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An Action Research Study of Student Self-Assessment in Higher Education

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Abstract Although student self-assessment is considered a critical component of assessment for learning, its use and related research are rare in higher education. This article describes an action research study of self-assessment as an instructional strategy in two university courses. Results indicate that self-assessment exercises provided students the opportunity to reflect on the course and their performance, helped them monitor their own progress, motivated them to do well in the course, and provided them the opportunity to give feedback to the instructor. Additionally, from the instructor perspective, the exercises provided useful feedback for course improvement and facilitated interactions and relationships with students.

Key words formative assessment · self-assessment · action research

The importance of formative classroom assessment as part of learning and teaching has been well-documented and has been found to have positive impacts on student academic success (Black and Wiliam 1998). Along with a shift to more student-centered learning, educators, particularly at the PreK-12 level, have witnessed increased interest in formative classroom assessment, or *assessment for learning* (see Stiggins 2005; Stiggins et al. 2007; Wiggins 1998). Elwood and Klenowski (2002) characterized assessment for learning as assessment that enables students to understand their own learning and goals through effective feedback. They further stated that "to improve learning and indeed teaching, assessment must be formative in both function and purpose and must put the student at the centre of the assessment process" (p. 244). Stiggins and his colleagues at the Educational Testing Service's Assessment Training Institute (see Stiggins 2005; Stiggins et al. 2007;

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Stiggins and Chappuis 2005) advocate for student-centered assessment practices; specifically, they argue that quality classroom assessment, including involving students in the assessment process, can result in achievement gains and student excitement about learning.

One form of student-involved assessment, student self-assessment, has been defined broadly as "the involvement of students in making judgements of their learning" (Tan 2008, p. 16). Student self-assessment ranges from students scoring or grading their own work to students evaluating their progress in an instructional program. Tan provided a conceptualization of four types of student self-assessment, which includes involving students in judging their (a) behavior in self-assessment activities, (b) knowledge in self-assessment activities, (c) standards within the program of study, and (d) proficiency within the program of study.

Based on a 3-year study, the Board on Testing and Assessment of the National Research Council included student self-assessment as part of its vision for the future of assessment, noting its potential to support the development of metacognitive skills and to help students internalize the criteria for high quality work (Pellegrino and Chudowsky 2003). More recently, in a report published by the Higher Education Research Institute (DeAngelo et al. 2009), researchers noted an increase in faculty support for enhancing student self-understanding, providing evidence that enhancing metacognitive skills has become increasingly important to college and university faculty.

In addition to supporting students in their development of metacognitive skills, researchers (Elwood and Klenowski 2002; Shepard 2000) have noted that self-assessment helps students take more responsibility for their own learning and facilitates collaborative relationships among teachers and students. Other researchers (Black and Wiliam 1998; Tan 2008) have similarly cited self-assessment as a critical aspect of assessment for learning, as well as lifelong learning. According to Tan (2008),

> Perhaps the most critical need for students to meet their own future learning needs is their capacity to judge what their own learning needs are and how they can go about meeting these needs. Self-assessment ability is, therefore, a critical ingredient for students' lifelong learning (p. 27).

Despite the importance of student self-assessment, its practice in education in general (Black and Wiliam 1998), and in higher education in particular (Taras 2002), is rare. Studies of student self-assessment are similarly lacking. Although researchers have investigated self-assessment as part of larger formative assessment plans (see Wiliam et al. 2004), as Black and Wiliam (1998) noted in their review of the literature on formative classroom assessment, there is a lack of studies that focus specifically on the effectiveness of student self-assessment. Tan (2008), who conducted a study that resulted in a framework of student self-assessment practices in higher education, focused on university instructors' experiences implementing self-assessment; however, in his conclusion, he noted a lack of research on self-assessment from the student perspective. Thus, the purpose of this study was to investigate the effectiveness of student self-assessment in two university courses from the student and instructor perspectives.

Background

I implemented student self-assessment exercises as an instructional strategy in two courses I taught during the 2007–2008 academic year, "Teacher, School and Society" and

"Technology for School Administrators." The purposes of the self-assessment exercises were (a) to help students reflect on their performance in the course; (b) to help students identify areas of strength, areas for improvement, and what they/I/their classmates could do to help them be successful; (c) to motivate students to do well in the course; and (d) to provide me with information about student perceptions of their progress, including facilitating factors and barriers to their progress.

To determine the effectiveness of the self-assessment exercises for these courses, I conducted an action research study. *Action research* is characterized as research conducted by practitioners who implement a study to improve their own practice (North Central Regional Educational Laboratory 2004). Action research in higher education is similar to the *scholarship of teaching and learning* (see Bender and Gray 1999), and it has gained increased attention and importance as part of faculty scholarship. As with other scholarly work, the scholarship of teaching and learning requires that inquiry be reflective, systematic, replicable, and shared publicly.

The Courses

"Teacher, School and Society" is an undergraduate educational foundations course required prior to admission into the School of Education. Course objectives focus on the historical, sociological, and philosophical foundations of education. During the 2007–2008 academic year, I taught the "Teacher, School and Society" course once each semester, fall 2007 and spring 2008. The course met twice a week, face-to-face. Students in this course are typically sophomores who plan to become PreK-12 school teachers, and this is the first Education course they take. There were 24 students in the course in the fall and 22 in the spring.

"Technology for School Administrators" is a graduate level technology leadership course required for the Master of School Administration degree. Course objectives focus on the National Educational Technology Standards for Administrators (International Society for Technology in Education 2002), message design (e.g., use of fonts, spacing, graphics, headings and subheadings in print and electronic media), and the development of an electronic portfolio required for degree completion. All Master of School Administration courses in the current program are "hybrid," with up to half of the class meetings occurring face-to-face and the rest of instruction taking place online, using Blackboard as the online course management system. During the 2007–2008 academic year, I taught the "Technology for School Administrators" course once each semester, fall 2007 and spring 2008. I posted course modules on Blackboard for each of the 14 weeks of class; we met face-to-face only five times. There were 16 students in the course in the fall and 9 in the spring. All students were former or current public school teachers or administrators.

The Self-Assessment Exercises

The self-assessment exercises that I implemented were developed in accord with Tan's (2008) conception of students judging their proficiency within a program of study, whereby the instructor uses self-assessment to give students responsibility for monitoring and attaining progress and as a way of encouraging students to develop reflection as a professional trait. In both the undergraduate and graduate courses, the student self-assessment exercises were intended as checkpoints for the students and me; they were administered at the beginning, middle, and end of the semester for a total of three self-assessment exercises for each course. Undergraduate students were given time during face-to-face class meetings to

complete the exercises; graduate students completed the exercises outside of class and submitted them electronically through Blackboard.

Each self-assessment exercise was short and included both rating scale and open-ended items for the students to complete. For example, students were asked to rate their level of agreement with statements about their confidence in their ability to do well on specific course assignments, those from which they will probably learn or have learned the most, and their knowledge and skills in relation to course objectives. Open-ended items varied across the three self-assessment exercises. For the first exercise, completed at the beginning of the semester, students were asked to identify factors facilitating their success on course assignments and what they could do, I could do, and their classmates could do to help them succeed. They were also asked to identify the course assignment or project they were most interested in and explain why. The undergraduate self-assessment exercise included additional questions about what students believed to be the most important and challenging issues associated with PreK-12 education; the graduate students had additional questions about their experience with technology and what they believed to be the greatest benefits and challenges associated with educational technology.

The midterm self-assessment exercise included rating scale items similar to those on the first exercise and an open-ended item asking students to identify the greatest facilitating factors to their success on course assignments and projects so far. They were also asked to identify the greatest barrier to their success on course assignments and projects as well as what they could do, I could do, and their classmates could do to help them overcome the barrier. The final question asked them to identify what assignment or project they were enjoying the most so far (undergraduates) or what they were most interested in learning about now (graduates).

The final student self-assessment exercise, administered at the end of each semester, included rating scale items similar to those on the first and midterm exercises. The first open-ended question asked students to identify one insight they had gained as a result of the class and, given this insight, one thing they would do as a practicing educator (undergraduates) or school leader (graduates). The other open-ended question was, "If you had it to do over again, what one thing would you do differently in this class?".

The Study

To determine the effectiveness of the student self-assessment exercises, I included a "Self-Assessment Exercises" section on an "Instructional Methods Survey" that I administered to students during the last face-to-face class meeting fall and spring semesters. Students who completed the survey had volunteered to do so and had signed consent forms; the study had been approved by the University's Institutional Review Board. The "Self-Assessment Exercises" section of the survey included four rating scale items and two open-ended items. Rating scale options ranged from "1" (*Strongly Disagree*) to "4" (*Strongly Agree*); there was no midpoint on the scale. Of the 71 students in the four classes, 58 completed the "Self-Assessment Exercises" section of the "Instructional Methods Survey," an 81.7% response rate. I analyzed rating scale survey data using descriptive statistics and open-ended survey data by categorizing responses according to prominent themes. In addition to survey data, I developed a brief reflection of my experience regarding the student self-assessment exercises. Reflection is a key component of the action research process (Mertler 2009) as action research is inherently about examining one's own practice (McLean 1995).

Results

According to student survey responses, overall, the student self-assessment exercises were an effective instructional method for both the "Teacher, School and Society" undergraduate course and the "Technology for School Administrators" graduate course. The majority of students who completed the survey either agreed (43.9%) or strongly agreed (43.9%) that the self-assessment exercises were an effective instructional method. More specific findings are described in the following sections, organized by themes from the rating scale and open-ended survey data, including (a) opportunity for reflection, (b) monitoring progress, (c) motivation and other strengths, and (d) suggestions for improvement.

Opportunity for Reflection

The majority of students who completed the survey across the four courses either agreed (49.1%) or strongly agreed (42.1%) that the student self-assessment exercises helped them to reflect on their performance in the course. Responses to the open-ended item that requested students to provide one to three strengths of the exercises further supported this finding. The following are representative student responses (i.e., quotes) related to this theme:

Encouraged reflection in areas of need.

Allowed me to reflect on things I never would have.

Did make you take an honest look at your professional performance.

Made me think about how I was doing.

These assignments helped me to reflect on my learnings from this course.

I think they were a good way to independently think/analyze the course material.

You think about how you are doing while taking them which makes you evaluate yourself.

Chance to reflect on my own philosophies.

Monitoring Progress

In addition to providing an opportunity for reflection, a related theme that was evident from the data was that the student self-assessment exercises helped students monitor their progress over time. This included identifying strengths, learning, growth, and hard work as well as identifying areas for improvement. The majority of students who completed the survey agreed (49.1%) or strongly agreed (40.4%) that the exercises helped them to identify areas of strength and areas for improvement. The following representative student responses demonstrate this aspect of the exercises:

Helped me look at the big picture and quickly assess myself in different areas.

Helped me assess my strengths and weaknesses.

I was surprised to see that I had actually become more knowledgeable in some areas.

Helped me recognize what I needed to focus and work harder on.

It helped me to see my improvement over time.

Made me realize what I have learned in this class and how my opinions may have changed.

Helped me realize what I need to work harder on and made sure I did not slack off.

Helped me to see my growth.

Provided great "check-points" for progress and improvement.

Put focus on how hard I was working.

Motivation and Other Strengths

Although there were no student comments specific to motivational aspects of the self-assessment exercises, the majority of students who completed the survey either strongly agreed (45.6%) or agreed (40.4%) that the exercises motivated them to do well in the course. Additional themes from student survey responses regarding strengths of the self-assessment exercises included feedback to the instructor and procedures related to the exercises. The two comments regarding feedback to the instructor came from the undergraduate course:

Let us know you are interested in our learning.

It gave you our feelings about the course.

The procedural aspects of the self-assessment exercises that students noted as strengths included consistency and timeliness of the exercises, the change in questions for each exercise, and the four-point rating scale.

Suggestions for Improvement

Students were also asked to provide one to three suggestions for improving the student self-assessment exercises. Although there were fewer responses to this question compared to the number of responses regarding strengths, one theme that emerged from these data was the suggestion to make the exercises more of a focus of the course. Another theme, which came from undergraduate responses, was that the assessments be related more to course grades and "less subjective."

Instructor Perspective

Implementing student self-assessment exercises as part of the "Teacher, School and Society" and "Technology for School Administrators" courses was beneficial for me, not only because of the ways they contributed to student learning as described in the previous section, but also because they provided me with valuable student feedback at key times during the semester and supplemented the course evaluation data collected from students by the University at the end of the semester. I used the information from these exercises to make changes to the courses while they were in progress and to make changes to the courses for the next semester.

In addition to helping me improve instruction, the self-assessment exercises helped me improve my interactions and relationships with students; they helped me get to know the students better both academically and personally. I was sometimes surprised at how open

and thoughtful students were in their responses. I found this aspect of the exercises particularly useful for the graduate course, which was predominantly online.

Finally, unlike the end-of-semester university course evaluations, the student self-assessment exercises were specific to the courses I taught and the objectives and assignments for those courses, so they were helpful in interpreting the more general results from the university course evaluations.

Based on the results of the action research study and my positive experience using the student self-assessment exercises, I have continued to implement them in my courses. I now include them as a graded course exercise, listed in the syllabus as part of coursework. I continue to get positive feedback from students about the exercises, most of it along the lines of "thanks for asking"; and I continue to get useful feedback that supports instructional improvement and better relationships with students.

Conclusion

The student self-assessment exercises that I implemented in the "Teacher, School and Society" and "Technology for School Administrators" courses during the 2007–2008 academic year were conceptually similar to Tan's (2008) description of students judging their proficiency within a program of study, whereby the instructor uses student self-assessments to give students responsibility for monitoring and attaining progress, thereby encouraging students to develop reflection as a professional trait. The results of the action research study support claims that student self-assessment can facilitate the development of students' metacognitive skills, help them take more responsibility for their own learning, and support collaborative relationships between teacher and students (Elwood and Klenowski 2002; Shepard 2000).

In addition to evaluating the self-assessment exercises as an effective instructional method, students in both the undergraduate and graduate courses indicated that completing the exercises provided them the opportunity to reflect on the course and their performance, helped them to monitor their own progress, motivated them to do well in the course, and provided them the opportunity to give feedback to the instructor. The instructor reflection on implementing student self-assessment exercises further supported the benefits cited above. Additionally, the self-assessment exercises provided useful feedback for course improvement and facilitated better interactions and relationships with students.

More action research and other types of studies need to be conducted with diverse groups of post-secondary students across disciplines to get a more complete picture of the effectiveness of implementing self-assessment as an instructional strategy in higher education. In particular, the students who participated in this study were pre-service and in-service educators, who are expected to demonstrate reflection as part of professional practice (see National Board for Professional Teaching Standards 1989); therefore, it is important to conduct studies of self-assessment as an instructional strategy with students from other, non-education, disciplines.

Finally, student self-assessment as an example of *assessment for learning* needs investigation. Although students in this study agreed that the self-assessment exercises were an effective tool for reflection, meta-cognition, and motivation, the study did not directly investigate the impact of the exercises on student learning. As with any quality classroom assessment, student self-assessment should not only assess student learning, but should also positively impact it.

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