Bethel University

2020

Self-Assessment and Academic Intrinsic Motivation

Rachel A. Bengtson
Bethel University

SELF-ASSESSMENT AND ACADEMIC INTRINSIC MOTIVATION

A MASTER'S THESIS

SUBMITTED TO THE FACULTY

OF BETHEL UNIVERSITY

BY

RACHEL A BENGTSON

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MASTER OF ARTS IN EDUCATION

APRIL 2020

BETHEL UNIVERSITY

SELF-ASSESSMENT AND ACADEMIC INTRINSIC MOTIVATION

Rachel A Bengtson

April 2020

APPROVED

Thesis Advisor: Lisa M Silmser, Ph. D

Program Director: Molly Wickham, Ph. D

Abstract

This paper examines if self-assessment increases student academic intrinsic motivation. Self-assessment is a tool for students to gain valuable skills to become more critical of their academic work, decreasing their dependence on the teacher. By decreasing teacher dependence and increasing student responsibility it can be reasoned that their motivation to do well would improve. It is imperative to do what educators can to reduce the level of apathy in our students. Teachers can do this by creating a mastery goal climate in their classrooms, forming meaningful relationships with their students, teaching skills that help with self-assessment, use contrasting cases when showing expectations of an assignment and giving meaningful feedback. This research shows that there is the possibility that secondary student self-assessment does increase secondary student academic intrinsic motivation.

Table of Contents

CHAPTER I: INTRODUCTION

Rationale

Teachers are very busy people. Teachers not only teach most of the day they grade assignments, prepare lessons, are available for student questions, go to staff meetings, contact parents, etc. Teachers are stretched thin for time. Instead of teachers being the sole provider for feedback, why not give students some of the responsibility? This is called self-assessment. If students were given a little more responsibility in their learning, it could be reasoned that their motivation for school, academic intrinsic motivation may increase. As a teacher, I have seen firsthand unmotivated students when given a little responsibility, such as writing class notes on the white board, take charge of that opportunity and grow in their learning. Self-assessment shows students that their role in their education can increase, decreasing their dependence on the teacher. Through self-assessment students build skills that set them up for success throughout their academic careers.

Brief History and Current Educational Context

Self-regulation was broadened in the 1990s to include self-regulated learning (Boekaerts, Pintrich & Zeider, 2000). About the same time assessment for learning and formative assessment are introduced (Andrade, 2009). Self-regulated learning when tied with motivation brought about goal orientations or achievement motivations. Various names are given for the two main goal orientations; mastery or learning and performance goals. These are the learner's reasons why they are working towards their goal (Hsieh, et al., 2008). Carol S. Dweck was among the researchers to study mastery and performance goals. It was these and other self-regulation, and motivation theories that would lead to

her most famous accomplishment, the concept of Mindset. Learners can either have a growth or a fixed mindset. A growth mindset is one that believes intelligence is not fixed at birth, but through effort and help the goal can be achieved. While a fixed mindset is skills and intelligence are given at birth and can't be changed no matter how much effort the learner extends (Dweck, 2006). Mindset is very popular in schools and is taught to students to encourage a growth mindset in their academic undertakings. I have seen other teachers say things such as, "I'm seeing a lot of fixed mindsets right now. Let's take a minute to adjust our thinking."

Definition of Terms

Self-assessment is a part of self-regulated learning, they are complementary, where students take responsibility for their academic endeavors. Self-assessment is the formative process where students reflect on their work, see how well it compares to the criteria, then revise based on the criteria (Andrade, 2009). The main purpose of self-assessment is for students to increase their own learning and academic success. Self-assessment may take on many forms; teacher-student conferences/discussions, rubrics, reflection logs, and free writes related to their progress. Criteria-referenced self-assessment is when students have the criteria for an assignment, say in rubric form, and take the time to compare their work to the criteria, revising as needed.

Self-evaluation is students grading themselves and is not self-assessment. Self-assessment is formative and takes place during the learning process. Academic self-regulation involves students using a variety of strategies to meet goals by changing their thoughts and actions (Andrade, 2010). These strategies involve goal setting, planning,

monitoring and evaluating their learning to further their educational goals. Strategies are learned with help from teacher feedback.

Self-efficacy is a student's beliefs about how capable they are to successfully complete a task (Bandura, 1997). A mastery goal orientation is represented in a student who uses effort to increase their understanding of a topic, and values learning as a process (Ames & Archer, 1987 & Archer & Scevak, 1998). Those with a mastery goal orientation are said to have intrinsic motivation. Intrinsic motivation is curiosity for learning, rewards come from within the learning process. Students who have intrinsic motivation learn because they want to, not because they are encouraged, or rewarded by others (Pintrich, Smith, Garcia, & McKeachie, 1991). A performance goal orientation is expressed in a student who wishes to outperform others while using minimal effort, and possibly concealing their lack of ability from others (Ames & Archer & Archer & Scevak). Students with a performance goal orientation are said to be extrinsically motivated. Extrinsic motivation is represented in a student who is learning to gain something outside of themselves, such as competition, grades and or rewards (Pintrich et al.). Depending on the task, people can have a propensity for one goal orientation over the other or have both goal orientations.

Students may also perceive their goals in different ways. There are two ways they may see them, either having a high-level goal construal or a low-level goal construal. Someone with a high-level goal construal focuses on the reasons why they are working towards a goal or task (Davis, Kelley, Kim, Tang & Hicks, 2015). For secondary or tertiary students, it could be preparing for harder academic courses or building skills for college or a career. While someone with a low-level goal construal focuses on how they

will complete a goal, the steps that will be needed to accomplish the goal or task (Davis et al., 2015). For instance, having a set study schedule, utilizing various study methods, etc.

Research Question

There is no question as to whether self-assessment is beneficial. It improves study habits (Landers & Reinholz, 2015), and makes students be more critical of their work (Orsmond, Merry & Reiling, 1997), among other benefits. There is the question of whether secondary student self-assessment increases student intrinsic motivation in academics? This is an essential question for educators considering using self-assessment in their classrooms. With the amount of apathy I see in classrooms, I believe it's of great importance to know if self-assessment in secondary students does indeed increase their academic intrinsic motivation.

CHAPTER II: LITERATURE REVIEW

Literature Search Procedures

Chapter Two reviews the published literature on self-assessment and motivation in primary through tertiary levels of educational settings. It will examine the benefits of self-assessment and how different aspects of education impact motivation. This information should help in determining whether self-assessment is useful and impacts motivation. The literature used in this thesis was located through searches of ERIC, Educators Reference Complete, Academic Search Premier, and PsychINFO with publications dates of 1970-2018. These searches were narrowed using the following keywords/phrases: "self-assessment + motivation," "self-assessment," "self-assessment + secondary students," "secondary student motivation + self-assessment," "secondary student motivation," "secondary student motivation + student self-assessment," "secondary student intrinsic motivation + student self-assessment," "secondary student self-assessment," "self-assessment + intrinsic motivation," "self-assessment + intrinsic motivation + middle school," "self-assessment + intrinsic motivation + high school," "student self-assessment + academic intrinsic motivation + secondary education," "self-assessment + academic intrinsic motivation + teenagers," "self-assessment + academic intrinsic motivation + adolescents."

Mastery vs. Performance Goals and Their Relation to Motivation

Ames and Archer (1988) wanted to better understand how motivation patterns are related to the presence of mastery and performance goals in real classroom settings. One hundred and seventy-six students in grades eight through eleven at an academically advanced junior and senior high school, from Illinois, in the United States participated in

this study. Four to six students were randomly selected from spring semester classes in:

English, Math, Science and Social Studies. Using a questionnaire, they assessed student

perception of mastery and performance dimensions of classroom goal structure, and

student use of information processing, self-planning, and self-monitoring strategies.

Student likelihood for choosing two types of projects, their attitude towards class, and

their perception of importance of ability, effort, strategy, task and the teacher. Finally,

Ames and Archer assessed student perceived ability of the content from the course they

were chosen from.

Through the use of a correlational analysis when students perceived a mastery

goal orientation emphasis, they reported preferring tasks that offered a challenge, had a

more positive attitude, and used more learning strategies (Ames & Archer, 1988). While

the students who perceived a performance goal orientation tended to emphasize their

failures due to a lack of ability, and difficult work.

Hagborg (1992) focused on possible differences between students who were

grouped by their grades. The participants were 157 ninth and 10th graders from a single

school district in the state of New York, United States. Students were split into three

groups based on reported grade point average (High, Medium, and Low). High grades

represented students receiving 90% or above. Medium grades represented students

receiving between 80% and 89%, and Low grades represented students with 80% or

below. These groups were compared based on their school motivation and measured by

the Learning and Study Strategies Inventory - High School. Scholastic competences were

measured by Scholastic Competence sub-scale of the Self-Perception Profile for

Adolescents. Finally, their intrinsic motivation was measured by the Scale of Intrinsic and Extrinsic Orientation in the classroom.

The three groups were distinguishable from each other on the Learning and Study Strategies Inventory motivation scale, and the Scholastic Competence sub-scale (Hagborg, 1992). This suggests there is an association between high student grades and students trying to meet standards that are guided by an internal competence to monitor individual progress towards those standards, which produces an external reward, grades. Only the High group showed a preference for seeking academic challenges, preferring to individually struggle before going to a teacher for help, and feeling confident in their scholastic abilities (Hagborg).

If students feel their instructor encourages them to focus on improving their work, will students exhibit improvement behaviors even if they know they are not the best at the subject? Could evidence be found to prove students were mastery oriented as they worked on their major assignment? Archer and Scevak (1998) conducted a two-part study to answer these questions. The first part of the study used a quantitative questionnaire with three main sections, each using a five-point Likert scale. The first measured how students viewed the achievement goals encouraged by their teachers. The second measured the kinds of study strategies used by students. The third measured student attitudes and willingness to accept challenging tasks and how they saw their abilities versus others in their tutorial group. The subjects are first year undergraduate education students at a university in New South Wales, Australia. The data for this part of the study was collected at two different points. The first data collection had 354 students, while the second had 319.

If students view their teachers as supportive and encouraging a mastery goal, the students reported more motivation to try difficult tasks, used more effective learning strategies, and a more adaptive approach to the topic (Archer & Scevak, 1998). This shows that there are significant correlations between perception of mastery climate and perceived ability. The regression analysis of the results showed a mastery goal has an important influence on student attitudes related to their work. Suggesting, the more students have a mastery orientation, it lessens the impact of how a student views their abilities (Archer & Scevak).

Cassidy (2007) completed a study to assess the level of new higher education students ability to self-assess and analyze the relationship between academic personal control, self-assessment skill, and learning style. The student participants are 160 first year undergraduate students studying in a health-related field at a university in Manchester, United Kingdom. The students completed three questionnaires, the Student Academic Locus of Control Scale, the General Academic Self-Efficacy Scale, and the Approaches and Study Skills Inventory for Students. The Student Academic Locus of Control Scale is an eighteen-item specific scale that measures student beliefs about the degree of control they have on their academic environment. Each item had a six-point Likert scale that was used to assess internal (nine items) and external (nine items) locus of control. The General Academic Self-Efficacy Scale has twenty-three items with a nine-point Likert scale, measuring student academic self-efficacy. The Approaches and Study Skills Inventory for Students, has 38 items, with a five-point Likert scale for each item measuring the students learning style. There are four sub-scales that represent deep, surface, strategic and apathetic learning styles. Deep learning style is characterized by

active learning, using evidence and wanting to understand content. Surface learning style is distinguished by students having a propensity to memorize, learn passively, fear failure and tend to copy others work. Strategic learning in comparison is seen in a student who is alert to demands placed by teachers and assessments, wants to do well, is organized, and manages their time wisely. Apathetic learners have a lack of interest and direction in their learning.

Teacher grades were positively correlated with both strategic and deep approaches to learning (Cassidy, 2007). Student-estimated grades were significantly negatively correlated with the surface approach to learning. Poor accuracy was significantly negatively correlated with deep approaches to learning (Cassidy).

Hsieh, Cho, Liu, and Schallert (2008) sought to increase understanding of middle school student motivation, and self-efficacy for learning science in an environment enhanced with technology. The study took place during the sixth-grade solar system unit of two middle schools within the same district in the Southwestern United States. The 549 students attempted to solve a vague problem while using their knowledge about the solar system. Computers with a program called "Alien Rescue" were used. Alien Rescue provided students with four knowledge bases, which were enhanced with animations, graphics, and 3-D videos. The knowledge bases provided the students with information, such as scientific concepts that could be referenced to solve the problem. The Probe Builder and Launcher "rooms" within the program allow students to equip a "probe" with various scientific instruments and "launch" them to test their hypotheses. In the "control room" of the program they are able to study the data that arrived from their probes. Three questionnaires were completed before and after the unit. The questionnaires assessed

their science self-efficacy, student goal orientation, and a re-measure of their science knowledge.

Mastery and performance goal orientation were positively correlated with self-efficacy (Hsieh et al., 2008). Performance-avoidance goal orientation was not related to self-efficacy. The effect of self-efficacy on achievement is stunted when the student adopts a performance-avoidance goal orientation. Even with high self-efficacy, if the student has performance-avoidance goals, they seem to interfere with science achievement (Hsieh et al.).

To understand motivation identified by students that is referenced to a standards-based assessment system and to identify how the variables are related to student achievement, Meyer, McClure, Walkey, Weir, and McKenzie (2009) completed the following study. The standards-based National Certificate of Educational Achievement (NCEA) was created in New Zealand with the intention of strengthening connections between student learning behaviors and achievement outcomes through criterion-referenced assessments measuring standards that represent units of learning. Secondary students in Year 11 through 13 complete the NCEA and 3,569 students took part in a three-part survey. Each section represents aspects of motivation in relation to the NCEA. Section One asks questions related to why students choose certain subjects. Section Two focused on how students think about their school learning. Section Three concentrated on what students either like or don't like about the NCEA and other assessments. Meyer et al. found that students with high ratings on "doing my best" achieved increased grade averages and more achievement standard credits (equivalent to core competencies).

Students with higher ratings of doing just enough had lower grades, fewer achievement

standard credits and more unit standard credits (equivalent to electives).

In order to understand the differences in how high-achieving students and non-

high achieving students process tutor feedback as a component of their learning practices,

Orsmond and Merry (2013) utilized semi-structured interviews and focus groups of 36

final-year undergraduate biology students from four universities in the United Kingdom.

The focus groups were split into high-achieving and non-high achieving students by their

tutors. The interviews focused on student perceptions of tutor feedback and the actions

taken after feedback. Particularly, to what extent did the feedback stimulate the self-

assessment process? Who did students discuss their work with and how did the

discussions help them understand their feedback? Finally, how students used their

feedback to help their learning.

High-achieving students placed a strong emphasis on "self." They showed

indicators of moving from tutor-directed to self-directed. When they reflected on

feedback, they took the responsibility to learn. High-achieving students compared their

early university work to their current work, seeing their progress as growth (Orsmond &

Merry, 2013). Non-achieving students didn't show the same ability to assess themselves

as their high-achieving counterparts. Instead of trying to understand the meanings behind

tutor feedback, they seemed to try to memorize it for future use. Non-achievers were

found to be externally regulated by their tutors. They waited for the tutor's guidance

versus being self-motivated. Whereas high-achievers were seeking to become more

independent through self-assessment skills, high-achievers sought to discuss challenging

content with peers. Non-achievers mainly discussed non-content related items of their tutor's criteria (Orsmond & Merry, 2013).

Davis, Kelley, Kim, Tang, and Hicks (2015) sought to test the effects of high-level and low-level construals of an academic goal on the perceived meaningfulness of the goal, goal self-concordance, and goal motivation. Two similar experiments were conducted. In experiment one, the 182 undergraduate students in an introduction to psychology course in spring semester at a university in the United States, would randomly be assigned either a specific academic goal or a non-academic goal. Then were assigned to view it in a high or low-level manner. Next, participants would complete a pencil and paper writing task (as cited in Davis et al., 2015). Students then wrote about their goal using a high or low-level manner ("Why do you pursue that goal? or "How do you pursue this goal?") Davis et al. (2015) found that thinking about an academic goal with a high-level of intent enhances the meaningfulness of the goal, made it feel more meaningful, and gave greater feelings of self-accomplishment. Participants reported that the academic goals were more meaningful than non-specific weekly goals. If participants thought about their non-specific goals in a high-level manner it promoted goal motivation and meaningfulness (Davis et al., 2015).

Experiment two was very similar to experiment one. Except the objectives were to replicate the findings of experiment one and to examine whether the manipulation would influence a behavioral indicator of goal pursuit. The manipulation was students having the option to see up to fifteen tips for "academic success." The tips were presented individually, and the participants got to choose if they saw a tip. The participants in experiment two were 185 students from a fall semester of the introduction to psychology

course. Results indicate that students who viewed their goal in a high-level manner increased motivation, enhanced feelings of goal self-concordance, and made it feel more meaningful (Davis et al., 2015). Participants who thought of their academic goal in a high-level manner did not increase the number of tips viewed.

Student Self-Assessment Compared to Teacher Assessment

Working mostly in pairs to create a poster of one aspect of nerve physiology, 85 first year biology undergraduates from Staffordshire University in the United Kingdom, were the participants in this study by Orsmond, Merry, and Reiling (1997). Its goal was to find the degree of student over or under-marking compared to the tutor, analyze student perspectives of the self-assessment process, and student understanding of the criteria. The criteria for the posters were a) Was it self-explanatory? b) Did the poster have a clear purpose? c) Were there clear and justified conclusions? d) Was the poster visually effective? e) Did the poster have a helpful level of detail? Each of the criteria would be created on a zero to four scale. Zero being not met, four meaning the criteria was well met. The students completed individual questionnaires and a poster marking form. The overall mark was added together for a maximum of twenty points.

There was a difference between student and tutor marks 86% of the time. Fifty-six percent of students over-marked, while 30% under-marked (Orsmond et al., 1997). Students with higher tutor scores tended to under-mark their work. While students who overmarked their score, usually had lower scores.

In order to assess the correlations between self, peer, and tutor marks, and the impact of stress on 160 undergraduate university students in a research methods class at a university in Queensland, Australia, Pope (2005) used an assessment essay about

research philosophy comparing qualitative and quantitative examples. Four treatment groups were utilized; tutor only mark, tutor mark and self-mark, tutor mark and peer mark, and tutor mark, self-mark and peer mark. The participants were told the assessment criteria, and then split into groups by name, each having equal representation of male and female students. After 30 minutes to complete the assessment task, groups with self-assessment completed that section. Next, if applicable, the peer assessment groups completed that portion. Then the tutor marked the essays without knowing their group or stress response. Stress was measured by using the Perceived Stress Scale. It was a scale of ten items rated on a scale of zero to ten. Zero equates to never, seven means very often.

A significant correlation between the student's own mark and the tutor's mark was found (Pope, 2005). The groups that self- and peer-assessed performed better than the tutor-only assessment group (Pope). Both self and peer-assessment groups were highly correlated with faculty awarded marks.

Teachers' ratings were found to be positively correlated with both strategic and deep approaches to learning (Cassidy, 2007). Fifty-eight percent of students made estimates within 10 percent of the teachers rating. The higher the student estimated their grade, the less accurate the estimate. The higher the student's actual grade they were more accurate at self-assessment (Cassidy).

Will students accurately and reasonably self-assess their performance compared to the tutor's assessment of their work? Karnilowicz (2012) also sought to find if higher-achieving students will underestimate their self-assessment, and the low-achieving students would overestimate their work compared to the tutor's assessment. Sixty-four

undergraduate psychology students in their third, and final year at Victoria University in Australia were the participants. The students were in the History and Theories in Psychology course, which was one semester, or 12 weeks long. Each week, the students had a one-hour lecture, and a one-hour seminar. The critical review assessment is what students self-assessed. It is based on two readings done for a seminar class during the first four weeks of the semester. The students must discuss two key issues from the readings they chose, establish the central arguments, and make a connection between the arguments within twentieth century history, and the disciplines of psychology. The students were given the criteria they would be assessed by, and directions for the assessment. Students were given the chance to practice their new self-assessment skill when the tutor showed two example assignments from the previous years students. They were asked to use the criterion they were given to assign grades for each one. Once completed, the tutor walked the students through why the specific grade was given.

The assignments were anonymous to the tutor, as only their student numbers were used. The tutor assessed the students' work independently. Pearson correlation coefficients were used to analyze the pairwise correlations between the tutor's assessment and the students' self-assessment of the critical review. The results of the Pearson correlation coefficients showed students' self-assessments were a fairly accurate evaluation of the tutor's assessment (Karnilowicz, 2012). The students were then put into categories based on their level of performance. Twenty-eight students were considered high-achieving, those who the tutor assigned a 70 or above. Twenty-five students were considered low-achieving with a score of 60 or below from the tutor. Self-assessments from the high-achieving group were more accurate compared to the tutor's score versus

the low-achieving group (Karnilowicz). Self-enhancement versus self-diminishment bias

was tested from levels of performance relative to the tutor's assessments, descriptive

statistics were used. High-achieving students tended to underestimate their self-

assessment marks compared to the tutor's mark. While low-achieving students tended to

overestimate their self-assessments compared to the tutor's mark. A further descriptive

analysis of the data showed that the high-achieving group underestimated by an average

of 10.11 points and the low-achieving group overestimated by an average of 15 points

(Karnilowicz).

Does engagement in making self-assessment judgments over time improve

students' capacity for doing so? Boud, Lawson, and Thompson (2013) collected

information from 2,169 undergraduate students at an Australian university, over a

minimum of two semesters. The students were also evaluated by a tutor, and voluntarily

self-assessed their work using a web-based assessment system. Both students and tutors

used the same criteria, giving criteria-based grades to the work. The criteria-based

assessment system (ReView) was used to track the assessment data. It is a web-based

system used to publish criteria referred to the specifics of each task versus "fixed sets of

criteria." The data is from a range of assessment tasks including; oral presentations,

individual and group projects and research projects, reflective and critical essays, and

portfolio presentation of their individual exhibitions of work.

The first self-assessment task showed a significant difference between student and

tutor rating, the students rated themselves higher than the tutors (Boud et al., 2013).

Although, the second, third and fourth tasks did not show a significant difference in

rating. After three semesters of experience with self-assessment, the data shows that students gained the ability to self-assess more accurately (Boud et al.).

Relationship with the Teacher

Unrau, Ragusa, and Bowers (2015) sought to understand the relationship between teacher and student that is built during instruction, what motivates students to read, and how teachers could promote reading engagement both inside and outside their classrooms. Names of master teachers were gathered who had worked with struggling readers, as well as candidates in the university's master's degree reading programs. Emails were sent requesting they attend a focus group to discuss ideas of the development of reading motivation, and issues surrounding it. Twenty-three became teacher participants from Southern California universities and public schools, who taught struggling readers, held multiple subject credentials, and taught grade levels from kindergarten through high school. Many of the teachers specialized in teaching programs for learners with reading challenges. Five different focus groups made up of teachers with at least two years experience met and discussed their beliefs and conceptions of motivation, approaches used to promote motivation of reading for their students, and what hinders student motivation. The focus groups were transcribed and read through by Unrau et al. to find patterns and trends.

The language teachers used didn't reflect the theories of educational psychology. Their practice-based explanations reflected theories in scholarly research of motivation. One of the significant themes that emerged is relationships, especially between the teacher and the student (Unrau et al., 2015). These relationships can help change student motivation in positive and negative ways. In addition to building relationships with

students, teachers used various instructional processes to try to increase reading

motivation; using interesting texts, helping build an environment of autonomy support,

using real-world interactions, incorporating learning and knowledge goals, using reward

and praise, evaluation, and collaboration among students (Unrau et al.).

The teachers in this study felt that teachers should learn the interests of each

individual student and find out what each student enjoys. The presence of a role-model

the student identifies with can help increase a student's motivation. Teachers reported

throughout the study about their relationships with their students and their importance

(Unrau, Ragusa & Bowers, 2015). If teachers built the trust of the student, and their self-

esteem, if they connect with students, the students will want to show the teacher their

skills. It is not only about the relationship that is formed with students, it is shared

recognition and understanding (Unrau et al.).

Gehlbach, Brinkworth and Harris (2011) recognize the teacher-student

relationship is important. Utilizing various measures, they wanted to see if the teacher-

student relationship changes over the year, and if any changes in student academics and

motivation affect it. The participants were 30 teachers and 119 middle school students

from a suburban, middle-class public school in Massachusetts. Both teachers and students

would assess the positivity and negativity of their perceptions of the relationship.

Students were told which teacher to report on, while teachers reported on one student at a

time. Students would also self-report their grade, report their level of effort in the class,

and how they think the teacher would respond to certain relationship items. The students'

accuracy was correlated with the teacher's self-report. Teachers reported the percentage

of homework the students completed in their class. Many teacher-student relationships

improved over the year, while from the students' perspective the relationships became less positive as the school year went on. Changes in the relationships became associated with changes in student outcomes. Students who completed more homework at the end of the year versus the beginning, their teacher increased their perceived positivity of the student (Gehlbach et al.). If students perceived themselves as more similar to the teacher at the end of the year, the students reported greater positivity in the relationship.

Rubrics are an important tool for a teacher to communicate how an assignment will be assessed. Rubrics can also be used by students to self-assess their work. McKevitt (2016) wanted to better understand if student performance improved between draft and final submission, if student self-assessment differs from tutors at both draft and final stages, and how students experience class interventions. Thirty-five students from a third-year humanities program at a university in Ireland participated by letting their rubric judgements for a 13-week module be used for the present study. While five students participated in the focus group.

The rubric has five evaluation criteria, introduction of topic, comparing and contrasting literature, reflection of topic, referencing, and general presentation. As well as five achievement descriptors; one meaning the evaluation criteria was not achieved, and five meaning the evaluation criteria was completely achieved. Students and tutors used the same rubrics at draft and final stages. Week one the students were given two example standards and the rubric. During week two the students and tutor discussed the rubric and the process of self-assessment. On week seven, students submitted their draft assignment and self-assessment using the rubric. Weeks eight and nine students received individual feedback on their draft, using the rubric. Also, on week nine, students were given general

feedback and asked to mark their example standards before the tutor explained their reasoning of those examples. Students submitted their final drafts with self-assessment on week 11 and received their final module grade on week 12. After the module was finished, three other tutors from different subject areas used it to assess the students at both draft and final stages. An intra-class correlation was used to establish inter-rater reliability, which was determined to be fair to good.

In order to answer research question one, a Wilcoxon signed ranks test was used to see if the students' performance improved between draft and final stages. The tutors' assessments were used because they were more experienced assessors. Students generally did better on the final submission (McKevitt, 2016). Mann-Whitney U Tests were used to see if students assessed their work differently from the tutors at draft and final stages. The tests revealed a significant statistical difference between student and tutor assessment of performance at draft stage only for comparing and contrasting literature and referencing. Students were told after the draft stage that each criteria would be weighted; introduction of topic 20%, comparing and contrasting literature 30%, reflection on topic 30%, referencing 10%, and general presentation 10%.

The focus group was recorded and transcribed. The transcript was read by McKevitt (2016) many times. Students in the focus group were asked questions about their experience with the class interventions. McKevitt completed a thematic analysis, and two themes emerged from the focus group; guidance as practice with rubric and guidance as formative individual feedback. Guidance as formative individual feedback was used as a more specific guide for their work versus guidance as practice with rubric.

Students felt an obligation to respond and critically assess their work. McKevitt (2016) thinks this was because of the students' perceived relationship with the teacher. These students had at least three semesters of self-assessment prior to this study, making 'lack of experience' less likely for the reason they felt obligated to respond.

Environment of the Classroom

Gottfried (1985) investigated the relation between academic intrinsic motivation and achievement, as well as non-cognitive factors, and to examine the relative importance of academic intrinsic motivation as differentiated into school subjects in comparison with general orientation for these relations. It included three different studies, 567 student participants ranging from fourth through eighth grade from three different schools in the state of California, United States. Six different achievement measures were studied within the three studies. The measures used in all three studies include; The Children's Academic Intrinsic Motivation Inventory, the Children's Academic Anxiety Inventory and some type of standardized test to score achievement measures. Study One used the Stanford Achievement Test, while Study Two and Three used Comprehensive Tests of Basic Skills. The Children's Academic Intrinsic Motivation Inventory is a 122-item self-report inventory that measures students' academic intrinsic motivation. It has five sub scales, four measuring subject areas: Math, Reading, Social Studies, and Science. The fifth measures a student's general orientation toward learning in school, not to a specific subject area. While the Children's Academic Anxiety Inventory was used to measure anxiety in subject areas. The Perception of Academic Competence assessment measures the students' belief they can complete work in a certain subject area and was used in Studies Two and Three. Teacher's Perceptions of Students' Intrinsic Motivation

measures the teachers' rating of their students' academic intrinsic motivation, this was used in Study Three. Also utilized in Study Three was Intrinsic Versus Extrinsic Orientation and Convergent Validity scale. It was used to measure the student's intrinsic versus extrinsic motivation in the classroom, and to verify Children's Academic Intrinsic Motivation Inventory's validity.

Gottfried (1985) recommends school environments should support academic intrinsic motivation and find ways to increase it among students with low intrinsic motivation. If teachers create a mastery climate, there are significant correlations between mastery climate and perceived ability. The more students had a mastery orientation, it lessened the impact of how students viewed their abilities (Archer & Scevak, 1998). Ames and Archer (1988) found a relationship between performance and mastery goals. If the classroom environment emphasized one goal orientation over another, it predicted how students chose to approach the tasks, and learning strategies. If the classroom was mostly performance oriented, the students focused on lack of ability. Students who perceived mastery goal orientation as their dominant classroom environment reported using more effective learning strategies. Compared to performance-oriented students, who were more likely to have negative attitudes and low self-perceptions of their ability (Ames & Archer).

Using focused structured observation of classroom assessment environments and semi-structured interviews in middle grade classrooms, Davis and Neitzel (2011) wanted to better understand to what extent do teacher assessment practices have the potential to promote self-regulated learning, and what do teachers personal theories of assessment reveal about the role of self-regulated learning in their classrooms? Fifteen teachers

participating in at least one semester or longer from two schools in the Southeastern United States served as the participants. Six reading and writing teachers, two math and science teachers, two math only teachers, two science only teachers, and three who taught all subjects in self-contained classes.

Teachers were interviewed individually for about 45 minutes. The interviews were designed to prompt teachers to talk about assessment in various dimensions. Such as what assessment practices they use in their classroom, what criteria they use for selecting criteria, the purpose of the assessment, etc. Instead of being asked directly, the interviews involved the interviewee completing various activities, showing the interviewer their understanding and perception of assessment. Davis and Neitzel (2011) felt a task would help avoid socially desirable answers. The first task was to draw a few recent assessment activities and explain their drawing. Next, the teacher described a few recent assessment activities using examples they were asked to bring before the interview. Then, the teachers chose the most appropriate metaphor for assessment from a provided list and explained their choices. Followed by a card sorting activity that required the teachers to define and categorize various instructional activities and tools that might be relevant for assessment. Finally, the teachers were asked to respond to a hypothetical scenario. If needed for clarification, follow-up questions would be asked. These interviews were transcribed and analyzed using a combination of open and preplanned coding. Davis read through the transcripts and coded each statement into a form or a function of assessment, or both. Within these two categories was a second layer for forms of assessment, student-teacher interactions. For functions of assessment was specific audience.

Observational data was used to supplement interview data. Davis and Neitzel (2011) were looking for each teachers use of informational and metacognitive feedback types. Davis and Neitzel were also looking for four instructional information types; autonomous questioning, basic information, direct questioning and metacognitive questioning.

Teachers gave more evaluative feedback instead of descriptive feedback. Evaluative feedback is considered "empty" feedback, it is not connected to a task or process to help students be successful (Davis & Neitzel, 2011). While descriptive feedback enhances student success by helping them learn how to fix a mistake in their work. Teachers gave more basic information versus metacognitive information. Teachers were more likely to ask questions that produced factual information versus strategic thinking. Teacher-directed instruction was one third of each teacher's instructional time.

Teachers described their assessments in terms of audience. Formative assessment was seen as satisfying student or teacher audiences. Summative assessments were for satisfying external audiences, such as for parents, the district, or state. In the study, the further away the assessment audience moves from the student, the less formative it becomes. In an environment that is focusing more on external audiences, self-regulated learning habits are not likely to flourish (Davis & Neitzel, 2011).

Student Perception of Self-Assessment and Motivation

Students in the study conducted by Orsmond and Merry (2013) perceived tutor feedback was mostly about errors and content-related feedback. While student participants in the study by McKevitt (2016) reported using tutor feedback to help improve their self-assessments and writing. Tutor feedback was individualized and

enabled the students to revisit their work and make necessary changes, students felt obligated to respond to tutor feedback.

Ninety-eight percent of students who participated in a study by Orsmond, Merry, and Reiling (1997) reported self-assessment made them think more. Ninety percent thought self-assessment was helpful and beneficial. Seventy-one percent of student participants felt they learned more when they self-assessed. Ninety percent of students reported they were more critical of their work after self-assessing (Orsmond et al., 1997). While Ames and Archer (1988) found student perceived ability was a significant predictor of their task choices, attitudes, and learning strategies.

All groups in either self-assessment, peer-assessment conditions or both reported higher levels of perceived stress than those whose essays were only assessed by their tutor (Pope, 2005). Students who were told they were going to self-assess and or peer-assess performed better than those who weren't told. It appeared the stress response seemed to increase assessment results compared to just tutor assessed essays (Pope).

Utilizing semi-structured focus group interviews, Andrade and Du (2007) wanted to better understand how students react to criterion-referenced self-assessment, felt when completing self-assessment, and after an extended experience. Fourteen undergraduate teacher education students, six females and eight males from the Midwest of the United States were the participants. The focus groups were segregated by gender to capture any differences in responses. The focus groups consisted of three groups of four, and one group of two. The students were chosen from Andrade's previous educational psychology course class lists from 2000 or 2001. This was done in order for the subjects to have experience with formal self-assessment to be able to describe their experience effectively.

The students chosen were the most outspoken about their opinions and reflective of their work. This was done to show areas that need further study, versus a large population. In the course they previously had with Andrade, the students would assess each assignment using a rubric and or checklist, would check the gradation of the criteria that best described their work, then attach the rubric to their written work (Andrade & Du).

The semi-structured focus groups had questions that were used to start discussion. Questions included asking students their most useful source of feedback on their performances, and if they had any experience with self-assessment before joining the educational psychology course. The interviews were transcribed and sent to the participants to ensure accuracy. The data was analyzed using an adapted version of the Consensual Qualitative Research Methodology (as cited in Andrade & Du, 2007). The Consensual Qualitative Research Methodology has five analytic steps that involve a team of researchers coming to an agreement. The steps include developing topic areas, coding the data, constructing core ideas across cases while examining the data for confirmatory and disconfirmatory evidence, charting the results, and writing a narrative summary.

The more experience students had with self-assessment their attitudes became more positive. At first, they viewed self-assessment as "a big pain" (Andrade & Du, 2007, p. 164). After experience with it they reported unanimously positive attitudes. Students reported being more confident with self-assessment if they knew teacher expectations. Students believed there are multiple benefits to criterion-referenced self-assessment; better academic work, higher grades, and ability to focus on key elements of an assignment (Andrade & Du). Self-assessment wasn't counted as a grade in this study. If teachers share both good and poor-quality examples students better understood the

criteria. According to the students, self-assessment skills were hard to transfer to other classes due to lack of support and motivation.

Landers and Reinholz (2015) used mixed methods to better understand the extent students were able to incorporate reflection into their homework regimen. Two intermediate algebra courses were studied at a large community college in the San Francisco Bay area, each were taught using the same methods, assignments and assessments. After each course, an assignment would be given and due the next class. Assignments included journal writing, skill-development software, worksheets, and more in-depth written assignments. The written assignments helped students better understand the information. Students in the experimental logging section completed a written reflection log sheet for twenty of the in-depth written assignments. While the non-logging section wasn't given a log sheet but were encouraged to review the feedback of their assignments. Completed reflection logs, effective-learning self-assessment completed at the beginning of the course, measures of student performance in the course, the end of semester survey, and students' perceptions of the reflection activity were used to collect data. Students rated themselves on various items from the math department's learning outcomes such as "reviews work to learn from feedback" in the effective learning self-assessment. Landers and Reinholz used three research questions; how did students in the logging section utilize the logs as a structure for reflection? How did students in the logging section make meaning out of the reflection process? Were there differences between the logging section and the non-logging section in terms of course performance and their growth as effective learners? The experimental logging section was broken into three categories; frequent participation, decreased participation, and non-participation.

Frequent participation members completed most of their logs regularly throughout the semester. Decreased student participation members started out completing the logs, then either decreased in frequency or stopped turning in the logs. Non-participants completed between zero and two reflection logs. The teacher presented the reflection-logs as a way for students to increase their ability to learn from feedback, hence were not graded.

Landers and Reinholz (2015) utilized the reflection logs to understand how students reflected in the logging section. The data was collected from the completed reflection logs. An inventory of logs was taken to determine how frequently students participated. The logs were reviewed to ensure they were completed correctly. Responses to the qualitative question were used to find themes of how students accounted for success or lack of success. Pre- and post-surveys were used to understand how students in the logging section got meaning out of the reflection process. Pre- and post-survey questions included asking students why they participated and why they thought the reflection was assigned. The student responses were coded in order to find themes. Using data collected from exams, course grades, and self-assessment surveys, Landers and Reinholz sought to find if there were differences between the logging and non-logging classes. Questions in the self-assessment surveys included; whether or not their work habits changed during the semester, and why students would or would not do homework if it were not graded. The student responses were collected and coded in order to find themes. A quantitative analysis t-test was completed to determine the differences in levels of performance between classes. A chi-square analysis was also completed to determine changes in each classes distribution of self-assessment categories.

A majority of frequent participants said they would continue to self-reflect in future courses. Students indicated in the end-of-year survey their study habits improved. No statistical difference was found on the final exam scores or final course grades between students who completed self-assessments and those who did not (Landers & Reinholz, 2015). Students who completed self-assessment were more likely to revise their work, and view homework as a learning opportunity, versus a means to an end (Landers & Reinholz).

Using self-assessment, semi-structured interviews, and questionnaires Logan (2009) sought to find how much self-assessment effects learning. Eleven undergraduate early childhood studies majors from the City of Bristol College in the United Kingdom were the participants. The students were introduced to self-assessment in class and asked to bring a draft of an assignment to an assignment support session in order to understand what the tutors were looking for. Self-assessment sheets were completed by the students after each assignment to help monitor their progress. At first the students felt it was difficult to take an unbiased look at their own work. With experience students reported self-assessment helped them think critically, reflect on their work, find areas where they lack knowledge, and take more responsibility for their own learning (Logan).

What are student perceptions of task, self-efficacy, effort, goal orientations, and cognitive strategy use? Brookhart and Durkin (2003) set out to answer this question using mixed methods from pre- and post-surveys. The pre-surveys used the Perceived Tasks Characteristics and Perceived Self-Efficacy, measuring students perceived ability to meet the challenge and their perceived importance of the assessment. The post-surveys consisted of five scales, including a modified version of the Amount of Invested Effort,

Performance-Goal Orientation measured by three items, Mastery-Goal Orientation measured by a four-item scale. Active Learning Strategy Use was measured with a five-point scale. Finally, the Superficial Learning Strategy, also measured with a five-point scale.

A teacher-researcher requested to participate in a study of his classroom assessments, at a large urban high school in Pennsylvania. The classes observed were the teachers' entire teaching load: two regular sections of 10th grade world cultures, two honors sections of 11th grade U.S. history, and one section of a philosophy elective that was mostly composed of 12th graders. There were 12 classroom assessments, four from each course. Brookhart and Durkin (2003), who noted routines, instructional practices, as well as to familiarize the students to Brookhart, completed an initial observation in each class. The teacher-researcher picked a high-achiever and a low-achiever from each class to have Brookhart interview. The questions asked during the interview were designed to get information from the same concepts as the questionnaire. Brookhart, Durkin, and a university graduate assistant coded the questions, their coder agreement was 87%. The interview data was coded and put into themes. Descriptive statistics were totaled, then organized by assessment type and event, and analyzed for patterns.

All classroom assessment events show a positive and strong correlation between motivation-goal orientation and perceived task characteristics. This proves that the more interesting and important students perceive a task to be, the more they would report wanting to learn about it (Brookhart & Durkin, 2003). Students conveyed at least three motivations besides getting a good grade; wanting to learn for the sake of learning,

wanting to show what they've learned, and wanting to help others learn or to learn from others (Brookhart & Durkin).

Ninness, Ninness, Sherman, and Scotta (1998) assessed the effects of computer-interactive self-assessments, both with and without feedback. The computer program assessed the number of multiplication facts the students could solve per minute. Pre-experimental assessments were completed to see the students' optimal rate of correctly solving multiplication problems per minute. A total of six students participated in this study from a Texas school. The study included four regular education fifth graders, and two special education students from a self-contained social adjustment class. The participants were selected at random from students who were in a classroom that had immediate access to computers through the school day. Students gained points in this portion of the study, which could be redeemed for points (general education students) or an activity or trinket (special education). The points for the regular education students could be redeemed for pennies at the end of the session. The second portion of this section was to see the students' rate of solving problems without reinforcement, or a collection of points. The students were trained in self-assessment by computer-interactive tutorials. These told the students to score their self-assessments on a Likert scale of one to four. The software judged the Likert scale by percentage of problems that were answered correctly. If students answered their self-assessments incorrectly, the correct results were shown on the screen. Once students got 90% on both correct self-assessments and correct problems answered three consecutive times they could move past the tutorials and onto the experiment. Phase one of the study involved reinforcement for matching computer assessments. At first students would evaluate their performance every two minutes. If

they correctly matched their self-assessment, they would earn redeemable points. After three consecutive sessions of getting 90% on both self-assessment and math problems, they would move onto phase two. In phase two the amount of time students self-assess would greatly decrease. Once they got 90% of their self-assessment and previous sessions correct problem rate, the self-assessment intervals would go from two, to four, and then to eight-minute intervals. The third phase involved terminating feedback. In the last three sessions of this phase, students were able to continue the expanding intervals of self-assessment, if they continued getting 90% on both self-assessments and math problems. These last three sessions offered no feedback by the software program, but students still collected redeemable points.

The post tutorial self-assessment involved students self-assessing at two-minute intervals without feedback, and without accumulating points. The second part of this condition involved students self-assessing at two-minute intervals. If they correctly scored themselves, the computer would tell them. No redeemable points would be awarded. The withdrawal phase was next and removed all self-assessment rules. The final assessment involves the second post tutorial assessment. This entails having the students self-assess at first with no feedback, then with feedback, both won't award points. When feedback was withdrawn, math performance decreased for all students (Ninness et al., 1998). When a student was asked why they stopped playing during the self-assessment without feedback condition they replied "doing problems and not knowing how well I was doing got very boring" (Ninness et al., 1998, p. 613). The same student was asked why they kept playing when the computer gave feedback, "The whole thing got to be

more like a game" (Ninness et al., 1998, p. 613). All the other students shared a similar response.

How does academic achievement relate to intrinsic motivation of middle school math students? What factors influence middle school mathematics students motivation to achieve? Herges, Duffields, Martin and Wageman (2017) sought to answer these using an anonymous 20-minute paper-based survey completed by student participants in their advisory or regular math period. The survey was made up of previously used questionnaires; Longitudinal Study of American Youth, a five-point scale measuring parental intrinsic motivation, parental extrinsic motivation, and parental involvement. What is Happening in the Classroom measured teacher support. Attitude Toward Math Inventory measured student attitudes towards math using four sub scales; self-confidence, value, enjoyment, and motivation. Motivated Strategies for Learning Questionnaire measured motivational strategies and learning styles of intrinsic motivation, extrinsic motivation, and control for learning sub scales to identify the types of motivation strategies students use, and self-efficacy beliefs regarding their own learning. One open-ended question in the survey asked students what the most important factor motivates them to achieve in math class. Herges et al. sent email invitations to eight middle school math teachers in the Spring of 2013. Five teachers agreed to participate, while four were selected at random for this study. Two classes were chosen from each of the four teachers to participate in the study. Sixty-five students had parental permission to participate in the study. Thirty-one eighth graders, 20 seventh graders, and 14 sixth graders. The students were categorized by academic achievement. Students who usually received As and Bs were considered high-achieving, this consisted of 46 out of the 65 students. While

students who usually received letter grades below Bs were considered low-achieving, they consisted of 19 students out of the 65 students.

The data was evaluated by Herges et al., 2017 using descriptive statistics of self-reported math grades. The scores from specific sub scales were combined to better represent each sub-scale. How academic achievement relates to intrinsic motivation of middle school math students was measured using a Pearson's r correlation analysis between students' reported math grades and summed scores on intrinsic motivation sub scale. How academic achievement relates to intrinsic motivation in middle school students was analyzed using t-tests were run between males and females, and between high and low-achieving students. The factors influencing middle school math students motivation to achieve used a content analysis to identify words from student responses related to intrinsic and extrinsic motivation.

A strong positive correlation was found between intrinsic motivation for all students, eighth graders, as well as females and males. This shows that there is a positive correlation between achievement and intrinsic motivation (Herges et al., 2017). High-achieving students constantly had more positive attitudes towards math, more perceived teacher support, and perceived parental support versus low-achieving students. Students reported extrinsically-oriented motivational factors include good grades, pleasing parents, receiving a reward such as cash or video game time, and or preparing for a college or career (Herges et al.). Intrinsically-oriented motivational factor students reported feeling good about themselves, and learning. High and low-achieving students showed significant differences in sub scales including intrinsic motivation, student extrinsic

motivation, mathematics values, mathematics enjoyment, math confidence, parental

involvement, and parental intrinsic motivation (Herges et al.).

Technological/Web-Based Self-Assessment

The computer program used in Ninness et al. (1998) tested how well students

could self-assess both with and without feedback. The results showed that when students

self-assessed with feedback, their performance increased. Including the number of

correctly solved problems, and the amount of time they spent interacting with the

program.

Online courses and supplementation are becoming the new "normal" in

classrooms around the world. Hoskins and van Hoof (2005) wanted to determine which

students voluntarily used web-based learning, and how it influences academic

achievement. This study utilized 110 undergraduate students in a biology psychology

course at the University of Portsmouth in the United Kingdom, that used WebCourse, an

interactive course website that has information regarding content of the course, and its

organization. Including relevant websites, homework and references to additional

literature. A self-assessment quiz and a bulletin board offered an opportunity for dialogue

between peers and the teacher. A student's performance in the course was assessed using

two practical reports, a 35 multiple-choice question test, a figure of the brain to be

labeled, and a choice of two to five essay questions. In order to measure online use,

general web use was measured by the number of times the course homepage was

accessed, a student's overall period of access measured by the period of access in weeks.

A student's use of the web for dialogue was measured by the number of items read and

the number of items posted on the bulletin board. The extent students utilized the web for self-assessment included quiz performance and quiz attempts.

The number of homepage visits increased with age, as well as the numbers of items read. The greater the students' performance, the more likely they were to enter into a dialogue on the bulletin board (Hoskins & van Hoof, 2005). These results show that higher-achieving students tend to voluntarily use web-based learning.

Using their knowledge of the solar system, the students in Hsieh, Cho, Liu, and Schallert (2008) formed a hypothesis of a problem related to the solar system. Utilizing the computer program, they were able to gather information and test their hypotheses. Students who used the problem-based computer program greatly increased their science knowledge, as measured by their questionnaires before and after the unit (Hsieh et al.). The students also decreased their performance approach and performance-avoidance goal orientation significantly.

Criteria-Based Self-Assessment / Standards-Based Self-Assessment

Pajares, Hartley, and Valiente (2001) sought to see whether the zero to 100 format of assessing writing self-efficacy beliefs differed in factor structure, internal consistency, relation to motivation constructs, prediction of achievement to motivation constructs, and achievement indexes from a more traditional zero to six Likert scale. Four hundred and ninety-seven middle school students in grades sixth through eighth who were taking regular language arts classes at a public school in the Northeastern United States served as participants. A 10-page instrument assessing motivation variables, and writing attitudes was used to collect data within one class period. The writing variables and motivation variables include writing self-concept, writing appreciation, value of writing,

self-efficacy for self-regulation, and achievement goals in writing. One item at a time was

read aloud by the administrator. There were two versions of how students gave their

responses to the self-efficacy scale. Version one asked students to rate their skills on a

scale of zero to 100. Version two asked students to rate their writing skills on a six-point

Likert scale, zero to six.

Achievement goals were analyzed using a scale derived from the Patterns of

Adaptive Learning Survey. Self-efficacy for self-regulated learning scale assessed a

student's judgement of their capability to learn in various academic courses was adapted

from Children's Multidimensional Self-Efficacy Scales (as cited in Pajares et al., 2001).

Writing concept was assessed with six items adapted from Academic Self-Description

Questionnaire (as cited in Pajares et al., 2001). Writing apprehension was measured by a

scale adapted from Daly and Miller's Writing Apprehension Test (as cited in Pajares et

al., 2001). Finally, value of writing assessed perceived importance, interest and

enjoyment of writing. An Exploratory Factor Analyses of the scales found that both

scales were made up of two factors. Factor One was related to advanced composition.

Factor Two was related to basic grammar, such as spelling and punctuation.

Correlations between each of the factors and other motivation and achievement

indexes revealed that the zero to 100 scale had much stronger correlations to academic

performance versus the Likert scale (Pajares et al., 2001). The Likert scale was found to

be better in regard to task and goal orientation, and self-efficacy for self-regulation. There

were no significant differences in correlations between the factors and writing self-

concept, writing anxiety, value of writing, or performance of goal orientations (Pajares et

al.). The broader the scale, the more accurate the result. Using broader scales helped students make better judgements of their work.

Teacher-Based Strategies

If students don't have specific goals to improve their work, how can they get better? Oare (2012) sought to understand how middle school instrumental music students make decisions during their practice sessions. In particular, how they set goals, what practice strategies they use, in what ways do students assess their performance, and student perceptions of self-efficacy effect decisions made within their practice? The participants included five band students; three seventh graders, an eighth grader, and one ninth grader from a middle school in the Midwestern United States. Each student performed their usual 20-minute practice routine while being videotaped. Afterwards the students were interviewed. The questions asked during the interview follow these themes; feelings of self-efficacy, choice and reasons for the practice strategies used, decisions related to use of remedial goals and strategies, choice of quality of goals and the reasoning behind the choices, methods, uses and accuracy of self-assessment and uses of mental practice techniques. The video tapes of the practice sessions, and the interviews were transcribed, coded, and put into a database. The database was made into 40 sets of codes, which were analyzed to see how often they appeared in the data. Four general themes were found; motivation, goals, strategies and assessment (Oare).

All five students showed positive self-efficacy regarding the music they chose to practice. When students encountered difficult parts in the music they acted in one of three ways: at some point they showed a tendency to move on to another activity when something was frustrating. Second, they tended to go to easier passages when their piece

was too difficult. Third, the student's ability to maintain focus for the practice period affected their motivation. Oare (2012) found in the practice sessions, students lacked purposeful goals. Their goals were vague and their answers of when they knew they had accomplished their goals lacked specificity. When they did have goals, they were reactive versus proactive. Overall, the students seemed to lack strategies and the skills needed to accomplish specific goals. When students found mistakes they made while practicing, they weren't sure of what to do in order to improve. Teachers need to teach their students strategies, as well as how and when to use them. Ninness et al. (1998) found that teaching students how to self-assess seemed to have a positive influence on their self-assessment. Redeemable points might have helped the students correlate the value of self-assessment.

While explaining a new assignment, teachers may show examples of students from previous years. Fewer teachers take the next step of going through the good and poor examples alongside the criteria for the assignment. This study from Lin-Siegler, Shaenfield and Elder (2015) aimed to help students develop self-assessment skills in order to improve self-regulation and their academic performance. Fifty-three sixth grade students from two different classes taught by the same social studies teacher at a public school in the Southern United States were the participants. It assessed whether analyzing and discussing both a poor and well-written story contrasted side-by-side produced better quality academic work and self-assessment versus analyzing and discussing two well written stories side-by-side. During a three-week unit about Ancient China students researched the Qing and Ming Dynasties. The intervention was three days out of the unit. The main assignment is also the intervention for this study; students writing two stories about an average day in the life of a child during both dynasties. The week before the

intervention all students researched both dynasties, were given six criteria that make a good story, and wrote a pre-test about the Qing dynasty. After they completed their stories they were randomly assigned one of two interventions. The first being the contrasting-cases intervention, which had 27 students, who were shown two example stories, one with good quality features and one of poor-quality features according to the given criteria. The other group was the good-cases-only group, made up of 26 students, where only good features of well-written stories were given as the two example stories. The teachers analyzed and discussed the two stories with students. The six criteria according to the rubrics that all stories should have are: 1) A clear main thesis showing what was most important during that time period. 2) Having detailed examples explaining how people lived during that period, especially children. 3) Historic facts should come alive by having specific characters and events. 4) The characters and events should be presented in a connected and logical way. 5) Teach important lessons. 6) Raise questions about that time period to learn more. Qualities of the stories, the depth of understanding of the criteria, and quality of self-assessment are the measures assessed. Quality of the stories were evaluated both pre- and post-intervention. The six criteria were rated on a scale of zero to five. Zero being not met, three being somewhat met, and five being completely met. Depth of understanding of the criteria was assessed after students were shown the example stories, they were to identify examples of the six criteria on index cards. This was to see if the contrasting-case group had an effect on the number of examples they gave for each criterion. Students were scored on a scale of zero to six. Zero being didn't generate any criteria, six meaning one example for each of the six criteria. If students gave a contrasting example for a criterion, they would still get a one.

Quality of self-assessment was measured by their self-assessment of strengths and weaknesses of the stories and their accuracy of their strengths and weaknesses. These were answered on a worksheet that had three questions: 1) What was good about your story? (strengths). 2) What aspects of your story need improvement? (weaknesses). 3) How could you improve your story? Students were to use specific strategies to improve their stories. Three questions were coded as surface level or substantive assessment. A surface level assessment was coded as a zero. While a substantive assessment was given a one.

Contrasting-case students did better than good-only cases in five out of the six criteria. The exception was having detailed examples explaining how people lived during that period, especially children. Contrasting-case students also showed a greater depth of understanding of the criteria versus the good-cases-only group (Lin-Siegler, Shaenfield & Elder, 2015). Contrasting-cases were better able to create strategies to improve their stories, as well as recommend substantive strategies to improve their stories. A positive correlation was found in accuracy of assessment in the contrasting-case group which suggests that their intervention improved their ability to self-assess.

Byrd and Matthews-Somerville (2007) sought to see how twenty-three early childhood/special education, and seven elementary education undergraduate majors from Bowie State University in Maryland, rated their achievement behaviors compared to that of their instructor. The students were from three different education courses and volunteered to be a part of this study. The survey was self-administered and consisted of the Listening and Study Skills Survey. Each question had a three-point Likert rating scale (always, sometimes, and never). The questions made the participants critically think

about their individual behaviors that cause their success or failure. Four broad categories were researched; study behaviors outside the classroom, participatory behaviors in the classroom, knowledge of one's own learning style, and emotional connectivity in the classroom. A Pearson r, and Coefficient R using the statistical package for the social sciences were used to measure the relationship between student and instructor with respect to student achievement behaviors. The data showed a low correlation between students' self-assessment and actual performance (Byrd & Matthews-Somerville). Byrd and Matthews-Somerville recommend helping students with perceptual distortions, so they can accurately self-assess. One way to help students with perceptual disorders according to Andrade and Du (2007) is for teachers to show both good and bad examples. This could reveal discrepancies between student and teacher perception of quality.

Teachers reported keeping their motivation for teaching fresh, in order to help their students' motivation (Unrau, Ragusa, & Bowers, 2015). To help their students maintain motivation for reading, the teachers reported using interesting texts, especially ones the students will find interesting. If these are used, they are more likely to catch the attention and increase motivation to learn. Helping students set learning goals, evaluate them regularly, and collaborating with peers will help students gain self-reliance and practice accountability (Unrau et al.). Teachers' perceptions of students' motivation are often accurate (Gottfried, 1985).

Sixty-six undergraduate students from the University of Missouri-Columbia in the U.S. state of Missouri were the participants in Ferguson and Sheldon's (2010) study. Some of the participants were recruited from their psychology courses for credit. While others were recruited through a campus-wide email. Upon completion of the study, these

students would get a 20-dollar gift card to the campus bookstore. Over a two-month period the students would be emailed online surveys to complete for the study. This study focused on seeing if matching skill level with high- and low-level goals would benefit the students. Keeping up with schoolwork was the goal, no matter the skill level. Students skill level was taken from their ACT score, current courses and their expected letter grades from those courses. Students were contacted at four separate times throughout the two-month long study. The first contact introduced the goal to the students. Then their reasons for achieving the goal were measured to see if they were more externally or internally motivated, this was done on the fourth point of contact as well. Their reasons for achieving the goal were completed both before and after the students completed the 15-minute free write exercise. The writing exercise asked the students to write for 15 minutes about their goal. Students were either asked to write about the reasons why they were working toward their goal, as well as their thoughts and feelings and potential benefits this goal could provide them (high-level). Or how they were going to accomplish the goal, including detailed plans to complete the goal (low-level). The second and third points of contact had the students do the 15-minute writing activity about their goal.

Ferguson and Sheldon (2010) found that low-level participants reported higher expectations if their writing assignment matched their skill level. This also increased their positive expectations and autonomous motivation. If lower-level participants were to think at a higher level, they may not internalize their goal, and vice versa. If the students' skill level matched their writing skill level, their grades were higher at the end of the semester.

Student-Based Strategies

Andrade and Du (2007) wanted to gain insight into how students view self-assessment. The students in their study had experience with self-assessment while being in Andrade's class for at least one semester. Students self-assess by checking, revising, and reflecting.

Kelaher-Young and Carver (2013) sought to influence twenty-three undergraduate teacher candidates' habits about self-regulated learning by self-assessment strategy using the Motivated Strategies Learning Questionnaire and the Learner-Centered Battery. The subjects were starting their teacher preparation program at a large Midwestern university. The Motivated Strategies Learning Questionnaire ultimately, helped the subjects identify their beliefs regarding cognition and motivation as they relate to learning, and connect it to theory. While the Learner-Centered Battery assesses teacher candidate beliefs about teaching and learning. Throughout the semester, four writing samples were taken from each participant in order to understand how the subjects experienced and learned from the self-assessment exercises to help shape them into their role as prospective teachers. Two were seen as great examples of the subjects thinking about learning; the analysis of their Motivated Strategies Learning Questionnaire and Learner-Centered Battery scores, and the final reflection of the course. Kaleher-Young and Carver read through the data they collected, identifying patterns and themes.

Kaleher-Young and Carver (2013) found that the subjects first reflections were mainly focused on themselves, with few references to teaching and students. While the final reflections were almost equally devoted to issues of learning, teaching and self. The final reflections also showed much stronger direct connections between course content

and personal experience. This study helps show that it's worthwhile for teachers and teacher candidates to self-assess themselves, as it gives them a chance to understand what happens in their own learning. Self-assessment helps students decrease misperception of their academic competence.

A positive relation was found between academic intrinsic motivation and perception of academic competence (Gottfried, 1985). Students with higher academic intrinsic motivation in a specific content area, perceived themselves as having more competence within that area. Academic intrinsic motivation was found to be differentiated by subject area. Students with higher academic intrinsic motivation, generally had better perceptions of their academic competence, lower academic anxiety, lower extrinsic classroom orientation, and were rated by their teachers as being generally more intrinsically motivated.

CHAPTER III: DISCUSSION AND CONCLUSION

Summary of Literature

Self-assessment is a tool teachers can use to help their students improve study habits, earn better grades, be more critical of academic work, and increase confidence in academics (Andrade & Du, 2007; Hagborg, 1992; Landers & Reinhold, 2015; Orsmond et al., 1997). Student self-assessment can increase goal achievement (Ames & Archer, 1988). While teachers try to increase their students' motivation, students should adapt to thinking of their goals at a higher-level. If students think of their goals at a higher-level or have mastery goals, they are more likely to seek challenges, see their work as a process of growth, and be more self-motivated (Ames & Archer; Davis et al., 2015, Hseih et al., 2008, Orsmond & Merry, 2013). Students who develop a performance goal orientation, or have low-level goals are often teacher-directed, memorize feedback instead of learning from it, and emphasize failures due to lack of ability (Ames & Archer; Meyer et al., 2009; Orsmond & Merry, 2013).

Teachers can combat performance-oriented goals by creating mastery climates in their classrooms. By encouraging mastery-oriented goals students are more likely to choose effective learning strategies, lessen the impact of how they view their abilities, and increase intrinsic motivation (Ames & Archer, 1988; Archer & Scevak, 1998; Gottfried, 1985). Another way teachers can encourage mastery goals is to form positive relationships with their students. If teachers form a positive relationship, students are more likely to respond to self-assessment in a positive way (McKevitt, 2016). Not only a positive relationship, but forming one based on shared recognition, and being a role model helps increase student motivation (Unrau et al., 2015). If teachers find themselves

having a hard time connecting with students, they should keep in mind that teacher-student relationships can and do change throughout the academic year (Gehlbach et al., 2011).

Listening to students is important to understanding their experiences with self-assessment. While starting self-assessment many students felt it was burdensome, and stressful due to their lack of experience (Andrade & Du, 2007 & Logan, 2009). Once students gained experience and learned from feedback, they began to view self-assessment more positively. Students reported being better able to focus on key elements of an assignment, more likely to revise their work, view homework as a learning opportunity, be more critical of their work, and learn from tutor feedback (Andrade & Du; Landers & Reinholz, 2015; Orsmond et al., 1997; McKevitt, 2016).

It is important for teachers to follow their students' self-assessment progress and understand how the students results compare to the teachers. High-scoring students tend to under-mark, while low-scoring students usually over-mark compared to the teacher's score (Boud et al., 2013; Cassidy, 2007; Karnilowicz, 2012; Orsmond et al., 1997; Pope, 2005). High-scoring students are more likely to self-assess accurately (Cassidy). Practicing and gaining self-assessment experience will help students with their accuracy (Boud et al.; Karnilowicz). Teachers utilizing self-assessment should teach and guide students on their self-assessment journey (Oare, 2012; Ninness et al., 2012). Giving feedback to students helps guide their thinking and learning. If feedback is not available, the students' performance will decrease (Ninness et al.). Using contrasting cases when presenting a new assignment for students to self-assess will help with understanding and

will help prevent student misperceptions (Andrade & Du, 2007; Byrd & Matthews-Somerville, 2007; Lin-Siegler et al., 2015).

With technology now being a staple in the classroom incorporating technology-based self-assessment may help increase student buy-in. When students receive feedback with technology-based self-assessment their academic performance increases (Ninness et al., 1998; Hsieh et al., 2008). Self-assessment helps students understand what happens in their own learning (Kaleher-Young & Carver, 2013). Students self-assess by checking, revising, and reflecting on their academic work (Andrade & Du, 2007). Self-assessment helps students decrease misperceptions of their academic competence (Kaleher-Young & Carver). Students who have higher academic intrinsic motivation have a better perception of their academic competence (Gottfried, 1985).

Limitations of the Research

The research was limited to studies that came from countries where English is the official language. A variety of English-speaking countries are present in this research; Australia, The United Kingdom including England and Ireland, and New Zealand. Countries that speak the same language often have similar cultures. Subtle nuances may be missed if the writer isn't a native English-speaker, even if the writer speaks English fluently.

Does self-assessment increase secondary student academic intrinsic motivation? No articles were found that pertained to the research question. The studies found either contained research towards self-assessment or motivation. None were found that included both. Studies that may have included both a type of self-regulation and motivation were from non-English speaking countries. A majority of the studies related to self-assessment

had subjects that were in tertiary education. Of the studies that included secondary students, fewer included a general focus of academic self-assessment that could be applied to various topics. Many of the connections between self-assessment and motivation were found by cross-referencing studies that were related to each topic separately. The narrowed studies were chosen for their topics including self-assessment that could be replicated in a general sense. While choosing studies based on motivation, an emphasis was placed on intrinsic motivation. Most of the research studies included subjects who were mostly Caucasian. Few were found that included diverse subjects.

Implications for Future Research

Teachers everywhere struggle to keep their students engaged, and motivated. The research looks promising that self-assessment can help secondary students increase their intrinsic motivation. Researchers should begin to study if secondary student intrinsic motivation does increase with self-assessment.

Which format for self-assessment is best for secondary students? Pencil and paper worksheets, free writes, technology-based, or a combination? Which yields the most improvement in intrinsic motivation? Should self-assessment be apart of the overall class grade? If it is included in grading, does it take away from the quality of the students work? I do not mean self-evaluation, rather having it be a part of their grade for the assignment. Would it increase student participation? It is in the best interest of the teaching profession to include subjects that are not of one race or ethnicity. Within our country are many races and cultures, to mostly study one race doesn't benefit everyone.

Implications for Professional Application

I've been in many classrooms recently and have noticed increased apathy in middle and high school students. I propose that self-assessment should be built into the classroom curriculum, whether it is for one large project or small assignments. Andrade and Du (2007) recommend that self-assessment should not be graded as it will take away from the quality of their assignment by working towards getting a better grade, versus learning from the assignment.

I believe secondary student self-assessment should be implemented school-wide. According to students in Andrade and Du's (2007) study, it was hard to transfer the self-assessment skills they learned in Andrade's class to other classes due to lack of support. If it is school-wide, it would help increase the likelihood that self-assessment skills are retained, and benefits are seen. I recommend schools introduce self-assessment through a period of professional development at the beginning of the school year. This way teachers are able to learn what it is, how to incorporate it into their classrooms, and support each other during the implementation period. As for the professional development plan, I suggest that teachers be able to plan how to use self-assessment while they're learning about it. That way, administrators and fellow teachers can peer-assess, and learn from one another.

Reinforcing on a regular basis why students are self-assessing will help prevent misperceptions and create buy-in. Expectations for self-assessment should be explained (Andrade & Du, 2007). I have personally seen when teachers who are a part of a department don't coordinate what expectations will be conveyed to their students about self-assessments that were included on department-wide summative assessments.

Students self-assessed how well they did on short answer essay questions. Students eventually stopped self-assessing themselves because they didn't understand the expectations that went along with this portion of the assessment, or the importance behind self-assessing.

Teachers should show students both good and poor-quality assignments and self-assessments in order to increase understanding of expectations (Andrade & Du, 2007; Byrd & Matthews-Somerville, 2007; Lin-Siegler et al., 2015). Teacher feedback should include strategies to help students self-monitor and improve upon their work (Davis & Neitzel, 2011). If feedback is just content-based, students could miss an opportunity to build skills to better their academic work in the future. If feedback isn't made available to students, their performance decreases (Ninness et al., 2008). Efforts should also be made for students to view their self-assessment goals in a high-level manner (Ames & Archer, 1998; Archer & Scevak, 1998; Davis et al., 2015; Hsieh et al., 2008).

Conclusion

Self-assessment has been proven to increase student academic skills (Andrade & Du, 2007; Boud et al., 2013; Hsieh et al., 2008; Kelaher-Young & Carver, 2013; Landers & Reinholz, 2015; Logan, 2009). The research shows there is promise that self-assessment does increase secondary student academic intrinsic motivation. Self-assessment teaches students to critically assess their work, giving them skills to help their academic future. Educators should heed this promising research and consider implementing self-assessment in their classrooms, and to encourage researchers to increase the amount of information on this valuable topic.

References

Ames, C. & Archer J. (1988). Achievement goals in the classroom: students learning

    strategies and motivation processes. *Journal of Educational Psychology, 80(3),*

    260-267. doi:10.1037/0022-0663.80.3.260

Andrade, H.G. (2009). Students as the definitive source of formative assessment:

    Academic self-assessment and the self-regulation of learning. In H. Andrade & G.

    Cizek (Eds.), *Handbook of formative assessment.* (pp. 90-105). Retrieved from

    https://ebookcentral.proquest.com/lib/betheluniversity-ebooks/reader.action?

    docID=455487

Andrade, H. & Du, Y. (2007). Student responses to criteria-referenced self-assessment.

    Assessment & Evaluation in Higher Education, 32(2), 159-181.

    doi:10.1080/02602930600801928

Archer, J., & Scevak (1998). Enhancing students' motivation to learn: achievement goals

    in university classrooms. *Educational Psychology, 18(2)*, 205-223. doi:10.1080/

    0144341980180206

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: Freeman.

Boekaerts, M., Pintrich, P.R., Zeider, M. (Eds.). (2000). *Handbook of Self-regulation.*

    [ProQuest Ebook Central]. Retrieved from https://ebookcentral.proquest.com/lib/

    betheluniversity-ebooks/detail.action?docID=300645

Boud, D., Lawson, R. & Thompson, D.G. (2013). Does student engagement in self-

    assessment calibrate their judgement over time? *Assessment & Evaluation in*

    Higher Education, 38(8), 941-956. doi:10.1080/02602938.2013.769198

Brookhart, S.M., & Durkin, D.T. (2003). Classroom achievement, student motivation, and achievement in high school social studies classes. *Applied Measurements in Education, 16*(1), 27-54. doi:10.1207/S15324818AME1601_2

Byrd, T. & Matthews-Somerville, R. (2007). Efficacy of students self-assessment. *Academic Exchange, 11(1),*162-166. Retrieved from http:go.galegroup.com. ezproxy.bethel.edupsi.do&id = GALE %7CA165912662&v=2.1&u =clic_bethel&i t=r&p=PROF&sw=w&authCount=1

Cassidy, S. (2007). Assessing 'inexperienced' students' ability to self-assess exploring links with learning style and academic personal control. *Assessment & Evaluation in Higher Education, 32(3)*, 313-330. doi:10.1080/026029306

Davis, D.S., & Neitzel, C. (2011). A self-regulated learning perspective on middle grades classroom assessment. *The Journal of Educational Research, 104(3),* 202-215. doi:10.1080/00220671003690148

Davis, W.E., Kelley, N.J., Kim, J., Tang, D., & Hicks, J.A. (2015). Motivating the academic mind: High-level construal of academic goals enhances goal meaningfulness, motivation, and self-concordance. *Springer, 40(2)*, 193-202. doi: 10.1007s11031-015-9522-x

Dweck, C.S. (2016). *Mindset: the new psychology of success.* New York: Random House.

Ferguson, Y.L., & Sheldon, K.M. (2010). Should goal-strivers think about "why" or "how" to strive? It depends on their skill level. *Motivation and Emotion, 34(3),* 253-265. doi:10.1007/s11031-010-9174-9

Gehlbach, H. Brinkworth, M.E., & Harris, A. D. (2011). Changes in teacher-student relationships. *British Journal of Educational Psychology, 82,* 690-704. doi: 10.1111/j.2044-8279.2011.02058.x

Gottfried, A.E. (1985). Academic intrinsic motivation in elementary and junior high school students. *Journal of Educational Psychology*, *77(6)*, 631-645. doi: 10.1037/0022-0663.77.6.631

Hagborg, W.J. (1992). Grades and motivational orientation among high school students. *Journal of Psychoeducational Assessment, 10(4),* 355-361. doi: 10.1177/073428299201000405

Herges, R.M., Duffields, S., Martin, W., & Wageman, J. (2017). Motivation and achievement of middle school mathematics students. *The mathematics educator, 26(1),* 83-106. Retrieved from https://files.eric.ed.gov/fulltext/EJ1153299.pdf

Hoskins, S.L. & van Hoof, J.C. (2005). Motivation and ability: which students use online learning and what influence does it have on their achievement? *British Journal of Educational Technology, 36(2),* 177-192. doi:10.1111/j.1467-8535.2005.00451.x

Hsieh, P., Cho, Y., Liu, M., & Schallert, D. L. (2008). Examining the interplay between middle school students' achievement goals and self-efficacy in a technology-enhanced learning environment. *American Secondary Education, 36(3)*, 33-50. Retrieved from https://www-jstor-org.ezproxy.bethel.edu/stable/41406120

Karnilowicz, W. (2012). A comparison of self-assessment and tutor assessment of undergraduate psychology students. *Social Behavior and Personality, 40(4),* 591-604. Retrieved from http://dx.doi.org/10.2224/sbp.2012.40.4.591

Kelaher-Young, A.J., & Carver, C.L. (2013). Shifting attention: using learning self-assessment tools during initial coursework to focus teacher candidates on student learning. *Teacher Education Quarterly, 40*(4), 111-133. Retrieved from http://www.jstor.org.ezproxy.bethel.edu/stable/teaceducquar.40.4.111

Landers, M. & Reinholz, D. (2015). Students' reflections on mathematics homework feedback. *Journal of Developmental Education, 38(3),* 22-32. Retrieved from https://web-b-ebscohost-com.ezproxy.bethel.edu/ehost/detail/detail?vid=0&sid=eec548df-5b15-42c a-8c1a-7017be4ac98d%40sessionmgr101&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#AN=109313201&db=keh

Lin-Siegler, X., Shaenfield, D. & Elder, A.D. (2015). Contrasting case instruction can improve self-assessment of writing. *Educational Tech Research Development, 63(4),* 517-537. doi:10.1007/s11423-015-9390-9

Logan, E. (2009). Self and peer assessment in action. *Practitioner Research in Higher Education, 3(1),* 29-35. Retrieved from https://files.eric.ed.gov/fulltext/EJ1130670.pdf

McKevitt, C.T. (2016). Engaging students with self-assessment and tutor feedback to improve performance and support assessment capacity. *Journal of University Teaching & Learning Practice, 13(1)*. Retrieved from https://files.eric.ed.gov/fulltext/EJ1097250.pdf

Meyer, L.H., McClure, J., Walkey, F., Weir, K.F., & McKenzie, L. (2009). Secondary motivation orientations and standards-based achievement outcomes. *The British Psychological Society, 79(2)*, 273-293. doi:10.1348/00070990BX354591

Ninness, H.A.C., Ninness, S.K., Sherman, S., & Schotta, C. (1998). Augmenting

computer-interactive self-assessment with and without feedback. *The

Psychological Record, 48(4)*, 601-616. doi:10.1007/BF03395292

Oare, S. (2012). Decisions made in the practice room: a qualitative study of middle

school students' thought processes while practicing. *Applications in Research in

Music Education, 30(2),* 63-70. doi:10.1177/8755123312437051

Orsmond, P., & Merry, S. (2013). The importance of self-assessment in students' use of

tutors' feedback: a qualitative study of high and non-high achieving biology

undergraduates. *Assessment & Evaluation in Higher Education, 38(6),* 737-753.

Retrieved from http://dx.doi.org/10.1080/02602938.2012.697868

Orsmond, P., Merry, S., & Reiling, K. (1997). A study in self-assessment: tutor and

students' perceptions of performance criteria, *Assessment & Evaluation in Higher

Education, 22(4),* 357-368. doi:10.1080/0260293970220401

Pajares, F. Hartley, J., & Valiente, G. (2001). Response format in writing self-efficacy

assessment: greater discrimination increases prediction. *Measurement and

Evaluation in counseling and Development, 33(4),* 214-221. Retrieved from:

https://search-proquest-com.ezproxy.bethel.edu/docview/195607716?

accountid=8593

Pintrich, P.R., Smith, D.A.F., Garcia, T., & McKeachie, W.J. (1991). A manual for the

use of the Motivated Strategies for Learning Questionnaire (MSLQ) (pp. 9-10).

Ann Arbor: University of Michigan, National Center for Research to Improve

Postsecondary Teaching and Learning.

Pope, N.K.Ll. (2005). The impact of stress in self- and peer assessment. *Assessment &*

Evaluation in Higher Education, 30(1), 51-63. doi:10.1080/02602930420

00243896

Unrau, N., Ragusa, & Bowers, E. (2014). Teachers focus on motivation for reading:

"It's all about knowing the relationship." *Reading Psychology, 36(2)*, 105-144.

doi:10.1080/02702711.2013.836582