The Impact of Self-Assessment on Student Achievement

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Abstract

This is a study of the effect of self-assessment practices on constructed response items and how self-assessment impacts student achievement in the classroom. Approximately 60 8th grade students from one school will be used in this study. One class will receive the self-assessment instruction, and one class will not receive the self-assessment instruction. All students will complete a pre-test on their Quarter Three Benchmark concepts before the instruction is implemented. At the end of the nine weeks, students from both groups will be given a post-test, this test will be their Quarter Three Benchmark. Student from the treatment group will also take a survey about their experiences with the self-assessment instruction throughout the third nine weeks. The post-test will be scored to determine if the self-assessment instruction had an impact of the achievement of the students.
Purpose

The purpose of this study is to determine the effects of using self-assessment on constructed response items to increase academic achievement in 8th grade Social Studies.

Review of Literature

For the past couple of years in the field of education, student self-assessment has been a major focus area in many school districts across the country. Self-Assessment is defined as the involvement of students in identifying standards and/or criteria to apply to their work and making adjustments about the extent to which they have met these criteria and standards (McDonald, 2002). Thus, self-assessment is conceptualized here as the combination of three components: self-monitoring, self-evaluation, and identification and implementation of instructional correctives (McMillian & Hearn, 2008). This means students will monitor their work throughout the process by evaluating and making revisions in work when needed. Self-assessment demands sincerity, integrity, honesty, recording skills, the ability to follow instructions, the ability to pay attention to details and the ability to think independently (McDonald, 2002). Self-assessment returns voice and ownership to students. In turn, the teacher is able to better support the changing needs of each student (Bingham, Holbrook, & Meyers, 2014). This sense of voice and ownership can tend to motivate students. Self-assessment also involves metacognition. Metacognition involves the knowledge and control of one’s own thinking (Tanner & Jones, 1994). There are three strands of metacognition that support the modeling process: planning, monitoring, and evaluating (Tanner & Jones, 1994). This process of planning, monitoring and evaluating supports the previous statement above about students being motivated by being the center of their own learning processes.
The types of learning tools that are implemented in this process are student-learning communities, models, and specific academic feedback. Learner-centered framework is when students are viewed as active participants in learning and co-constructors of knowledge (Meece, 2003). In this process, students are at the center of their own learning and gain ownership of that learning by being involved throughout the process by self-monitoring. Self-monitoring is a skill necessary for effective self-assessment and involves focused attention to some aspect of behavior and thinking. Self-monitoring students pay deliberate attention to what they are doing, often in relation to external standards (McMillian & Hearn, 2008). Student learning communities allows for the development of life long skills to realistically assess one’s own performance, plan future goals, and enhance academic achievement (McDonald, 2002). This self-monitoring is possible through the help of rubrics and strong models of work.

Rubrics have become popular with teachers as a means of communicating expectations for an assignment, providing focused feedback on works of process and grading final products (Andrade, Wang, Du, & Akawai, 2009). Although educators tend to define rubric in slightly different ways, a commonly accepted definition is a document that articulates the expectations for an assignment by listing the criteria or what counts, and describing the levels of quality from excellent to poor (Andrade et al., 2009). This criterion is what enables students to monitor, evaluate and revise their work through the learning process. Some research suggests that rubric use can be related to improvements in the quality of students’ writing and knowledge of the qualities of effective writing (Andrade et al., 2009). Rubrics can also be used to monitor, evaluate and revise student work on projects as well.

Through the process of student monitoring, there must be teacher monitoring as well. Monitoring is the hub of self-regulated task engagement, and the internal feedback it generates is
critical in shaping the evolving pattern of a learner’s engagement with a task (McDonald, 2002). Teacher feedback on student work is highly impactful on student achievement and the evolution of student learning. Timely feedback provided by the teacher makes the learner aware of his or her status on the task undertaken and allows him/her to take positive action (McDonald, 2002). The basic premise of feedback is for students to take the suggestions of the teacher and revise their work accordingly; many times this feedback is directly aligned to the rubric that the students have been given to guide their work.

Self-evaluation has been measured using a variety of statistical tools (e.g. correlation, difference scores), but it generally involves the comparison of students’ ratings to a standard criterion, set with ratings by experts or teachers (Hewitt, 2005). This expert or teacher rate or criteria is usually in the form of a strong model. Listening to a model recording seemed to help students make more self-evaluative comments about their performance (Hewitt, 2005). Using strong models of student work often shows the students what the criteria for mastery looks like and how they should use it to produce the work that is at a mastery level. The underlying idea is that human decisions and performance are dependent on a person’s knowledge and on a person’s assessment of his or her knowledge. Together, there are two dimensions that are seen as representing useable knowledge (Hassmen & Hunt, 1994). This useable knowledge cannot be made evident and usable to the student without seeing the criteria in work first hand. This makes the process and criteria clear for the students and makes it possible for students to attain mastery.

According to Denscombe and Robins (1980), self-assessment would have advantages over more conventional methods to the extent that it encourages students to become self-conscious about their own development, provides a method of drawing attention to problems in work, and facilitates communication between the tutor and the students. Denscome and Robins
(1980) also stated the self-assessment program was a useful catalyst for discussion. It was an advantage for communication between tutors and students. This finding proves that the communication between teacher and student enables the students to attain higher levels of mastery, while still being the leading facilitator in their own learning. We also see that motivation in students is clearly enhanced. Overall, the students’ results support the use of student learning communities for improving student motivation and achievement (Meece, 2003). This motivation is carried into student engagement and full participation in the student learning community process. When students set goals that aid their improved understanding and then identify criteria, self-evaluate their progress toward learning, reflect on their learning and generate strategies for more learning, they will show improved performance with meaningful motivation (McMillian & Hearn, 2008). This deep level of self-evaluation must be developed over time. Self-assessment many be regarded as a skill and, as such, needs to be developed (Falchikov & Bond, 1989). This means that this type of metacognitive thinking develops through consistency ant practice. Hewitt (2002) stated that students improved their self-evaluation accuracy over time. This statement clarifies that students need to engage in this type of thinking regularly in order to gain the full benefits.

**Hypothesis**

It is hypothesized that 8th grade students who use self-assessment on constructed response items will score statistically significantly higher than students who do not use self-assessment on constructed responses with respect to academic achievement.
Operational Definitions

For the purpose of this study, middle school is defined as grades 6-8. The self-assessment instruction used in the study is a combination of many studies done in previous years. The studies used rubrics, models, and feedback to provide students with the tools needed to assess their work. Self-assessment is defined as a process by which students monitor, evaluate and identify strategies to improve their understanding (McMillian and Hearn, 2008). Academic achievement is defined as achievement during instruction (McMillian and Hearn, 2008). Constructed response is defined as an extended response item that uses graphs, charts, and/or passages.

Method

Research Design

A concurrent, mixed methods design (QUANT+QUAL) will be used for this study. The quantitative component of the study will use the nonequivalent pre-test/post-test control group design. The independent variable will be the use of self-assessment on constructed response items. Students will be in separate classes; one class will receive the treatment, and one class will be the control group. The dependent variable will be the student achievement based on benchmark exams. Classroom observations will be used to collect qualitative data.

Sampling

This study will utilize convenience sampling using two intact classes. There will be approximately 60 eighth grade students between the ages of 13 and 15. The treatment group will consist of 28 students. Thirty-nine percent of the treatment group will be male, and 61% will be
female. Eighty-nine percent will be White, while 11% will be Black. 6% percent of the students are on free or reduced lunches. The control group will consist of 28 students. Twenty-five percent of this group will be male and 75% will be female. The racial composition will be 77% White, 7% Black, 5% Asian and 11% Hispanic. Four percent of the students in the control group will receive free or reduced lunches.

**Instrumentation**

For this study, the Ascension Parish Eighth Grade Social Studies Quarter Three Benchmark Exam will be given as a pre-test and post-test. This test is designed to measure student achievement in each quarter. The test will consist of 23 Multiple Choice questions and a constructed response question to be answer during a 90-minute class period. The authors of the test relied on expert judgment and test-released items from the state. The pre-test will be administered before the units are taught, and the post-test will be administered after the units are taught. This will establish test-retest reliability by showing the stability of the exam overtime. Samples of notes, formative assessments, class assignments, and unit tests will be compared to the benchmark exam test to ensure the content validity.

**Procedures**

Two 8th grade social studies classrooms will be selected from the same school to maintain similar characteristics of students such as socio-economic status, ethnicity, and class size. All students involved in the study will be required to obtain signed consent forms to participate in the study. The consent forms will include: the child’s name, grade, age, race, and gender. This information is obtained for research purposes for the study.
In order to determine the class that will receive the treatment, each class’s block number will be put into a hat. The class that is drawn first will receive the treatment. The second class drawn will be the control group.

This students in class A and class B will take the pre-test to determine the level of the students’ work prior to treatment. Students in class A will then receive treatment. The students in the treatment group will be exposed to the use of rubrics, models and feedback on student work. They will experience the process in which they evaluate their learning throughout the learning process. The treatment for this group will be given for approximately four weeks. At the end of the four weeks, classes A and B will take a post-test to determine the effectiveness of the treatment. Students in the class A will also complete a survey to measure the impact of the treatment on their level of motivation.

Data Analysis

In order to determine whether a statistically significant difference exists between students who practice self-assessment during instruction and those who do not, a district developed benchmark pre-test and post-test will be used. Qualitative data from the reflection will be analyzed to identify emerging trends.
References


