7-2022

The Impact of Reflective Feedback Strategies on Learning Behaviors on Seventh-Grade Social Studies Students

James Seegebarth

The Impact of Reflective Feedback Strategies on Learning Behaviors on

Seventh-Grade Social Studies Students

Submitted on May 20, 2022

in fulfillment of final requirements for the MAED degree

James Seegebarth

Saint Catherine University

St. Paul, Minnesota

Advisor _____   Date _____

Abstract

The purpose of this action research was to determine the impact of reflective feedback strategies on learning behaviors of seventh-grade social studies students. This study was conducted in an urban middle school in the Midwest region of the United States and included 37 seventh grade participants. The theoretical framework used for this study was supported by constructivist theory using a self-regulated learning model. Data was collected using reflection sheets and quiz scores collected weekly for six weeks. Students were tasked with reflecting on their academic behaviors following their quiz score and asked to create a plan of action to improve the following week. Based on this study's findings, when students reflect on their academic behaviors and create a plan of action, students maintain their quiz scores within a margin of plus or minus five percent. Due to the findings of this study, future actions include modeling how to use the reflection sheet and reviewing plans of action prior to starting the new academic week.

*Keywords: constructivism, self-regulated learning, reflection, academic behavio*r

The purpose of reflection is to help humans improve personal outcomes over time. As adults, we reflect upon our own experiences to better ourselves and the world around us. Whether this process is for personal or professional gain, reflection improves outcomes. Using strategies to reflect creates new pathways and interpretations to manage complex tasks (Porter, 2017) easily. Overall, reflection seeks to change behavior in a personal way to the individual and their needs.

Students focus on the feedback from their teachers to maintain or improve their academic performance in a one-sided stream of information. During crucial developmental stages, correcting behavior and guiding students towards positive outcomes is imperative to the educational process for growth. In some instances, feedback can be useless if the student hasn't developed proper academic skills to change results in the future. Focusing on ways for students to reflect on their processes and learning at a younger age will benefit their overall academic performance.

While educators today provide individualized feedback for the sake of improvement, there should also be a tandem effort for students to reflect on their own efforts. Little understanding exists of the benefits of middle school students' ability to reflect upon their academic behavior. Reflection is commonplace in the educational setting, but the means of those reflections and questions asked of students vary. The ability to reflect also varies among age ranges, so one must be pointed with their reflection questions.

In an urban school located in the Midwest of the United States, 7th and 8th grade students are enduring the best they can with learning loss and a loss of academic endurance. With a multitude of theories to view, this study will be looking at this issue

from a constructivist point of view. Within this study, we observe the academic behaviors of 7th and 8th grade students and see if a self-reflection component improves upon their academic performance.

Theoretical Framework

Constructivism is a method in which a learner constructs their learning and understanding based on the experience of said learner (Elliot et al., 2000). The purpose of constructivism in learning is that students build upon their previous knowledge and build upon that knowledge to create new outcomes for themselves (Phillips, 1995). Constructivism asserts that learning is an active process rather than a passive one, and students are unique individuals who require their problem-solving methods (McLeod, 2019). Self-regulated learning is a cyclical process in which the learner takes control of their learning process through planning, evaluating their performance, and reflecting on the outcome of their approach (Zimmerman, 2002). This process aims to motivate the student to monitor their progression and reflect upon the results to maintain engagement and motivation to complete the task (Zimmerman, 2002). Within this framework, learners follow a predictable cycle based on the method chosen by the instructor and tailored to the needs of the individual (Zimmerman, 2002).

Constructivism as a framework implies that students can develop learning processes that work best for them. If students utilize methods provided by the teacher, students can understand complex concepts in social studies through comprehension rather than rote memorization. Within self-regulated learning, an educator can use models of cyclical phases to create scaffolding for students to plan, execute, and reflect on their learning. If constructivism works in this setting, students need to reflect upon

actions that work for them and remove behaviors that hinder their performance. Within this current study, reflection sheets that focus on the individual student's process of improving learning outcomes are imperative to the constructivist and self-regulated learning models.

Review of Literature

This literature review examines three types of feedback: teacher-provided, peer-provided, and self-provided. Teacher-provided feedback has the benefit of professional experience, knowledge, and interaction (Beydoğan, 2018). Peer-provided feedback provides students the responsibility of ensuring classwide success (Sadler et al., 2006). Self-provided feedback allows students to recognize errors before submission and develop cognitive skills for future success (Sieben, 2017).

Teacher-Provided Feedback

According to Beydoğan (2018, p. 38), "Feedback is external stimuli that teachers use to increase learning in their students during the teaching process." Using the benefit of experience, a teacher can give insight on how to fill gaps in knowledge. There are various ways in which to give feedback. The teacher can provide open- or closed-ended questions to guide students (Beydoğan, 2018).

The first method, according to Beydoğan (2018), asks students in a middle school math class to look over the original question, look back on the content and answer, and find the discrepancies. Using this method requires students to have good analytical problem-solving skills. At the middle school level, students are only beginning to develop analytical skills. A foundation, guideline, or rubric for analysis will be necessary to guide students towards correcting errors. When answered, reviewing the

process and providing positive reinforcement yields better results (Beydoğan, 2018).

For students to be receptive to feedback, the way the feedback is delivered needs to be

sensitive to their learning ability (Beydoğan, 2018). Approaching feedback with a

positive attitude and focusing on re-evaluating the process can help the teacher

evaluate their delivery methods (Beydoğan, 2018). In this way, feedback is a two-way

street for educators to modify future lessons to fit a new approach that yields better

results.

With positive feedback in mind, it is essential to understand that students enjoy

getting feedback when highlighting strengths. Studies show that about 25% of students

believe that receiving feedback on their writing helps them improve their writing skills

(Zumbrunn, 2016). In the same study, 114 participants stated that they like seeing what

they need to fix. Seventy participants said they like seeing their strengths in their writing.

The student participants believed seeing their strengths and weaknesses is a positive

aspect of feedback. Students understand the importance of feedback (Zumbrunn,

2016). At the very least, these results indicate that positive teacher-provided feedback

has value.

In that same vein, the quality of feedback can help students create their own

learning goals in the future (Angela, 2015). Angela (2015) states, "Quality feedback

clearly communicates learning goals, the appropriate steps to take to reach these goals,

and how a student can go about demonstrating what has been learned" (p. 86).

Providing quality feedback for students and opening up two-way communication is vital

in learning from mistakes (Angela, 2015). Angela (2015) identifies quality feedback as

being timely, encouraging, and differentiated for the sake of the individual's capabilities.

Creating positive associations with receiving feedback from the teacher would create a culture of being open to asking for help or reviewing work before submission (Zumbrunn, 2016). Having opportunities to raise a student's academic self-esteem can improve learning outcomes (Zumbrunn, 2016). When students have low academic self-esteem, they are less receptive to feedback (Zumbrunn, 2016).

Angela (2015) asserts that high-quality feedback can help students create their learning goals (p. 88). Utilizing positive reinforcement strategies allows students to develop a structure for future formative work by setting expectations for themselves and their own learning goals. The overall goal is to enable students to invest in their schoolwork. Angela's (2015) study found that students preferred the high-quality feedback provided by pre-service teachers to the feedback they received from their regular teacher. The effects of training pre-service teachers on feedback strategies were noticeable in the data and student reception (Angela, 2015). The results of this study indicate that when quality feedback is given, growth is more likely to occur.

Peer-Provided Feedback

There are various ways peer-provided feedback can take place. One form of peer feedback is to have students discuss among peers gaps in their knowledge about a topic (Sanchez, et a. l2017). Peer-provided feedback helps students work together to find errors and solutions to their work. According to Sanchez, et al. (2017), peer-provided feedback can be done between individuals or groups, one-way communication, or a reciprocal interaction (p. 1050). Developing skills to assess other students' work allows students to seek improvement in their work through the exposure of the grading process (Sanchez, 2017). This would keep students engaged and

working independently or as a team to overcome obstacles in their learning (Sanchez, 2017).

Sanchez, et al. (2017) ran a study that observed peer-graded work and its long-term effects and found peer feedback using rubrics increased students' performance in the long term (Sanchez, 2017). Unfortunately, the same study found it was inconclusive whether or not peer-grading and feedback improved summative outcomes. Peer-provided feedback has more value in formative assessment. When discussing with classmates, the process of understanding is the main focus of peer-provided feedback, with the answer being only part of that process. This form of feedback may be best suited for subjective interpretation or process review.

Although feedback from peers has potential when given structure, there are fallbacks in peer grading and review. In a middle school science classroom, Sadler (2006) determined when structure and expectations are not in place, it leaves too much room for bias to affect student grading and feedback. In a study done regarding peer-feedback, Sadler (2006) determined that peer grading showed lower scores on average compared to self-grading and feedback and teacher grading and feedback.

Self-Provided Feedback

In professional and academic settings, many adults are asked to reflect upon experiences and projects. The purpose for administering reflection tasks is to ask the subject to see their own mistakes or shortcomings. With those observations, the subject can make changes for improvement. According to a study by Crowell (2015), when students are given proper structure and criteria to work with, their performance and perceptions of self-feedback improve overall. A framework that works to encourage

self-feedback strategies is called "self-regulated learning." Zimmerman (2008) considers using this framework to foster active participation in students' metacognition, motivation, and behavior.

According to Brown & Harris (2013), three types of self-assessment teachers can utilize include: self-rating, self-marking, and rubric-based assessment. Through self-rating, students judge the quality of their work using a rating system, whether it be a number or letter rating, depending on teacher preference (Brown & Harris, 2013). Students are tasked with marking missing or incorrect aspects of the required work through self-marking, typically in an objective manner. There is little evidence to suggest that this method improves learning based on a lack of cognitive functioning (Brown & Harris, 2013).

Through rubric-based assessment, students have access to a progressive grading scale to evaluate their work during the performance phase and see which benchmarks they hit during the appraisal phase (Brown & Harris, 2013). When considering rubrics, Panadero, et al. (2017) suggest that this method promotes self-regulated learning through motivation and knowing expectations.

From the literature, it is essential to note that Brown & Harris (2013) claim that teachers must monitor self-assessment accuracy before a teacher can claim improvement. Just as teachers can make mistakes when grading with a rubric or checklist, the expectation of students to flawlessly and subjectively assess their work should not go unevaluated(Brown & Harris, 2013). Finding ways to make self-assessment through rubrics may need more objective aspects, so there is little room for bias within the self-grading process (Brown & Harris, 2013).

Within Sadler's (2006) study, the researcher was able to find positive outcomes on self-feedback and grading. On average, students' learning outcomes were highest when being able to give feedback to themselves. The process of self-grading over time also has positive long-term effects (Sanchez et al., 2017). Unfortunately, research indicates that unless there is a rubric, there is too much opportunity for students to overrate their work (Sadler, 2006).

Although self-grading and self-feedback have their downsides, some strategies focus on pointing out and correcting errors as they are happening. A study by Heemsoth (2016) sought to see if confronting students with errors improved learning over time. Students who reflected upon mistakes instead of figuring out the solution enhanced their procedural knowledge over time (Heemsoth, 2016). Focusing on procedure versus how to get to the correct answer has a positive effect on learning and self-correction (Heemsoth, 2016). At its base, recognizing errors is a fundamental part of reflection-based learning (Heemsoth, 2016).

According to Sieben (2017), the best approach is to blend teacher and student feedback and open a dialogue on their work. The strategies offered by Sieben (2017), and their work in a high school English class, require a process in which the goal is for students to think about their learning and abilities to improve on future assessments. Sieben (2017) asserts personalizing feedback, providing balance in compliments and criticism, limiting marginal and summative endnotes, asking questions within the text, and asking students to reflect and provide the teacher with feedback. The final part is to focus on developing metacognitive strategies so students can recognize their errors

(Sieben, 2017). These skills are applicable across content areas and grade levels to improve learning overall.

Discussion

A gap within the literature is that there is relatively little research on feedback strategies in content areas other than math, science or English Language Arts. Although the literature about feedback can be helpful across content areas, having feedback types broken down by content areas would yield more meaningful results. In some cases in the literature, there wasn't much discussion on additional strategies utilized or an in-depth description of the method used, particularly with Angela (2015) and Heemsoth (2016).

While Angela's (2015) study showcased the positive effects of training pre-service teachers on how to give feedback, there's not much to be said on the training. Sadler's (2006) study was more focused on grading, which, while a form of feedback, tended to fall flat in terms of variety or expectations of grading others' papers unless a rubric was involved. Zumbrunn's (2016) and Beydoğan's (2018) studies proved to be most valuable, as each of those sources analyzed how teachers and students perceive the usefulness of feedback. Combining information from both helps develop strategies for feedback that will have a positive reception. Finding a balance between efficient feedback and meaningful feedback could be found in the middle by creating a routine of self-reflection or review before submitting work (Brown & Harris, 2013).

There was little evidence directly related to social studies education within the reading and this literature review, but rather general education at the middle and high school levels. While there is a benefit to overall educational strategies, it is essential to

note that not all methodologies may work within all populations of students. Revision

may be necessary to fit specific environments.

Within Panadero's (2017) work, there are little to no examples of what the

preparatory and performance phases may entail. When utilizing this structure, it will be

essential to consider population and environment when structuring the two phases.

Additional research on the three phases may be necessary to implement the

self-regulated learning framework successfully.

Brown & Harris (2013) recognize that biases may be present within the

self-grading portion of the framework. There is little to offer on how to overcome this

obstacle. Additional research on creating the most objective rubric or self-grading

system to receive accurate feedback on outcomes is essential. There is also concern

that rubrics can yield excellent results for some students and have detrimental effects

on others. Additional research to bridge the gap between learners when utilizing rubrics

is necessary.

Overall, each feedback method has positive and negative aspects.

Teacher-provided feedback can lack personality or inquisition on the student's part.

Peer-provided feedback can be ineffective and counterproductive. Self-provided

feedback can lead to overvaluing one's work. Recognizing the faults in each can help

form effective strategies across content areas and grade levels. Teachers should cater

feedback to the needs of the students for positive growth.

Methodology

The research conducted used a self-regulated learning model. Students were tasked with setting a goal, taking a summative assessment (content quiz) at the end of the week, and self-reflecting on their academic achievement and behavior. Based on their self-reflection, students then set a new goal for the upcoming week. The self-reflection sheet was a short questionnaire that gauged the students' feelings about their progress and what they could have done differently to improve their performance.

The population for this action research study was seventh-grade students in an urban charter school in a large Midwestern metropolitan area. The sample consisted of 38 seventh-grade students enrolled in a US History course during the second trimester of the school year. The sample demographics featured 23 female students and 15 male students.

Students were tasked with setting a SMART goal at the beginning of the study to revisit at the end of the trimester. Weekly, students were to take a summative quiz related to the content and activities of the week. Immediately following the examination, with their scores presented to them, they were to fill out a self-reflection sheet asking them if they were content with their scores, what the student did this week to earn that score, and what they could do (if possible) to improve.

Each week students would engage in a combination of note-taking and reading assignments with discussion elements to follow, submitting their work at the end of the class period. At the end of the content week, students would take a quiz via Google Classroom using Google Forms to get instant feedback on their performance. The examination consisted of information from the activities and the notes. Students would

be allowed to use their notes on the quiz to incentivize note-taking. Using their scores,

they would fill out a self-reflection sheet posted to Google Classroom as a copied

Google Document template, viewable only to the student filling it out and the teacher.

This self-reflection sheet posed the following questions:

1. What was your quiz score? Are you happy with your quiz score? What could be
   done to improve your score (if improvements are needed).

2. Do you believe you were fully prepared for your quiz this week?

3. What part of this week was the most challenging? How could you work on
   overcoming those challenges in the future?

4. In your opinion, did you use class time wisely and work hard to complete your
   assignments and tasks?

5. What is something you believe you did really well this week and would like to
   build upon?

The teacher was tasked with reviewing the reflection feedback in tandem with the

quiz scores to note any improvements. Trends were recorded among responses along

with quiz outcomes to find variables within the data collected. Within the current

methodology and tools assigned to this research project, the teacher began their 6

week study to determine the impact of reflective feedback strategies on seventh grade

students.

Findings

The purpose of this study was to find the impact of self-regulated learning on 7th

grade students in a US History class. Students were to complete self-reflection

questions each week after a quiz and create a learning goal for themselves for the

following week. Upon inspection of multiple reflection sheets, the researcher found that many students were concerned with note-taking, organization, and their writing skills (see Table 1). As an incentive for note-taking, students were allowed to use any notes they wrote down for the weekly quiz. Students focused on making sure their notes were completed and organized each week to make sure they did well on the quiz portion of the week. Inversely, the researcher found that some students included little to no information about their experiences that week, while other students went into specifics about their challenges for the week and made note of what they could do to overcome challenges in the future (see Table 2).

Each 7th grade class was labeled as "A" and "B" for the purpose of this study. Each student was assigned a number corresponding to their reflection responses and quiz scores. Table 1 ("What part of this week was the most challenging? How could you work on overcoming these challenges?") and Table 2 ("What is something you believe you did really well this week and would like to build upon?") reference responses between classes utilizing this alpha-numeric labeling, each referring to a separate question on the reflection page.

Table 1

Student responses to post-summative reflection sheet question 3

Student	Response
A4	"The most challenging part was taking notes of a video, the guy talked too fast. I could ask the teacher to slow down the speed."
B22	"The most challenging part was maybe taking notes since there was a lot. I can maybe keep trying to make sure my notes are complete."
A11	"The test try to take better notes"

A1	"Notes, get better at writing."

Table 2

Student responses to post-summative reflection sheet question 5

Student	Response
A6	"My notes this time they were very organized."
A9	"The one thing i think i could build on is working on writing more title down for everything i wrote."
A15	"What i believe i did really well this week is the test because the last test i think i got 3 out of something."
B11	"Something i did really well in socials studies is taking notes,Learning new things.Trying my best actually helps cause you might not know the problem but you actually get it correct."

The Impact of Self Reflection

To determine the impact of self-reflection, the researcher needed to combine useful data from students who completed reflection sheets regularly and assess their work-completion and quiz grades week-by-week. In doing so, the researcher observed if trends existed between self-regulated learning and academic achievement. Overall, with all 37 subjects, the data shows a dominant trend that 18 students maintained their average weekly quiz scores after completing a reflection sheet the week prior. The underlying trends show that 14 students increased their average quiz scores by 5%+ during the study, while 5 students' scores decreased by 5%+ (see Table 3).

Table 3

Overall Spread of Increase/Decrease/Maintained +/- 5%

Margin +/-5	Increase	14
	Decrease	5
	Maintained	18

For students that maintained their grade level, the common trend was that these students already had higher quiz scores prior to the study. For the purpose of this study, all quiz scores that are blank are missing that have not been made up by the student. Quiz scores have not been added to the calculation, as they did not provide useful information or correlation to the reflections. Scores during the study that did not have a reflection sheet completed the week prior were also not counted. Student B18 exemplified the trend of maintaining their academic standard. Student B18 had exemplary scores on their quizzes prior to this study (see Table 4). During the study, they only missed one quiz within the reflection-window due to an absence that week (see Table 5). Overall, their scores were generally unaffected by the reflection sheets.

Table 4

B18 Scores Prior to Study

Quiz 1	Quiz 2	Quiz 3	Quiz 4	Average
90%	100%	90%	91%	93%

Table 5

B18 Scores During Study

Quiz 1	Quiz 2	Quiz 3	Quiz 4	Quiz 5	Quiz 6	Average
100%	100%	100%		100%	90%	98%

While reviewing reflection sheets of the students who maintained their average scores, there was a trend among them which showed short, concise answers with little to no plan of action for the future. For example, student B18 provided little detail in their responses such as, "It was 10/10" in response to "What was your quiz score? Are you happy with your quiz score? What could be done to improve your score (if improvements are needed)." or "The reading with questions" in response to "What part of this week was the most challenging? How could you work on overcoming those challenges in the future?". Regardless, giving vague or short responses did not seem to affect the score for 18 out of 37 students.

Some students saw a change in their overall average during the study. For example, student A5 was averaging 62% on weekly assessments prior to the study (see Table 6). During the study, A5 completed every single reflection sheet and quiz and finished the study with an average weekly score of 73% (see Table 7). There is no consistent grade across the study and over time the student's scores decreased over time before increasing again.

Table 6

A5 Scores Prior to Study

Quiz 1	Quiz 2	Quiz 3	Quiz 4	Average
55%	60%	70%		62%

Table 7

A5 Scores During Study

Quiz 1	Quiz 2	Quiz 3	Quiz 4	Quiz 5	Quiz 6	Average
20%	100%	91%	70%	85%	90%	73%

Within student A5's first reflection prior to Quiz 1 during the study, there was an effort to answer questions more thoughtfully and put in a plan of action. In response to the question "What was your quiz score? Are you happy with your quiz score? What could be done to improve your score (if improvements are needed)." they elaborated "6/11 kinda not guess use more notes pay more attention to question write for notes". In response to the question "What part of this week was the most challenging? How could you work on overcoming those challenges in the future?" They said, "The note and reading and canva because my motivation was very low this week". Student A5 recognized their shortcomings and their state of mind during the week prior to the quiz. Additionally, they mentioned they would create a plan of action to improve upon their scores.

Over the course of the study, A5's responses became shorter with less description or planning for future weeks. In the following example, these responses were recorded for the reflection prior to Quiz 3. In response to the same question

regarding their quiz scores and how they could improve their response was "Study

more". In response to the question "What is something you believe you did really well

this week and would like to build upon?" they said "Taking more notes paying attention".

Their responses became shorter and more concise, but the shortening of these

responses did not indicate lower effort on their part to do well on the quizzes moving

forward.

Students whose scores dropped followed a similar trend with both those who

maintained and increased their scores. Although the students completed the reflections

and quizzes, prior to the study their average was already below the class average.

Student B20's average prior to the study was 62%. After the study was completed, they

averaged 55% on all quiz scores. In a similar vein to other students, they did not give

clear, full sentences or plans of action throughout the study in relation to social studies.

For example, Student B20 would write about what happened in other classes. In

response to the question "What part of this week was the most challenging? How could

you work on overcoming those challenges in the future?" they said "Ela", referring to

English Language Arts class.

Class A and Class B had an overall increase in their average quiz scores over

the course of the study. In order to calculate this data, all quiz scores in each category

(Prior and During), week by week, were averaged. Prior to the study, Class A was

averaging 79% overall on quizzes. After the study completed, Class A averaged 85%

overall. Prior to the study, Class B averaged 81% on all quiz scores. After the study

completed, Class B averaged 85% on all quiz scores.

Conclusions

Regarding the impact of reflective feedback strategies on seventh-grade social studies students the following conclusions were drawn:

- When given the opportunity to engage in self-regulated learning, most students maintain their academic performance.

- Self-regulated learning through reflection can increase academic performance among certain populations of students based on multiple variables, including those who have already established average academic performance prior to self-regulated learning.

- Students who show low performance on summative assessments need additional support for understanding the expectations and purpose of self-regulated learning.

Based on these conclusions, these recommendations may be considered

- Set expectations of the reflection sheets to collect accurate data related to the study and make them clear upon every reflection request.

- Model and practice good-reflection behavior prior to self-regulated learning procedures to utilize reflective practice most effectively.

- Have students review their reflection sheet before starting the academic week prior to the next assessment.

- Create incentives for students to engage in reflective practices.

Overall, given the current structure, more students maintain and/or increase their scores. Setting clear expectations for reflection and modeling appropriate reflection behavior may yield different results. Within the study's current structure and

methodology, it is inconclusive whether or not reflective feedback strategies made a

notable impact.

References

Angela, F. T. & Sondergeld, T (2015). Investigating the impact of feedback instruction:

Partnering preservice teachers with middle school students to provide digital,

scaffolded feedback. *Journal of the Scholarship of Teaching and Learning, 15*(4),

83-109. Retrieved from

https://pearl.stkate.edu/login?url=https://www-proquest-com.pearl.stkate.edu/doc

view/2387857448?accountid=26879

Beydoğan, H.Ö. (2018). Middle school mathematics teachers' opinions on feedback,

International Journal of Assessment Tools in Education, *5*(1), 33-49, Retrieved

from https://dergipark.org.tr/en/pub/ijate

Brown, G. T. L., & Harris, L. R. (2013). Student self-assessment. In J. H. McMillan (Ed.),

The SAGE handbook of research on classroom assessment. 367–393.

Thousand Oaks: Sage. Retrieved from

https://sk-sagepub-com.pearl.stkate.edu/reference/hdbk_classroomassessment/

n21.xml

Crowell, T (2015). Student self grading: Perception vs. reality. *American Journal of*

Educational Research. 3(4), 450-455. Retrieved from

http://pubs.sciepub.com/education/3/4/10/index.html

Elliott, S.N., Kratochwill, T.R., Littlefield Cook, J. & Travers, J. (2000). Educational

psychology: Effective teaching, effective learning (3rd ed.). Boston, MA:

McGraw-Hill College.

Heemsoth, T., & Heinze, A. (2016). Secondary school students learning from reflections

on the rationale behind self-made errors: A field experiment. *The Journal of*

Experimental Education, 84(1), 98.

https://pearl.stkate.edu/login?url=https://www-proquest-com.pearl.stkate.edu/doc

view/1735336203?accountid=26879

McLeod, Saul (2019). Constructivism as a theory for teaching and learning. From

https://www.simlypsychology.org/constructivism.html

Panadero, E (2017) A review of self-regulated learning: Six models and four directions

for research. Front. Psychol. 8:422. Retrieved from

https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00422/full

Panadero, E., Jonsson, A., Botella, J. (2017) Effects of self-assessment on

self-regulated learning and self-efficacy: Four meta-analyses, *Educational*

Research Review,

Volume 22, Pages 74-98. Retrieved from

https://www-sciencedirect-com.pearl.stkate.edu/science/article/pii/S17479

38X17300313#bib16

Phillips, D. C. (1995). The good, the bad, and the ugly: The many faces of

constructivism. Educational researcher, 24(7), 5-12.

Porter, J. (2017, June 25). *Why you should make time for self-reflection (even if you*

hate doing it). Harvard Business Review. Retrieved February 6, 2022, from

https://hbr.org/2017/03/why-you-should-make-time-for-self-reflection-even-if-you-

hate-doing-it#:~:text=The%20most%20useful%20reflection%20involves,possible

%20interpretations%2C%20and%20create%20meaning.

Sadler, P. M., & Good, E. (2006). The impact of self- and peer-grading on student

learning. *Educational Assessment, 11*(1), 1-31. Retrieved from

http://dx.doi.org.pearl.stkate.edu/10.1207/s15326977ea1101_1

Sanchez, C. E., Atkinson, K. M., Koenka, A. C., Moshontz, H., & Cooper, H. (2017).

Self-grading and peer-grading for formative and summative assessments in 3rd

through 12th grade classrooms: A meta-analysis. *Journal of Educational*

Psychology, 109(8), 1049-1066.

doi:http://dx.doi.org.pearl.stkate.edu/10.1037/edu0000190

Sieben, N. (2017). Building hopeful secondary school writers through effective feedback

strategies. *English Journal, 106*(6), 48-53. Retrieved from

https://pearl.stkate.edu/login?url=https://www-proquest-com.pearl.stkate.edu/doc

view/1918836635?accountid=26879

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory into

Practice, 41(2), 64-70.

Zimmerman, B. J. American Educational Research Journal Vol. 45, Iss. 1, (Mar 2008):

166-183. Retrieved from

https://www-proquest-com.pearl.stkate.edu/docview/622298824/2BA73A80B193

4040PQ/37?accountid=26879

Zumbrunn, S., Marrs, S., & Mewborn, C. (2016). Toward a better understanding of

student perceptions of writing feedback: A mixed methods study. *Reading and

Writing, 29*(2), 349-370.

doi:http://dx.doi.org.pearl.stkate.edu/10.1007/s11145-015-9599-3