The Effect of Teacher Feedback on Students' Self-Efficacy

How does feedback from the teacher affect the academic self-efficacy of the students?

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Table of Contents

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Introduction

Perceived self-efficacy is defined as "one's beliefs in one's capability to organize and execute the courses of action required to achieve given results" (Tsang, Hui & Law, 2011) – in short, the person's perceptions of his or her own abilities (which may or may not reflect their actual ability). The term was first introduced by Albert Bandura in 1986 as a part of his Social Cognitive Theory (LaMorte, 2016). The theory seeks to explain how new behaviours are learned by observation. It focuses on the complex relationship between cognitive processes, environment and behaviour. There are four main components in the theory: attention, retention, reproduction and motivation. Self-efficacy is linked to reproduction: to successfully reproduce an observed behaviour, a person needs to have at least some confidence in their ability to do it (Popov, Parker & Seath, 2017, p. 223-227).

According to Bandura (1994), a positive sense of self-efficacy is beneficial to human well-being and achievement in many ways. People with high self-efficacy are believed to be more confident in approaching challenges; they attribute failure to lack of effort or knowledge, rather than to lack of sufficient ability, which leads them to try harder in the face of difficulties instead of giving up. In the context of education, self-efficacy has been linked to achievement in different subject areas such as reading and writing (Usher & Pajares, 2006).

Bandura (1994) has identified four main sources of self-efficacy beliefs: mastery experiences, vicarious experiences (seeing someone else succeed), social persuasion and somatic and emotional states. Out of these, mastery experiences have been shown to be the most influential (Butz & Usher, 2015; Usher & Pajares, 2006). But for low-achieving or underachieving students, or for those students who for some reason or other lack confidence despite their ability, other sources can also be very important. In schools, the teacher's role in strengthening or weakening student self-efficacy cannot be overlooked, as "evidence suggests

that teachers are the most important social agent that communicates self-efficacy information to adolescent learners" (Won, Lee & Bong, 2017). Feedback is one possible way for the teacher to – either consciously or unconsciously – influence the self-efficacy of their students. Feedback from the teacher can be classified as social persuasion, although the teacher's primary purpose of giving feedback is not necessarily to persuade the student of their abilities; potentially, it still has the power to convince the student of their ability – or lack of it thereof. This essay will investigate the effects of feedback given by the teacher on the students' academic self-efficacy. A range of psychological studies using both qualitative and quantitative methods is described, analysed and evaluated. The effects of different types of feedback, the framing of feedback messages and students' perceptions of their teacher are also discussed. Evidence suggests that teacher's feedback can have a positive effect on student self-efficacy, but it can also affect the student negatively depending on the way in which it is communicated. At the end, some ways of giving feedback that are the most beneficial for the self-efficacy of students will be proposed.

The Effect of Teacher Feedback

Butz and Usher (2015) conducted a study in order to find out the most important sources of self-efficacy of upper elementary and middle school students in mathematics and reading. They used both qualitative and quantitative methods in their research. The sample used was large; it consisted of 2511 students, aged between 9 and 14, from seven public schools in the United States. There were equal amounts of boys and girls in the sample, and students from different ethnic groups were included. The participants answered to a survey with one open-ended prompt for both reading and mathematics: "In the space provided below, write something that has happened that made you feel MORE confident about yourself in [reading, math]". The word "confident" was used in the place of self-efficacy, in order to make the prompt easier to understand. They also completed another survey that measured

their self-efficacy in both subjects. The answers were then sorted to different categories by assigning codes to each answer based on Bandura's sources of self-efficacy and previous self-efficacy research done by Usher (Butz & Usher, 2015).

The results showed that social persuasions were the second most frequently mentioned source of self-efficacy in the answers, with teacher and teaching style on the third place. Many students reported that encouraging comments from the teacher had positively influenced their confidence in both mathematics and reading. The results also show that social persuasion from the teacher, or from any other sources, was more commonly mentioned by students with high self-efficacy than to those with lower self-efficacy; students with low self-efficacy were more likely than others to state that "nothing" had affected their confidence (Butz & Usher, 2015). While this could indicate that hearing positive comments increased the self-efficacy of the students, it is impossible to establish a causal relationship with certainty. Given that the relationship between perceived self-efficacy and academic achievement is reciprocal (Talsma, Schüz, Schwarzer & Norris, 2017), it is also possible that the students with high self-efficacy simply were very good at mathematics and/or reading, so they had developed a high sense of self-efficacy through mastery experiences *and* had also received a lot of positive feedback due to their outstanding performance.

While Butz and Usher's study gives some evidence that feedback from the teacher has a positive effect on students' self-efficacy, it was fully based on self-reports and assessed different sources of self-efficacy mostly in general sense, so more focused research is needed to confirm the assertion. An experimental study conducted by Ruegg (2018) compared the effect of feedback from the teacher to that of feedback from peers on Japanese university students' English writing self-efficacy, to see if the source of feedback makes a difference. Accorging to Ruegg (2018), some researchers have previously claimed that peer feedback could be more useful than teacher feedback, and that feedback from the teacher could actually

decrease the student's self-efficacy in learning a foreign language. The results of her study, however, give evidence to the contrary. Four intact second-year classes (67 students in total) participated in the study. The research went on through the whole one-year EFL (English as a foreign language) programme. In two of the classes, the students received only teacher feedback on their essay drafts, and in the other two only peer feedback. All of the students had to complete the same writing tasks, and they received feedback at same points of time. All feedback was given in written form. Before the experiment, the students completed a questionnaire on their initial self-efficacy and opinions about feedback. After the experiment they filled in another questionnaire that assessed their self-efficacy level and their perceptions of the feedback they had received during the experiment (Ruegg, 2018).

The results of the self-efficacy questionnaires showed that on average, the overall writing self-efficacy of the students in the teacher feedback group increased. This differed significantly from the peer feedback group, where the average student self-efficacy was actually lower than in the beginning of the course (Ruegg, 2018). Although conflicting results from previous studies cannot be ignored, the results of this study give further evidence for the positive effects of teacher feedback on student self-efficacy. However, a weakness of this study is that it lacked a control group, so we cannot know how the results would compare to a "no feedback" condition. But since the study took place in a real-life setting, the absence of a control group is justified by ethical reasons – getting no feedback at all over the course of a year could have seriously affected the students' learning process.

Aside from the differences in self-efficacy, Ruegg also analysed the amount and type of feedback given in both conditions. She found a clear difference between the experimental groups: the teacher gave 2.5 times more constructive feedback (on what could be improved), while peers gave as much as 25 times more praise (Ruegg, 2018). This finding is interesting, as it indicates that the effects of feedback on student self-efficacy might also depend on the

type of the feedback. Furthermore, it is surprising that praise does not necessarily have a positive effect, considering that praise is often used in the purpose of increasing confidence.

Another US study, conducted by Lipnevich and Smith (2009), likewise found that students' responses to praise can be mixed. The experiment examined university students' perceptions about the effect of different kinds of feedback on their essay writing performance and motivation. The study had six groups in total. There were three main feedback conditions: constructive teacher feedback, constructive computer-generated feedback and no feedback (control). Two groups were assigned to each condition, and students of one group in each condition also received a preliminary grade on their essay draft. Finally, half of the students in each group also received praise, while the other half did not. The participants (n=49) of the study took part in semi-structured group discussions in which they were asked about their opinions on the feedback they received (Lipnevich & Smith, 2009).

Out of everything that was studied, two things are the most relevant for this essay: first, the effect of constructive feedback compared to not receiving feedback; and second, the effect of praise compared to not receiving praise. The results of the experiment show that the students found constructive, detailed feedback to be the most beneficial, regardless of the source. Lipnevich and Smith (2009) pointed out that the responses of students with no feedback were not "overwhelmingly negative" either; yet some students felt hesitant to make changes to their work after receiving no feedback, in the fear of making them worse – this shows that their self-efficacy on the task was not very high. The students who had gotten constructive feedback approached their task with more confidence. Praise, on the other hand, was regarded by the students as a "feel-good factor", but less important. However, most reacted positively to the praise they received from their teacher. The researchers noted that praise helped some students to overcome their disappointment and loss of confidence when receiving a bad grade. Computer-generated praise did not seem to have such an effect,

because it was not seen as personal. It is also notable that those who received only praise without more detailed feedback actually reacted negatively, also compared to the students that received no feedback whatsoever; they stated that it made them frustated or more nervous (Lipnevich & Smith, 2009).

From these results, as well as from the results of Ruegg's study, it can be argued that constructive feedback from the teacher seems to increase student self-efficacy fairly effectively. Praise can also increase self-efficacy, but in order to work it needs to be personal, detailed and genuine; without that, it can even have a negative effect. But since the participants in both studies were university students, the results may not fully apply to younger students. Some participants in Butz and Usher's (2015) study reported feeling more confident also after receiving more general positive comments, such as "good job".

While many studies point towards the conclusion that teacher feedback positively influences student self-efficacy, the issue can be a bit more complicated than that. Duijnhouwer, Prins and Stokking (2010) studied the effect of progress feedback – i.e. feedback on how the student has improved in their writing – compared to non-progress feedback – i.e. feedback focused only on the student's current performance – on the academic writing self-efficacy of university students. They hypothesized that progress feedback would have a more positive effect. The experiment took place in a university in Netherlands during an eight-week Psychology course. 86 students were split into four workgroups using random allocation. The students had to do three writing assignments during the course, and they received feedback after each one. The teachers gave the feedback using a feedback form that was the same for all groups. After the second assignment, half of the students also received feedback on how they had progressed since their first assignment. Student self-efficacy was measured before and after this intervention by the means of a questionnaire (Duijnhouwer et al., 2010).

Against the hypothesis, no difference was found in the self-efficacy of the students between the two experimental conditions – when comparing the average scores, either type of feedback did not appear to have an effect. However, analysis of the feedback given revealed that there was a positive correlation between the amount of progress comments and student self-efficacy: the students that received many comments had a higher self-efficacy, while the questionnaire scores of those who received only a few showed a decrease in self-efficacy (Duijnhouwer et al., 2010). It then appears that the amount of feedback can also contribute to its effect on student self-efficacy; the results suggest that feedback might only produce a positive effect in larger quantities. One must remember, though, that correlation does not mean causation. It is possible that the researchers' interpretation was biased, due to their initial assumption that feedback really does affect self-efficacy. Overall, the results of the study indicate that the effect of feedback is not always what one would expect; it may at times be small or nonexistent.

Duijnhouwer et al. (2010) also noticed that the results of the study may have been affected by the design of the feedback form on the progress comments. The form comprised of a list of items, out of which the teacher would tick off the things that the student had improved on. It turned out that on average, significantly more boxes were left empty than ticked off. The students may in fact have interpreted this as a negative message about their *lack* of improvement (Duijnhouwer et al., 2010). The *framing* of feedback as either positive or negative can influence how it will affect the students. Van de Ridder, Peters, Stokking, de Ru and ten Cate (2015) demonstrated this as they studied the impact of framing of feedback on students' self-efficacy in a medical school in Netherlands. 74 participants were randomly assigned to two groups. Both groups were given a novel task on practical clinical skills (real patients were not involved in the task). Before the task, an instructional video was shown to all participants. After completing the task, the students in both groups received feedback

about the mistakes they made on the task, but the framing of the comments was different depending on the experimental condition. In the other group, the feedback was framed positively as: "You did this well; some tips are..." and in the other group negatively as: "This is not well done; you should change...". The participants' self-efficacy on the task was measured with a questionnaire on four occasions: first before the experiment; then after watching an instructional video and completing the task; for the third time after receiving feedback; and finally, two weeks after the experiment to see if the possible effects endure for a longer period of time (van de Ridder et al., 2015).

The results of the study showed that in the positively framed feedback condition, the self-efficacy of the students increased compared to their previous score, while in the negatively framed feedback condition the self-efficacy scores decreased – there was a big difference between the scores of the two groups in the third self-efficacy test. The initial self-efficacy of the two groups had been on the same level (van de Ridder et al., 2015). Clearly, framing affected the way the students reacted to the feedback. In this study, the effects of feedback turned out to be strong in both conditions. The fact that the task used in the experiment was completely new to the participants may have something to do with this – it is believed that "when students - - have little experience with the task, teachers' persuasive comments may contribute importantly to self-efficacy beliefs" (Duijnhouwer et al., 2010).

It turned out, however, that the effects of the feedback faded over time; two weeks later, the self-efficacy of the students in both groups had decreased and the gap between the scores was much smaller (van de Ridder et al., 2015). This indicates that the effect of a single comment is not very long-lasting, which would mean that in order to create a sustained positive effect, feedback needs to be given repeatedly and consistently. On the positive side, it could be that a single negative comment does not have long-lasting negative effects, either, although Bandura (1994) has warned that it is easier to affect others' self-efficacy beliefs

negatively through social persuasion than positively. Another explanation to the decrease in self-efficacy on the task is that the participants simply did not remember as clearly how to do the task anymore; this would quite obviously affect their confidence. The researchers could perhaps have taken this possibility into account by refreshing the students' memory about the task before asking them complete the final questionnaire.

Aside from the feedback itself, an important point to consider is the student's perception of the teacher giving the feedback. If the students do not trust the teacher, they are likely to be less open to feedback. Won, Lee and Bong (2017) studied how the students' perception of the teacher's credibility contributes to the effect of feedback on their academic self-efficacy. The participants (n=384) were students from a public middle school in Korea. Questionnaries were used to measure the self-efficacy of the participants in two subjects – Korean language and literature – as well as their general academic self-efficacy. Other questionnaires were used to assess the students' perceptions of the feedback they usually receive from their homeroom teacher and their teacher in Korean language and literature, and their perception of the credibility of those teachers. The questions in the feedback questionnaire were focused on the amount of encouraging comments. The credibility questionnaire asked the students to rate their teachers in terms of e.g. trustworthiness. The researchers analysed the results to find out if the perceived persuasion from teacher predicted student self-efficacy, and whether the relationship between the two variables was affected by perceived teacher credibility (Won et al., 2017).

A relationship between encouraging comments and self-efficacy was confirmed, and it was also found that the students "were more likely to report stronger self-efficacy when they believed that the social persuasions were conveyed by credible teachers" (Won et al., 2017). It seems quite logical that students would have a higher self-efficacy when they get encouragement from a teacher that they find credible; yet, the study was correlational, so the

possibility of other explanations exists. Teacher credibility could affect student self-efficacy in other ways as well, for example through better quality teaching leading to more mastery experiences, assuming that the teachers really were as credible as they were perceived to be. Won et al. (2017) also noted that the amount of other social persuasions from e.g. parents could have been controlled for, especially considering the cultural context – in Korea, parents tend to be strongly involved in their children's school achievement, so they might have a considerable impact on the academic self-efficacy of the children (Won et al., 2017). Nonetheless, put together with the other research discussed previously, the results of the study provide some more evidence for the positive effects of feedback. The study also indicates that if the students trust their teacher, the effect of feedback from that teacher is likely to be greater, while feedback from teachers who are perceived as untrustworthy may be ignored.

Conclusion

Based on the research, it can be concluded that feedback from the teacher can significantly affect the academic self-efficacy of the students, and that teachers play an important role in their students' perceptions of their abilities. However, while evidence points to the conclusion that feedback has an effect, these effects seem to have a tendency to fade over time, so feedback should be given consistently to reinforce the students' sense of self-efficacy.

The effect of feedback on student self-efficacy can be either positive or negative depending on the framing and the type of feedback. Detailed and constructive feedback appears to be the most effective type of feedback, as it gives guidance to the students on how to approach their studies or tasks, and thus increases their self-efficacy. The effect of praise, on the other hand, is less clear. While it can have a positive effect on self-efficacy, generic praise which does not sound personal or genuine may be ineffective – it might, in fact, evoke a negative reaction from the student, although the long-term effects of this were not

investigated. Thus, it is recommended that teachers make their praising and encouraging comments as specific as possible, combining them with constructive feedback. To ensure a positive effect, feedback comments should be framed in an encouraging and positive way. Negatively framed feedback can lower the perceived self-efficacy of the students. Another feature to consider when determining the effect of feedback is perceived teacher credibility – the effects will most likely be stronger if the student finds the teacher to be trustworthy.

There are, however, many challenges to researching the effect of teacher feedback on student self-efficacy. For example, aside from the explicit messages given through feedback, things like the body language and voice tone of the teacher might affect how the student will perceive the feedback. These can be difficult, if not impossible, to control for. Ethical challenges include that since self-efficacy can have a great effect on human behaviour, the researchers have to be careful not to lower the students' self-efficacy in real-life settings to such an extent that it would cause harm in the student's life. Feedback is also an integral part of teaching, and while this makes it especially important to study its effects on students, it can also make it difficult to use control groups in field experiments. Field experiments, on the other hand, are important because they have higher ecological validity than experiments conducted in artificial settings (Popov et al., 2017, p. 19). These limitations make it more difficult to draw definite conclusions from the research. There are also other considerations that could not be explored within the scope of the essay, e.g. the effect of age and social or cultural background on the student's reaction to feedback. Nonetheless, the possible effects of teacher feedback on student self-efficacy have been demonstrated in many studies and should be taken into consideration in schools.

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