researchers explained that the process level and self-regulation level (i.e. follow-up questions) did not lead students to associate their failures to their traits, while self level of feedback did and hence, may cause students to lose confidence within themselves. Feedback that only provided information about the correctness of a
students’ solution did not give noteworthy results, as it neither specified students’ performance, nor suggest a better way of solving problems.

Researchers also suggested that the language used for feedback was also important. According to them, feedback that contain nouns, which describes students’ traits, usually causes more frustration within learners. Meanwhile, students who receive feedback that includes verbs, describing their actions, tend to feel motivated and stable towards their given task (Cimpian et al., 2007; Gelman & Heyman, 1999). Another category that can be concerning is the forms of feedback given to students, whether it is verbal or visual feedback. While some studies found that one form of feedback can be more effective than the other, depending on the settings, other studies found no significant differences regarding the influence of the two methods (Kirazci, 2013; William & Jasiewicz, 2001)

We can also conclude from the previous findings that: (1) Certain types of feedback can either enhance or reduce students’ performance and motivation to complete the future tasks. (2) Besides the form of feedback, regarding language uses and its purposes, can impact students’ perceptions about their ability and even personal characteristics over time. (3) Finally, consistency of using feedback about strategies can improve students’ self-esteem in the long term.

Because of the strong influence of feedback toward students’ performance in short term and long term, the question could be raised is: “How can educators make the most use of feedback in order to improve students’ learning outcomes?”

**Improving Feedback Qualities**

**Teacher Feedback**

Feedback is an important educational tool that teachers use to help students self-evaluate and improve their learning. Yet not all types of feedback are effective. Some
may even lead to negative responses from students. Therefore, it is crucial for educators to develop a feedback platform in order to save their time and efforts on using this tool.

This study takes into account 4 categories of feedback: the positivity of feedback (e.g. praise vs. criticism), the levels of feedback (e.g. task level, process level, self-regulation level, and self level), language used in feedback (e.g. noun vs. verbs), and the forms of feedback (e.g. verbal vs. visual feedback).

Upon researching the positives of feedback, regardless of whether it is praise or criticism, the feedback leads to similar results (Hattie, 2009; Kamins & Dweck, 1999). Students can either feel more motivated, frustrated, or neutralized when receiving either praise or criticism. Besides, both types of feedback are necessary in any educational settings due to their opposite purposes. Praise allows students to know their strengths, so that they can consolidate their skills and prior knowledge. Meanwhile, criticism can serve educators by allowing them to point out students’ mistakes and hence, alter students’ knowledge and focal point. Both types are necessary in education because students need to know their strengths and weaknesses in order to strengthen their skills and later on choose a suitable career. Praise and criticism could help students evaluate themselves and improve their learning experiences as well. Although there are differences in the roles of praise and criticism, the research indicated identical effects on students learning outcome from both (Hattie, 2009; Kluger & DeNisi, 1996). Educators should make sure to use both methods of positive feedback to help students feel confident and motivated to continue working on their tasks.

Although the positivity of feedback does not cause differences in students’ responses, the content and language used in both praise and criticism have a strong link to students’ motivation after receiving feedback. In Hattie (2009), students were consistent with the task when they received feedback about their learning process or feedback in the
form of follow up questions. Yet, they could be frustrated and lose motivation if educators comment on students’ traits. On the other hand, feedback that only indicates the correctness of students answer, does not seem to help students improve (Hattie, 2009). Because of the exceeding outcomes that strategy feedback and question feedback (i.e. self-regulation feedback) bring about to students in comparison to the other types of feedback, teachers should optimize students’ learning experiences by being mindful of the content of their praise and criticism. They should consistently comment on students’ progress and strategies instead of using feedback about their traits.

In addition, researchers also encourage educators to employ verbs which describe a student’s actions, rather than utilizing nouns that portray students’ qualities (Cimpian et al., 2007; Gelman & Heyman, 1999). This could help students maintain their learning motivation and be consistent with their future tasks. On top of that, researchers also anticipate that feedback about strategies can improve students’ self-esteem in the long term. Therefore, this would be a beneficial tool for students who have a distorted perception about their abilities to study certain subjects.

The fourth category that is critical in applying feedback is feedback forms, regarding verbal and visual feedback. Research showed mixed results about the relationship between feedback forms and students’ responses (Kirazci, 2013; William & Jasiewicz, 2001). While some studies indicated that one form of feedback could be more effective than the other depending on the setting, other studies showed no significant differences in their influences on students (Kirazci, 2013; William & Jasiewicz, 2001). Therefore, more studies need to be done in order to determine when to use verbal or visual feedback.

Despite the insignificant difference in effects of visual and verbal feedback on students particularly, visual and verbal aids have been utilized broadly in classrooms.
Certainly, visual aids have been used for foreign language classroom to enhance learners’ motivation, memory, and comprehension (Arndt & Pesch, 1984; Bush, 2007; Mueller, 1980). Also, visual aids are utilized in intercultural classrooms (Arizpe, Bagelman, Devlin, Farrell, & McAdam, 2014; Arndt & Pesch, 1984; Bush, 2007; Kiss & Weninger, 2017).

One of the reasons for the extensive use of verbal and visual materials in education might stem from the evidence in multiple intelligence. Studies have shown that the intelligence of humans can be divided into different areas, such as logical, verbal, visual, musical, interpersonal, intrapersonal, bodily-kinesthetic, and naturalistic (Gardner, 1983). Mirzazadeh (2012) claimed that each person could exceed in some areas than other people, while benefiting more from certain learning methods. It is important to note that no type of intelligence is superior to others. For instance, those who are visual learners can optimize their learning experience when visual instruction is introduced, while auditory learners might benefit more from the lesson they learn through hearing (Harati, 2011). Moreover, Shahi (2009) found a significant link between learning styles and multiple intelligences, meaning students’ preference of learning styles may stem from their strength in particular areas.

As students may benefit from visual materials over verbal materials or vice versa, each form of feedback might be more effective to certain individuals than others. Although the differences in impact is not significant for the whole sample population, that might not be the case for individuals. Therefore, teachers should be sure to apply both forms of feedback in order to benefit both types of learners.

**Peer Feedback**

While feedback is a common tool of teaching for educators, it is also fairly widespread among students as a learning activity, often referred to as peer review (van
Zundert, Könings, Sluijsmans, & van Merriënboer, 2010). It is usually given when a group of students or individuals exchange their own work to one another in order to evaluate, advise, and learn from each other (Phielix, Prins, & Krischner, 2010). Their evaluation is performed based on individual or standard learning goals.

Peers’ behaviors and opinions have been shown to strongly impact individuals, especially adolescents (Bowker, Thomas, Spencer, & Park, 2013; Webb & Zimmer-Gembeck, 2015). At this age, they start to spend more time with friends (Furman, Brown, & Feiring, 1999; Furman & Buhrmester, 1992; Zimmer-Gembeck, 2002; Zimmer-Gembeck, Siebenbruner, & Collins, 2001), leading to stronger concerns about peer acceptance (Bukowski, Newcomb, & Hartup, 1998; Zimmer-Gembeck, 2002). Due to the influence of peer pressure on young children and teenagers, peer feedback can be an effective assessment tool for teachers if it is used properly.

Reese-Durham (2005) suggested that students considered peer feedback to be a useful and understandable tool as it allowed students to consolidate and recall learned knowledge from the class. Hanrahan and Isaacs (2001) claimed that this tool could enhance ones’ motivation in studying the subject. Moreover, van den Boom, Pass and van Merriënboer (2007) discovered a significant difference in the perceptions of a learning task between students who received peer feedback and those who did not receive peer feedback. The study claimed that the first group of students had valued the learning task more after receiving feedback, while the second group’s value of the task decreased as a result of not receiving feedback. Finally, Ertmer et al. (2010) suggested that peer feedback can improve students’ confidence and comfort when communicating in online platform.

Peer feedback does not only benefit the receivers, it is also useful for feedback givers. When students actively give comments to their peers, they are prompted to detect
and diagnose problems and ponder on solutions and revision methods for their peers. Therefore, the feedback givers may figure out multiple strategies to revise and elaborate on the problems (Patchan & Schunn, 2015). Despite the positive responses that feedback receivers have toward peer feedback, some research experiments also reported negative feelings of feedback toward the task. It was claimed that students often felt that they are unable to evaluate their peer’s work; hence, they experienced a need of being supported by educators on this task (Cheng & Warren, 1997). This assistance is essential because studies showed that students who were trained to give peer feedback could improve their feedback skills and quality, and shape learners’ perspective about the task (Gan, 2011; Sluijsmans, Brand-Gruwel, van Merriënboer, & Martens, 2004). The analysis of results indicated that students could be better feedback givers if they were provided with feedback skills training and a clear platform to follow. The confusion and intimidation that is commonly found in classrooms also demonstrates that there should be a more organized instructional system on peer feedback. As a result, it is important to ask: “What type of training or platform that tends to help students improve on their peer feedback skills?”

**Levels of Peer Feedback.** Gan (2011), Gan and Hattie (2014), and Harris, Brown, and Harnett (2015) studied the model from Hattie and Timperley (2007), which has served as a platform to guide high school students in providing peer feedback. Similar to studies regarding teacher feedback, these researchers suggested that peer feedback should also be divided into four levels: task level, process level, self-regulation level, and self level, in which process level and self-regulation level were the most productive types.

In addition to Hattie and Timperley (2007), other studies were conducted on the factors that contribute to successful peer feedback experience. It was suggested that the
effectiveness and success of peer cooperation is dependent on their engagement and awareness of each other’s thoughts (Kuhn, 2015; Phielix et al., 2010).

From the two experiments, it could be suggested that students should be instructed to provide process and self-regulation level feedback, where they can offer their peers information about the process or ask questions to help the feedback receiver elaborate on the previous information. The feedback critic should also strive to connect to their peers and understand their thoughts in order to provide the most accurate and effective feedback to learners.

**The Process of Giving Peer Feedback.** Besides being conscious of the most effective types of feedback, having knowledge about the steps that students could take when reviewing a text is fairly crucial. Flower, Hayes, Carey, Schriver, and Stratman (1986) suggested three steps in the process of giving feedback that a student should consider. The first step in peer evaluation is detecting the problems of their peers. Then, the feedback givers should diagnose the problems of their peers to assist them in improving and revising their work. At this pace, feedback givers should not provide the correct answer, but they still need to explain to their peers why their answers were problematic. The last step in the process is that students need to suggest a solution or methods of revision to help their peers improve in the future. Hence, they need to consider a strategy that applies for the particular individual. These processes require students to view the task in multiple perspectives, compare and contrast their work to their peers’, and build new knowledge from their reflection on the works of themselves and their peers (Tsui & Ng, 2000; Van Popta, Kral, Camp, Martens, & Simons, 2017).

**Peer Feedback Instructions.** Instructions for peer feedback should be strategic and specific because students may divert their attention on feedback that are not important or effective. One of the most common mistakes that students made while
giving feedback were they often focus on the general evaluations and positive feedback, but not the constructive comments (Reinholz, 2016). Other students provided constructive feedback, but the advice was not helpful, because the feedback was vague and did not indicate alternate solutions to the peers (Reinholz, 2016). To avoid these mistakes, Denton (2018) advised that teachers should propose good and bad examples for feedback. Students can also be provided with interpretation on each example so that they can have a deeper understanding of why such feedback was or was not constructive. Denton (2018) also commented on the importance of being mindful about the purpose of bad examples. These examples should be served as a means to expose students’ common mistakes and then immediately give alternative examples of better feedback.

**Conclusion**

Chapter two provided a review of the research on the question, “How can educators make use of feedback types and process to optimize student performance?” This chapter provided the definition and usage of feedback, then it addressed research regarding the effects of feedback on learners’ performance. The chapter then highlighted multiple types of feedback and provided suggested feedback strategies to help enhance its effect on students’ performance.

Many researchers have agreed that feedback should have different effects on students, based on their types and methods. Therefore, it is important that feedback providers try to understand, connect to the feedback receivers, and come up with the effective feedback strategies and process. It was shown from the previous studies that students tend to feel motivated, stay consistent to the task, and improve their learning outcome when they are given comments about their process and strategies, or questions that can help them further ponder on alternative solutions. On the other hand, they tend to feel frustrated and want to give up on the learning task if the feedback given is about
traits. Meanwhile, feedback about the correctness of the solution is not helpful as it only gives shallow information about the problems, not the learners’ performance.

At the same time, praise and criticism, as well as verbal and visual feedback, do not differ in their effects on learners. All four types of feedback are necessary and work differently on each individual, based on the situation (e.g. whether students need to be praised or given constructive feedback) and students’ strengths (e.g. whether they are a visual or verbal learner).

Feedback should not only be used by educators but also the students themselves. Peer feedback is found to be a very influential means of education and can improve students’ learning significantly if educators give clear and strategic instructions about the process and expectations on feedback. As students benefit the most from feedback about their strategies or questions to help them elaborate on the task, educators should guide students to apply those two types of feedback when advising their peers. Teachers can do that by showing good and bad examples of feedback and explain why such advice is good and bad. They should also provide a model that indicates steps that students can take while giving feedback. Ideally, students should start with identifying the problems in their peers’ solutions, explain why the solutions are problematic, and then suggest an alternative answer to the question.

Feedback can increase or decrease students’ learning outcomes in the short term, and also affect their self-esteem in the long term. Therefore, it is important that feedback givers are mindful of the input that they give to others. They should focus on the strategies and performance of students, not the students’ traits. Besides, feedback givers should give a variety of feedback (praise, criticism, visual and verbal feedback) in order to benefit the greatest number of students. Finally, feedback givers should follow a certain process to be most productive and constructive to learners.
This research has been accumulated into a professional development project for educators who frequently use feedback in their curriculum. The project allows teachers to categorize feedback, be aware of its best practice, and generate a guideline for providing feedback. The next chapter will explain this project in detail, describing each part of the project, its purpose, and rationale of my project methods, using studies from the previous chapters and other research related to the project. The chapter will also illustrate the audience, setting, and implementation procedure of the project.
CHAPTER THREE

Methodology

Introduction

In chapter one, I introduced my background and provided clarity in the development of my interest and motivation in exploring the effects of feedback on students. I then raised the question, “How can educators make use of feedback types and process to optimize student performance?” and later, elaborately explained the topic in chapter two. In this chapter, I will propose multiple research articles that categorizes feedback into different types based on its positivity, purpose, language used, and forms. The chapter will also illustrate the impact of each type on students and specifies the most effective kind of feedback. Finally, I will innovate a framework primarily for educators and students, but can also extend to other fields, to help them be productive feedback providers.

Chapter Overview

This chapter includes two main sections: (1) project description and (2) implementation and rationale. The project description comprises of two subsections: (a) audiences and settings and (b) project framework. The section justifies the focused audience of this project as well as the settings that the framework could be applied to. I will then illustrate the framework and provide the rationale on why I chose such framework as my method of presentation. Finally, I will provide in detail the methods of implementing the framework using the provided materials.
**Project description**

This project is created as a professional development workshop, which supports educators in originating productive feedback. The workshop includes two main sections: (1) presentation and (2) handouts. In the presentation, I will summarize the main concepts and discovery by researchers, which was written in detail in chapter two of my paper. These principles cover two aspects: types of feedback and best practices of feedback. The second section, Handouts, will be divided into three subsections: (a) teachers’ and students’ checklist when writing feedback, (b) teachers’ checklist when instructing students to write feedback, and (c) feedback guideline for students. These guidelines and checklists indicate the structures that feedback givers should follow.

**Rationale**

**Professional Development Project**

I decided to create a professional development (PD) option as my project paradigm because of its benefits to educators. Fraser, Kennedy, Reid, and Mckinney (2007) referred to PD as a continuing journey of discovering methods to improve our daily professional practice. The supporters of PD believe that PD allows teachers to reflect on their daily practice, actively detect as well as fulfill their professional needs, and finally improve their teaching (Minott, 2010).

Another definition for PD was given in Kwakman (2003): a workplace learning process which requires participation in activities. To determine such learning activities, teachers need to be aware of their goals and align the tasks to their objectives. Researchers also suggested that the contents of the PD should be meaningful to teachers and tightly connected to the work context in order to optimize the quality of PD (Hargreaves, 1994; Wolf & Dietz, 1998; Kwakman 2003; Meirink, Meijer, & Verloop, 2007).
The reason I used PD as my Capstone project was due to its potential benefits to educators. PD can be used as a means to assist teachers in reflecting their methods of providing feedback and optimizing their feedback quality. As feedback is a common educational tool, the content of this project is meaningful and relevant to the teachers’ professional context. In addition, this project is interwoven with teachers’ professional goals, because it encourages teachers to initially stating the students’ learning objectives and desired skills, and then align their feedback to these goals.

To help teachers become active professional learners, I will provide the audience with activities, in which they will be asked to categorize multiple feedback responses and evaluate the effectiveness of each type using research results regarding feedback. This will allow teachers to detect their shortcomings in giving feedback and replace it with more effective ones.

**Graphic Organizer**

In this professional development project, I have used two types of graphic organizers, charts and checklists, which are either included in the presentation slides or handouts. Graphic organizers are adjunct aids, which are created to support learners in achieving reading comprehension (Robinson, 1998).

Many researchers found that graphic organizers may help individuals become more effective readers. Hawk (1986), for instance, suggested that the tool could provide readers an overview of materials, organization of vocabulary and main idea, remark for crucial points, a visual representation for written and verbal text, and a concise meaning of the review. Therefore, it may build a stronger visual concept for learners by helping them connect between their cognitive and perceptual process (Larkin & Simon, 1987; Nesbit & Adesope, 2006; Vekiri, 2002). Besides, graphic organizers may enhance students’ comprehension when it is being used during and post reading (Alvermann &
Boothby, 1986). This is because graphic organizers contain a less cognitive load than reading the entire text (Sweller & Chandler, 1994). Thus, it can promote more comprehension and application of information in the text (Robinson, Corliss, Bush, Bera, & Tomberlin, 2003; Robinson & Kiewra, 1995; Vekiri, 2002).

As the information in my research may be overwhelming, these graphic organizers (e.g. charts and checklists) may give readers an overview of the big picture in the research paper and allow them to apply the studied concepts more flexibly and effectively.

**Audiences and Settings**

This project is primarily designed for educators who directly use feedback or indirectly apply it via students who are assigned to give peer feedback. However, parts of the materials can be used among students as well. While the presentation slides are only developed for educators, some checklists could be given to students as guidelines for them to write peer feedback.

Due to the prevalence of feedback used in educational and training environments, this project is suitable for multiple settings and levels, wherever learning takes place. The professional development project may work for teachers from elementary to college level (Cho & MacArthur, 2011; Fyfe, Rittle-Johnson, & DeCaro, 2012; Lundstrom & Baker, 2009), and could be applicable to a variety of fields such as arts, math, language arts, or sport (Alqassab et al., 2018; Konukman & Petrakis, 2001; Victoria, 2018).

**Implementation**

In the presentation, I will summarize the main findings that researchers have agreed upon regarding feedback, allowing teachers to gain knowledge about the categories of feedback and its best practices. During the presentation, I will give the audience the opportunities to discuss, ask questions, and practice using feedback to deepen their
understanding of the topic. The presentation is carried on for four hours, being broken down into two separate sessions; each session lasts for two hours.

The handouts will be given to the audience during the presentation to help the slides become more tangible. The guidelines and checklists written in the handouts also aids educators and students before, during, or after the feedback provision process. Therefore, they are encouraged to be used and modified by the audience later in their classroom. For instance, the first handout will be a checklist for teachers and students, which can be used during and after they are evaluating learners’ work. The second handout will be for teachers, to be used when they provide students with instructions regarding peer feedback. Finally, the third handout is designed for students, guiding them through the process of giving peer feedback.

**Conclusion**

In chapter three, I shared my project, a professional development project for educators who are interested in implementing teacher and peer feedback in their curriculum. It includes a two session-presentation and three handouts. The project provides a summary of my research paper about feedback, indicating its categories, impacts on learners, and best practices. The project also guides teachers through the process of providing effective comments and instructing students to give peer feedback.

In this chapter, I have summarized the literature review and project that I shared in chapters two and three. I discussed the most important concepts from the paper, and then I elaborated on the implications and connections of my project to my personal life and other educators. This chapter also indicated some limitations of the project and future work that can be done in education or related fields.
CHAPTER FOUR

Conclusions

Chapter Overview

Feedback is one of the major tools in teaching, being frequently used in classrooms and training. Hence, learning how to use feedback effectively is crucial for any educator. The goal of this project is to study multiple methods of giving feedback and its effects on learners. From there, a professional development workshop was created primarily for educators and secondarily for students so that they can optimize the productivity of their feedback and promote student learning.

This research focused on answering the question: “How can educators make use of feedback types and process to optimize student performance?” In this chapter, I will initially summarize my journey and experience with my research project on feedback. Then I will provide an overview of major findings regarding the topic of feedback, including four main categories of feedback and the influence of each category on learners. From there, I will discuss the key studies in helping educators optimize their feedback quality as well as teaching productivity. I will describe the advantages of my project and demonstrate the ideal settings to apply feedback. Finally, I will recap the downside of my research and propose solutions to reconstruct the obstacles in the project.

Research Experience

My curiosity about the impact of feedback on learners came naturally throughout my student teaching experience. During that time, I found a significant difference in students’ learning outcome between two classes. The distinction in outcomes, to my belief, stemmed from the distinction in feedback quality given to the students. Later on, to
confirm my theory, I decided to choose feedback as my masters’ program research topic. The more I learned about feedback, the more I was convinced that having knowledge about the methods of utilizing it effectively was crucial for any educator as it may improve their teaching quality.

While studying this topic, I was surprised by how a small modification in feedback content could influence the students’ performance. For instance, I came to know that feedback using verbs could be more effective than those containing nouns even if the two statements have a similar meaning (Cimpian et al., 2007). The reason for this difference came from the focal point of each sentence. While feedback using verbs describes the momentary action of learners, feedback using nouns has the tendency to label learners’ traits. Feedback that has verbs gives the impression that students can change if they put effort into it. Whereas, the feedback using nouns may cause learners to associate their learning outcome to permanent traits. As a result, students can feel frustrated and refuse to work on the tasks, as they might think that their improvement on the subject is impossible.

As I have found that minor changes in feedback methods can lead to a major digression later on, I have become more careful when advising others, even in daily conversation. I am excited to implement these findings in my future teaching and test out whether it works on my students.

**Major Findings and Reflection**

I have created the professional development workshop, but it has not yet been presented. Therefore, I will only reflect my research and project generating process; I will not address my experience with applying the workshop, which has not yet happened.
During my intensive journey of researching, I found that most researchers agreed on the necessity of paying attention to the long-term goals when providing feedback and having a balance among multiple feedback types. It was shown that students respond to feedback in different ways--positive, negative, or neutral--depending on the types of feedback given to the learners (Hattie & Gan, 2011; Kluger & DeNisi, 1996; Mory, 2004). Among the research presented above, I found Hattie and Timperley (2007) to be the most outstanding study because it categorizes very clear levels of feedback. The researchers pointed out that feedback could be classified as either task, process, self-regulation, or self level. While the task level of feedback concentrates on the correctness of learners’ answer, process level works on the learning processes and strategies applied by students. Whereas self-regulation feedback level aims to intrigue students with questions related to the problem, self level feedback analyzes students’ traits based on their performance. From there, Hattie and Timperley (2007) agreed with Cimpian et al. (2007) on the idea that educators should avoid labeling students or feeding the answers right away when providing feedback. Instead, we should focus on detecting the problems in students’ responses and suggesting alternative methods of solving the problem.

This research has given me a whole new perspective about the appropriate focal point when providing feedback. I came to understand that feedback providers should focus on the future implementation of their comments, rather than just the short-term benefits. Indeed, short-term feedback such as task level only indicates the correctness of students’ current responses; yet, it does not illustrate the students’ directions to improvement in the future. Similarly, self level feedback only points out students’ problems and does not aim to motivate them to improve. Meanwhile, long-term-focused feedback like self-regulation and process level work toward helping learners make progress using their previous mistakes or learning experiences. For instance, self-
regulation level of feedback actively asks students questions, inspiring them to ponder on the better answers regarding given problems. At the same time, process level feedback specifies students’ contemporary problems, delivering the message that an issue can be fixed and is not associated with one’s learning abilities. This study has demonstrated the importance of having the right perspective about the purpose of feedback and focus on the long-term benefits instead of the immediate ones.

Another important finding from the meta analyses was the need for a balance and diversity in applying feedback, particularly praise and criticism, as well as verbal and visual feedback. Praise and criticism have opposite purposes; one is to reveal learners’ strength, and the other is to point out students’ mistakes. However, both types of feedback have similar effects on students’ learning outcomes (Beaman & Wheldall, 2000; Burhans & Dweck, 1995; Kamins & Dweck, 1999; Mueller & Dweck, 1998; O’Leary & O’Leary, 1977). Therefore, educators ought to use both feedback types to keep students confident but still motivate students to continue working on their shortcomings. On the other hand, there exists an inconsistency in experiment results about verbal and visual feedback. Some studies showed that the two forms of feedback have similar effects on students; yet, other studies suggested that one form can be more influential than the other, depending on the situation (Kirazci, 2013; William & Jasiewicz, 2001). However, researchers agreed that students tend to have preferences on specific methods of learning due to the abilities or types of intelligence that students have (i.e. verbal, visual, kinesthetic) (Gardner, 1983; Mirzazadeh, 2012; Shahi, 2009). As students are different in their capabilities and learning method preferences, it is possible that the two forms of feedback do not differ in their impact to a specific classroom as a whole, but they may have distinctive effects on individuals because of their learning preferences. As a result, applying both types of feedback may allow teachers to benefit a larger group of students.
In conclusion, to optimize teaching quality, educators should: (1) focus on the long term benefit of our feedback, (2) select the feedback that are suggested by researchers to be highly effective to students, and (3) apply multiple feedback types to fulfill the needs of a broader group of students.

**Professional Benefits and Applications**

After conducting an extensive research on the methods of optimizing feedback quality, I have created a professional development project, which is clear, easy to apply, and will benefit many students and teachers.

Initially, this project developed a clear and organized instructional platform that can easily be used by both teachers and students. The project categorized feedback based on many factors: positivity, forms, language used, and levels; then, it explains in detail the effects of each type to learners. From there, the best practice of feedback is suggested throughout series of checklists, platforms, and guidelines to be followed by teachers and students.

The project may improve educators’ teaching quality as well as student performance by training educators to develop appropriate mindsets and provision methods of feedback. Whether the feedback providers are teachers or students, they should both direct their attention to the long-term benefits of feedback and understand the distinctions between individuals’ performance and ability. The project will motivate feedback providers to view the learners’ performance as an ongoing process, assisting the feedback providers in delivering the message that students can improve as long as they put effort into learning and practicing. As a result, the learners would have the motivation to be consistent with their learning tasks.
The second advantage of this project is in its diversity of users. Regarding the educational field, the project can be used for a large group of students and teachers. As it includes a variety of feedback types and forms, teachers may differentiate their students by providing feedback that are appropriate to students’ needs. Students can either receive feedback verbally or visually, with praise or criticism, and under the form of questions or statements. In addition, as feedback is a common educational tool in classrooms, the project is suitable to many subject areas such as math, science, social science, arts, and language arts. It also fits into an extended range of grade levels: kindergarten to college.

Even though this professional development project focused on educators and students, it can still be applied in other fields such as recreational, medical, or business training. This is because the employee or sports player who works in a team often interact and get feedback from their supervisors or trainers. Therefore, they can still use this platform to optimize the quality of their professional training and performance.

Limitation and Modification

Despite the benefits of this project for educators and learners, there exists some limitations within it, which should be addressed in the future. The hindrance stems from my limited exposure to the real-life-experimental setting, short of studies about verbal and visual feedback, and restriction in my presentation slides toward an audience with visual impairments.

This project began with an extensive literature review, where I collected meta-analysis results of the influence of multiple feedback types on learners; however, no actual research was conducted by me. Therefore, the idea presented in my project was theoretically based and could only touch on the surface of the study about feedback. Besides, my lack of experience with feedback in the classroom might lead me to perceive the study objectively or misinterpret certain areas from the research studies. Although I
have had some exposure to feedback in my student teaching, I still need more classroom experience in order to hone these ideas and understand deeply the information illustrated in the research studies.

Another limitation of this project was in the lack of research regarding verbal and visual feedback. I found little studies comparing the effects of each type on learners and describing when each type is best used. With only one replication, the results that I found could be biased and inaccurate. Hence, future researchers should examine the relationship between verbal or visual feedback and compares the impact of each feedback form on learners. I am also interested in looking into kinesthetic feedback (i.e. feedback using touch or body language) as it is one of the three learning styles (i.e. besides visual and verbal learning) that has not been explored. However, studies have shown that this type of learning is just as common as the other two (Dehghan Harati, 2011) and could benefit students in improving their learning productivity if they know how to combine the kinesthetic feedback with desired content subject.

Finally, another place needs to be improved is in my presentation’ theme color. The majority of the presentation slides were red, which have shown to be an obstacle to students who are diagnosed with color vision deficiency, or color blindness. This is a visual condition that prevents the patient from identifying a specific color shade, usually red or green, and occasionally yellow or blue (American Optometric Association, 2006, p. 1). It affects 5 to 8% of the male population and 0.5 to 1% of the female population (Color Vision Deficiency, 2019). Because of the potential difficulty that the slides may cause to viewers, I will need to change the slides’ theme color in the future in order to better serve this group of audience.
Future Plan

In the future, I would like to utilize this project by applying it in my classroom and workplace. To do that, I will start by using the guidelines and checklists that I created in my professional development project and then evolve a cohort study in the beginning and the end of the class. This will allow me to optimize my teaching productivity and observe the impact tendency of feedback on my students. The project can also be brought up in professional training of my workplace so that my coworkers can gain some feedback skills from the study.

Summary

This chapter recaps the information being mentioned from the previous chapters and provides ideas for additional research that could be implemented to improve the project’s quality. This project can be used by a diverse population of audience: teachers and students in multiple grades and subject areas, as well as non-educational fields such as business, medical, or recreational training. However, researchers should improve on the studies’ contents, regarding forms of feedback and the depth of the study itself. Although some limitations exist, a great deal of information in this capstone may be valuable to people working in education and other career fields.

I believe that the goals of most educators when providing feedback is to improve student learning. Yet, we sometimes unintentionally discourage students with inappropriate feedback methods. I hope this project will assist educators in optimizing the effectiveness of their feedback. Most importantly, I hope that it would help you inspire your students by delivering the message that “As long as you are trying, you will improve.”
References


