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Student Self-Assessment: A Tool for Engaging Management Students in Their Learning

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Student Self-Assessment:
A Tool for Engaging Management Students in Their Learning

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This article discusses the use of student self-assessment (SSA) for formative and summative assessment in two undergraduate programs, a management program and a leadership program, to encourage students to become more engaged in their learning. Using action research, we used an iterative process of changing or refining our methods to accommodate the differences in our teaching environments, concluding that different methods may be desirable in different environments, and that students appear to benefit from SSA regardless of the method used. Five overlapping themes emerged in the data we collected: how SSA 1) provided students with the opportunity to see the transformative impact their educations had on them, 2) acted as a motivator to their performance, 3) encouraged them to take personal responsibility for their learning, 4) had impact on their reflections as learners, and 5) encouraged them to be more honest and self-critical about their performance.

Keywords: Self-assessment, Self-evaluation, Self-directed learning, Student responsibility, Action research

We believe that one of the most important outcomes of a management or leadership program in a university setting is that students learn to take responsibility for their own learning, while in college and as life-long learners well after they have finished their undergraduate education. To accomplish this, we have used several pedagogical approaches aimed at fostering self-initiating and self-directing behaviors in our students. One about which we have become increasingly enthusiastic is student self-assessment (SSA). We define SSA very broadly as a project or activity that is determined either by the professor or students, in which students are, in part or in whole, responsible for the qualitative and/or quantitative assessment of their learning styles, outcomes, performance, or capabilities. In SSA, the student working alone, or in collaboration with the professor, establishes a set of criteria for assessment of the project, activity, or course. The goal of the assessment can be formative and/or summative. The goal of formative assessment is to assess performance progress as part of an ongoing learning process. Its role is to provide feedback that enables the learner to make changes. Thus, its purpose is developmental. The goal of summative assessment is to make judgments about and evaluate performance. It takes place at the end of a learning experience, such as an assignment or course (Palomba & Banta, 1999).

This article describes both the methodologies and benefits of SSA as a pedagogical tool in the distinctly different classrooms of both authors. Although the methods and techniques we used vary substantially due to our different styles, the courses we teach, and the demographics of our students, we share similar motivations for our use of SSA. Fundamental to our use of SSA is the

goal that our management and leadership students become self-motivated and engaged in their learning, take responsibility for their learning, and reflect on what and how they are learning.

Student Self-assessment—A Review of the Literature

The literature on SSA, or student self-evaluation as it is sometimes referred to, provides a wide diversity of practice, goals, and methodologies, grounded in multiple theoretical frameworks such as social learning theory, behavioral theory, psychoanalytic theory, and personality theory; no single theoretical framework or practice informs the literature on SSA (Gordon, 1992). Although SSA has been used in a wide range of disciplines, most studies come from the professional fields, where the ability to assess one's work is important. Interestingly, however, there is a notable lack of studies on SSA in the management field. We found only two studies (Adams & King, 1995; Gopinath, 1999) that specifically addressed business or management students. The Gopinath study was done in an MBA class.

Gordon (1992) reviewed 11 studies on SSA, eight of which were in the health professions, and found that in nine of the studies authors claimed students experienced a wide range of cognitive and noncognitive changes. Noncognitive changes included attitudinal and behavioral changes, with some students demonstrating seriousness and enthusiasm for the process and others moving from initial distrust and discomfort to positive feelings about SSA. Cognitive changes included improvement in skills and performance. Benefits such as less stress over grading, enhanced communication between learner and teacher, enhanced motivation and self-directed learning, more time on task, fewer errors, and enhanced self-analytic behavior were reported. Allen & Flippo (2002) found that students had negative initial reactions but subsequently felt a sense of empowerment and control, as well as increased learning, from SSA activities. Most of the studies reported that students, even those suspicious or reluctant at first, had positive reactions to SSA (Allen & Flippo, 2002; Boud, 1995; Gordon, 1992; Longhurst & Norton, 1997; MacGregor, 1993a; McVarish & Solloway, 2002; Orsmond, Merry, & Reiling, 2002; Stefani, 1998; Taylor, 1998).

Clearly there are benefits to the use of SSA in professional education where "skills and habits of critical reflection are pillars of effective professional practice" (MacGregor, 1993b). Gordon's (1992) work provides us with important insights into the role that SSA can play in the education of health care professionals where self-assessment is a professional requirement. Boud (1995) addresses the use of SSA with student lawyers, describing it as a critical skill that enables them to take responsibility for their actions and professional development.

Boud (1995), considered one of the most significant contributors to the literature on SSA, describes it as a process comprised of two stages in distinct but related parts. First is establishing criteria for learning, which are the standards by which performance will be judged. The second involves judging how one has performed in light of these criteria. Boud (1995) feels the practice of SSA provides opportunities for learning as well as summative assessment, stating that, "…self-assessment must be seen as much as a learning activity as an assessment practice" (p. 207). He feels that to prepare students to be life-long learners, major emphasis should be placed

on learning to learn; SSA benefits, therefore, are both formative and summative. He describes the goals and benefits of SSE as follows:

> *… self assessment is about students developing their learning skills. It is not just another assessment technique to be set alongside others. It is about engaging learners with criteria for good practice in any given area and making complex judgements. It is not primarily about individuals giving themselves marks or grades. And it is not about supplanting the role of teachers. They are needed more than ever although their role will need to shift towards fostering students' self assessments rather than making judgements which do not take this into account (p. 17).*

MacGregor (1993b), in introducing a journal issue devoted to the use of SSA in alternative colleges, describes SSA as both a process and an output for formative and summative purposes. Formative assessment using SSA focuses on personal development, an integral goal of education in such institutions.

Recently, authors have examined SSA as part of reform in assessment, asserting that assessment must move beyond the instructor only model and include student and peer assessment (Boud, 2000; Elwood & Klenowski, 2002; McVarish & Solloway, 2002; Stefani, 1998; Taras, 2002). Boud (2000) stresses that to develop a society where learning is promoted, individuals must develop sustainable, life-long self-assessment skills. To accomplish this, he believes that student assessment has to " move from the exclusive domain of assessors [instructors] into the hands of learners" (p. 151).

The literature on SSA describes its use in a broad variety of classroom contexts, using multiple methodologies, many of which incorporate a holistic and comprehensive approach to learning that goes beyond simply determining criteria and conducting a self-assessment. Despite these variations, the major purposes for using SSA—to help students become independent, autonomous, effective, reflective, and self-directed learners who are responsible for their learning and the assessments of their learning—are universal. The literature provides significant evidence that SSA provides these benefits.

Self-directed Learning. Perhaps one of the most obvious benefits of SSA is that it promotes self-directed learning, especially among adult learners, enhancing learners' motivation and feelings of relevance (Knowles, 1990; Knowles, Holton, & Swanson, 1998). Knowles (1990), one of the most prolific advocates of self-directed learning, believed that students learn best and become more engaged in their learning when they create their own learning goals determined by their own needs and desires to know. Thus, for him, the process of SSA began with the creation of learning goals and objectives.

SSA has been shown to motivate students having a difficult time engaging in their learning (Adams & King, 1995; Gordon, 1992; Stefani, 1998). For these individuals, SSA may act as a motivator, giving them greater control and responsibility over their learning. SSA can also help students learn how to facilitate their own learning by giving them insights into how they learn.

Larisey (1994) describes a self-assessment project used to promote self-directed learning with returning students accustomed to the traditional model of teacher as evaluator. Based on the belief that learners have individual strengths, needs, and learning styles, the method includes a four-step process in which students develop a learning history, assess their learning style, determine their level of self-awareness, and develop a profile of how they learn. The profile helps them determine their fit with various instructional styles and how they can best direct their own learning.

Personal Development. Haswell (1993) credits SSA with having positive effects on students' development, which he defines as " a continuum of gradual shifts in affective and conceptual frames, urged on by both inner and outer promptings…" (p. 85). He examined 50 pairs of course self-evaluations written in freshman and senior classes, and found that SSA stimulates or encourages students' development as they describe their learning experiences in personal ways. There are several other examples of how SSA is used to promote the development of students. Waluconis (1993), asked students to write end of course self-evaluations in lieu of grades; for them the act of writing their SSA became a process of self-discovery, laying the groundwork to take a more realistic and responsible attitude towards their current and future learning. Through this process they began to understand that learning in college is, in part, learning about what you don't know or understand, and that this is a sign of personal growth, not failure.

Writing has a prominent place in the use of SSA, particularly as a means to promote reflection. Soldner (1997) describes how freewriting, a form of journaling, provides the opportunity for students to assess how well they are learning. Through freewriting, students examine what is working for them in order to build on their successes. They also assess their difficulties and consider strategies and steps to overcome them. SSA enhances students' ability to understand how they know what they know, important metacognitive skills (Soldner, 1997). This may emanate from the intense focus on reflection often used in the SSA process. Several authors (for example, Boud, 2001; McVarish & Solloway, 2002; Taylor, 1998) suggest the use of journaling to engage students in examining and reflecting on their learning and learning processes, especially their "affective or metacognitive development" (p. 319). Students learning to conduct SSA's become more independent of the instructor and enhance their ability to become more reflective about their learning (Boud, 1995; Gordon, 1992; Lasonen, 1995). The development of reflective skills, in turn, becomes an integral step in further developing students' SSA skills.

Uses of SSA. Promoting understanding has been an important purpose for SSA. Ben-Chaim and Zoller (1998), as part of the reform movement in science education, developed methods for testing higher order cognitive skills in an undergraduate biology course. They believed that without the use of SSA these skills could not be effectively developed. They found that while students believed they could conduct SSAs, they had a difficult time evaluating their higher order skills. The authors felt this was both a function of them not having fully developed the skills to self-assess and their expectations that instructors, not students, should conduct the assessment. Longhurst (1997) used SSA as a way to encourage deep learning on writing assignments for second year psychology students. Using essay assignments, students and tutors assessed students' papers. Tutors and students generally did an accurate job of assessing the student's learning.

However, the authors found that poorer performers often scored themselves higher than their tutors and better performers scored themselves lower.

SSA has also been used in conjunction with group activities. Stefani (1998) describes how SSA substantially improved performance on a major group project in a graduate level environmental science class. Students determined criteria for the project and developed their methods of assessment, agreed to by the teachers. Groups maintained learning logs to help them understand their learning process. Stefani found that performance improved substantially on the project due to students' ownership over the criteria and reflection on their performance. Student satisfaction was also found to increase. Oldfield and MacAlpine (1995) used SSA in an international setting with student groups where groups were given tasks, such as obtaining information to share with other groups. Self-assessments of their group performance were then compared with instructor assessments. They found that starting with small tasks with clearly defined steps helped students develop skills and confidence in doing SSAs and, thus, improved their ability to do so. Blowers (2003) had students assess their skills in three areas important to their success on a group project. He then used those self-assessments to create groups that included all skills.

Much research has been completed looking at the correlation between student, peer, and instructor grades. Poor correlations would suggest that use of self- or peer-assessments, in lieu of instructor-assessment, should be used for formative, but not summative, purposes. Gopinath (1999) studied the use of self- and peer-assessments as alternatives to instructor-assessment of class participation in an MBA strategy course. He found that both self and peer grades were higher than instructor grades although peer-instructor agreement was greater. He concluded that self- and peer-assessment should be used for formative, not summative, purposes. (Orsmond, Merry, & Reiling, 1997, 2000; Orsmond et al., 2002) studied the use of SSA for evaluation of poster projects completed by first-year undergraduate biology students through a number of studies. They found that explicitly providing multiple criteria for grading, as opposed to giving one overall grade, improved agreement of tutor, peer and student evaluations and reduced misunderstandings related to project requirements. Misunderstanding of assignments by students was determined to be the primary cause of differences in evaluation scores. In later studies, they found that the use of specific exemplars (in this case previous posters) and developing grading criteria jointly with students substantially improved the correlation between tutor, peer, and student scores.

Stefani (1992) explored SSA in a laboratory practical project for biochemistry where students in groups developed, with tutor assistance, the criteria to be used for grading. Student scores were generally found to be lower than tutors', suggesting that students do not always assign higher grades than tutors or instructors. Sullivan (1997) compared self grades with instructor grades when using SSA to evaluate the quality of literature reviews completed by third year education students. He found there were substantial differences between student and instructor grades and that students had less understanding of the grading criteria. The literature on instructor, peer, and student grading correlation leaves us with the conclusion that caution must be exercised when using SSA for summative purposes, and that generally peer-assessment correlates higher with instructor grading than does SSA with instructor grades.

SSA, as we see above, has been used extensively in simple course activities as well as for overall assessment of student performance. Its use as a formative tool may be more appropriate than for evaluation. The literature on SSA provides substantial evidence that it can be used successfully in multiple contexts and with varying methodologies. Importantly, the literature provides evidence that students can derive significant benefits from the shear act of doing SSA, regardless of the method used.

Goals of Inquiry

Our initial interest in using SSA came from our desire to promote student self-direction and self-management in our management and leadership students. As faculty who came to teaching as a second career, after long careers in industry, we understand the important role these behaviors play in school and workplace success. Intrigued by the potential for student development, we incorporated SSA into several of our courses and began a structured, but informal, process of inquiry into what the impact of SSA would be on students.

While our primary goal was to better understand the impact SSA would have on students in the specific contexts in which we taught, we also wanted to learn what impact SSA would have on us as instructors and how it might improve our own teaching. Like many teachers, we were influenced by Schon (1983), who believes that knowledge gained in practice is in the actual doing and reflection on that doing, and that learning comes from looking at our own experiences and connecting them with our feelings and the theories we are using. Schon believed that learning takes place as the situations we are engaged in unfold, further informing our action. Believing this to be true for our own learning, we deliberately engaged in our own practice of action, reflection, and self-assessment.

Initially, we planned to try several SSA methodologies and choose one with the most promising results for empirical study. We began by creating mid-course and end-of-course surveys to maintain consistency in our data collection. These surveys included open ended questions, as well as those answered using a Likert Scale, providing us with qualitative and quantitative data. Data from these surveys were collected for nine courses from one author and three from the other author. Written SSAs, which also provided us with rich quantitative and qualitative data, were collected electronically or scanned. These data, along with the open ended survey data were entered into qualitative data analysis software titled Nvivo (QSR International Pty Ltd., 2000) and analyzed using the program. Demographic data on the students were also collected. We input data from and analyzed 188 SSAs and 185 surveys.

Early in the project, as we began to analyze the data, we started to realize, as the literature had suggested, that no one methodology was appropriate for all of our courses, due to a number of important variables. We faced logistical barriers to using the same methodologies, but more importantly they, along with our style differences, caused us to think differently about how we conceived of using SSA in the classroom. While our goals were similar, our approaches were quite different. Unable to determine the best methodology for study, we used the action research process pioneered by Kurt Lewin (1946) and adapted it for classroom research, which involved developing questions, collecting and analyzing data, and coming up with new questions to stimu-

late new areas of inquiry (McNiff, 1993, 1999; Schmuck, 1997, 2000; Stringer, 1999; Whyte, 1991). We hoped this would lead us to a preferred methodology that we could use for more formal study. We were unable to achieve this goal.

Due to our different styles and contexts, we began to shift our goal from doing an empirical study of one methodology to that of doing case studies. Letting go of the need to find one method freed us to engage in an iterative process of action research. We systematically continued to collect data that informed our decision-making and led to constant changes in the ways we were using SSA. Regardless of the method used, we were able to see from informal anecdotal evidence that that the act of using SSA had notable effects on our students, us as teachers, and our teaching.

SSA Methods

Although we agreed about the goals and potential benefits of SSA, we used methodological differences that reflected differences in our beliefs about teaching, the settings in which we teach or have taught, and our student populations. Many of these differences were driven by the need to accommodate our highly differing contexts. Given the iterative nature of the process we used, it is difficult to describe the methods we used; in nearly every course we made changes. For example, in two courses one author used formal mid- and end-of- semester surveys to gather data. She then switched to guided freewriting to avoid placing boundaries on students' reflections. The following will provide an overview of the approaches we took.

Method #1

One author's first experience with SSA was in a liberal arts college serving approximately 1,100 traditional students where he taught for five years. Undergraduate courses in which he used SSA included organizational behavior, business policy and strategy, management, human resource management, and international business. Class sizes generally ranged from 15 to 30. Most students were white and middle class. Half of the courses taught were in a traditional on-campus program, and the other half involved non-traditional students in evening and weekend programs. All courses were taught in a 14-week semester format with grading in whole letter increments.
The author's purpose for using SSA was to encourage students to become more aware of and capable of participating in the assessment of their performance. In addition, he hoped the use of SSA would help them take more responsibility for their own learning in order to foster life-long learning skills. His goals were to help students learn the importance of accurate reflection on their learning to enable them to improve their performance, a formative goal, and to participate in the determination of their course grade, a summative goal. Although there were a number of traditional assignments for the course, including papers, projects, and tests, which the author graded in the traditional manner in order to compute a final grade, students were asked to choose their own qualitative and quantitative criteria to use in determining their grade. Examples of qualitative criteria chosen were the degree of effort they put into the course, the depth of reflection in their learning journals, and their ability to make connections between what they were learning and the work world. Examples of quantitative criteria were derived primarily from the

course assignments. Scores on exams and projects, attendance, and the amount of reading completed were common criteria.

In order to ensure the successful use of SSA, students were given careful guidance in how to determine their criteria, which they created early in the course; there was also considerable focus on its importance throughout the course. Typical course activities were conducted including tests, research papers, cases, presentations, and group projects in which students were provided with feedback and grades. However, because students created their own assessment criteria, they were not obligated to use these graded assignments when completing their SSA at the end of the course. Although the author typically agreed with the students' grades, he maintained the right to change them; this was, however, done rarely and only after discussion with a student.

Because SSA was a new idea to many students, the author focused on the process and goals at the beginning of and throughout the course. He also used several SSA activities during the course. Some courses required students to keep learning journals, which greatly facilitated students' thinking about the criteria. Many of the activities used throughout the course were designed to help students understand more about themselves as learners and take more responsibility for their learning in the course.

Method #2

The author later moved to a western, regional, public university with a focus on liberal education, serving approximately 5,100 traditional aged students. He initially implemented SSA as he had used it at the liberal arts college in his undergraduate courses on business planning, a capstone course required for all students; business policy and strategy; management; and finance. All courses were taught in the traditional on-campus program and included mostly non-minority students. The school was on a 10-week quarter system, and grading included plus and minus increments.

It soon became apparent that the seemingly minor differences in context, especially the use of a different grading system and the length of the courses, would drive changes in how SSA could be used. For example, the author encountered substantially more differences in how he and his students graded the course, due, in large part, to the use of the plus and minus grading system. In fact, nearly half, 43%, of the 76 SSA grades were higher than the grade assigned by the author. Because students' SSAs were turned in at their finals, there was insufficient time at the end of the semester to discuss and resolve these differences. Nor were many students available for discussion. The author did not want to undermine the integrity of the SSA process by assigning lower grades to their work without student consultation.

The shorter length of the course was a second factor requiring changes in methodology. The 10-week quarter substantially reduced the time available to discuss the self-assessment process with students at the beginning and mid-way through the course. Thus, students were less prepared to write the self-assessment paper and did not have enough time in advance to consider the criteria they were going to use for the SSA. Additionally, the quarter system created more time pressures

for students during finals, thus making completion of the SSA at the end of the course more challenging.

As a result of both the increased discrepancy over student/professor assessment of grades and the reduced time available for SSA activities, the author discontinued the use of SSA as a means to determine students' final grades. Still committed, however, to using methods to encourage students to engage in their learning and see the relationship between their learning, performance, and grades, he changed the method by using the students' written SSA as an assignment worth 10 percent of their grade. Students determined criteria to evaluate their performance at the beginning of the semester, just as they had done in the first method, and the author used mid-course surveys and journals to enhance students' awareness of the role of SSA in the course. Students wrote an evaluation of how they had done in the course based on the criteria they had established at the beginning of the quarter. Unlike the previous method, this assignment, worth 10 percent of their grade, was turned in with students' finals and was graded by the author. Students' grades for this assignment were based on how effectively they assessed their performance, their honesty on the assessment, the quality of the criteria they chose, how well they explained their performance on individual criteria, their writing, and their persuasiveness. The remaining 90 percent of their grade was calculated using the more traditional approach of instructor assigned grades on the various assignments for the course.

Method #3

The second author teaches in a Leadership and Organizational Studies Program on a small campus of a regional, mid-sized university serving 11,000 students. The college campus where she teaches serves 1,100 predominantly non-traditional students. This campus, which has no departments, is known for its interdisciplinary approaches to teaching. She has used SSA in ethics in the organization, training and development, group dynamics, and a career development seminar, as well as in an internship program she supervises, the latter two of which are required for students in all majors. She began using SSA after her first year of teaching as a means of applying principles of adult learning, striving to create a classroom environment where students were encouraged to take ownership for their learning and bring their own needs for learning into the learning experience. Her goals for using SSA were to provide students an opportunity to engage in formative and summative assessment; she wanted them to both learn how to learn better through the process of SSA, as well as learn to assess their work and set new goals based on that assessment.

This author chose a method of using SSA that differed considerably from the first author's. Students began each semester by developing a learning plan that included qualitative and quantitative objectives of importance to the student. Learning plans were used to encourage students to develop their voice around their own learning needs, intentionally displacing authority away from the professor and placing it on the students. Although adults, many students were from highly patriarchal family systems and an important goal of their educations was to help them feel comfortable and confident in directing their own lives. The learning plans were worth 15-25 percent of their grade; the percentage varied depending on the course and the semester. Students weighed the objectives on their learning plans according to their importance to them. Objectives

could be course content related (such as learning to facilitate a group activity for a group dynamics course) or study-skill related (such as reading all material prior to class). The author did not influence the creation of the learning plans or the points assigned to each objective, except where they were not clear or where there were computational errors. Learning plans were discussed on the first day of class and finalized on the second. Students were given written guidance for creating their learning plans.

Throughout the course, the author had several in-class and one-on-one discussions with students about their learning plans. In addition, she included some writing activities such as a one-page mid-semester paper on the progress students were making with their plans. In some classes she required students to keep journals on their progress. For two courses, students completed an in-class, mid-semester survey to serve as a reflective opportunity to see how they were progressing, and to give the author some indication of their progress and commitment to the process.

At the end of the semester, students were asked to turn in their completed learning plan forms with the points they had given themselves, as well as a two- to three-page reflection paper describing their learning and why and how they arrived at this number of points. Students in two courses also completed an end-of-semester survey on the process.

In addition to encouraging students to take responsibility for their own learning, the author chose SSA because the learning it provided was integral to the learning objectives for some of the courses. For example, students in ethics in the organization had the opportunity to practice making ethical decisions as they assessed their course performance. In training and development, students had the opportunity to think about what it means to be a truly self-directed learner, setting one's own goals and assessing one's own performance. For students in the career development seminar and internship, it gave them the opportunity to engage in a self-assessment process similar to that used by employers who use employee self-assessment as part of their performance management process.

Key Themes on Benefits of SSA

Using Nvivo (QSR International Pty Ltd., 2000), we conducted a content analysis from the data we collected from students' papers and the various surveys, which generated several key themes regarding perceived benefits of SSA. While we had anticipated some of the themes that surfaced, some themes came as surprises to us. Themes also emerged that were not directly related to SSA. We felt these themes were important also, so we included them in our discussion, especially those that related to issues of personal responsibility and reflection. Most interesting to us was that we saw similar themes even though our SSA methods and course content varied substantially.

We identified five major, but overlapping, themes: how SSA provided the opportunity for students to see the transformative impact their education had on them, how SSA acted as a motivator to their performance, how SSA encouraged them to take personal responsibility for their learning, how SSA had impact on their reflections on their learning, and how SSA encouraged students to be more honest and critical about their performance. While the themes clearly show

how SSA enhanced personal awareness, there is some evidence that it also enhanced student learning of course content as well. Thus these themes reflect formative as well as summative assessment by students.

Transformative Impact on Students.   SSA provided students with the opportunity to reflect on their learning. Through their reflection, many acquired new understandings that could be described as transformative. We saw examples of this kind of change in many of the comments students made, both written and verbal. Many mentioned making connections that were important to their understanding and meaning making. One student reported:

> *In my field, an understanding of business is vital. Some people, especially in my major, find the combination of a class like corporate finance and environmental studies a conflicting combination. I however believe that it is essential to understand both of these sides.*

Others noted, with pride, that they were able to connect concepts learned in class to life outside the classroom. Another student discovered the benefits of learning in groups saying, "When one group member understands a concept better, then we can learn from each other as well as teach each other." Learning about oneself in addition to the course content was commonly mentioned. As one student reported, "Learning about myself was a part of this class that I did not expect."

Many of the comments addressed what students were able to accomplish. One student commented, "When I think back on what I knew before this class and what I know now it is amazing what can be accomplished in just one term." Another student reported, "I cannot believe what I was able to accomplish this term. I have a huge feeling of accomplishment." Another student saw his accomplishment as a larger part of his life saying:

> *It's rewarding to take all the bits and pieces that I've accumulated over the past year and a half and be able to put them altogether and begin to see the big picture. … As young children, we all dream of growing up, going to college, and graduating. Life after college is our dream. College was a goal that I set for myself, at a time that seems so long ago, and here I am at the end. It is an amazing feeling of accomplishment and pride.*

Some examples demonstrated transformation of thinking. As one student remarked, "The issues that were brought up in class are issues that I had skimmed the surface on for many years. I now have developed in-depth thoughts and strong feelings and beliefs on many of those issues." Perspectives changed on controversial issues. One student noted, "I was pro-euthanasia, but the insight of another group member and the research for the paper made me see differently and I have changed my view on the subject." Minds also broadened, as demonstrated by the comment, "When I hear people talking about issues, whether they are work or other, I find myself wanting to know both sides." Challenged by returning to college, one student wrote metaphorically:

> *When I began this course I felt like a caterpillar just creeping along slowly. I was not quite sure what to expect as it had been so long since I had been in class. As*

> *the assignments where completed the chrysalis was spun and over the semester a*
> *metamorphosis occurred. As the semester ends I am emerging as a butterfly ready*
> *to travel many new roads in education while hopefully soaring to new heights.*

We heard and saw many of these kinds of comments. Students described, with enthusiasm, their discoveries and dreams. SSA gave them the opportunity to reflect on their learning experience and to know and understand the changes that had taken place in them.

Performance. A subset of students were motivated to greater achievement just by the simple presence of self-assessment activities—knowing that they had to write and discuss their own performance. One student commented on the role that SSA played in promoting her achievement, saying, "Having self-evaluation in mind at the early stage of the course keeps reminding you about setting your own goals and ways to accomplish them—this definitely help[s] higher achievement." Another student commented, "I think it's a good idea because you have to be honest with yourself. I want to do good in this class so I have positive things to say in my evaluation." Some expressed feeling empowered by being able to have some impact on their grade. As one student commented, "The fact that I was able to have some say as to what my final grade in the course would be was also very helpful to me." One student appreciated the opportunity to be able to communicate his feelings of personal success with the instructor, stating, "I feel good because it's a way or method of telling you what I have done throughout the course and what I've learned and having you to actually listen and hear me out, while taking everything in consideration."

SSA clearly motivated some students to perform better. During a mid semester survey, 13 percent of the students commented that SSA had been a motivating factor in their performance; by the end of the semester the responses had risen to nearly one-third. However, since two thirds said SSA had no impact, positive or negative, on their motivation, we suggest that SSA's effects on motivating performance may be more applicable to a sub-set of the population. One possibility is that students whose performance is motivated by SSA are more extrinsically motivated.

Personal Responsibility. SSA provided students with the opportunity to reflect on the quality of their work and their level of personal responsibility. Some students discussed their disappointment with themselves. One student noted, "The scores that I received from the assigned projects in the class I am disappointed with, but I take full responsibility for that." Another noted, "I am sure that my lack of enthusiasm and interest in my group somewhat hindered my learning experience…However, that is no excuse, because I could have stepped up and taken charge." Other comments were: "I started out running, but bad judgment slowed me down," "I am disappointed with it but I take full responsibility …," and "My experience with group 8 has been difficult at best, not for any fault of the group, but for my own shortcomings." One student was quite introspective about her lack of personal responsibility, saying that, "instead of trying to answer, I would just sit there and scratch my head with a blank look when I know you wanted us to struggle to find the answer." We viewed these comments as an important first step for students making sense of their role as learners.

Some students spoke of the problems they had and the ways they resolved them. One student noted, in response to a problem, that "after the first two weeks I became more confident in helping my group members." Another reported, "I was having problems understanding much of the information in the chapters so I searched outside sources to help clarify." Students discussed changes they would make, such as the comment from one student who said, "I will look to do things differently in the future." One student's comment demonstrates how motivated she was to take personal responsibility for her work. She stated, "I looked at my personal goals and knew that I needed to be true to myself. From then on I was fully prepared every week with all the information for the next class." One student revealed his acknowledgment that he needed to change his behavior, stating, "Especially, I need to work with people; participating in both class and group discussion as well as talking more with people. I also realize that I should manage my time better since coming to class late is a bad manner."

Not all students took responsibility for their work, providing excuses for poor quality work in their SSAs. As one student commented, "Due to two members of the group having to be out of town that next week-end and schedules, we were only able to meet for a total of eight hours over several days to put our case together and to rehearse." Another student noted, "As mentioned above our group presentation suffered from a lack of time to prepare it and to practice it due to getting the case late and people not being able to get together to… assemble and practice it." Notably, these comments were rare.

Reflections on their Learning. One theme that was very consistent was how SSA encouraged students to be reflective learners about themselves as well as what they were learning. One such example was a comment made by a student who said, "This assignment has been interesting. I really got to reflect on myself as a student."

Some comments addressed their learning of content. As one student noted, "I just noticed that in these cases my understanding is much deeper and more long term if I figured them out myself." Another said, "The biggest key for me to understanding the material after learning it was to do my homework that very same day instead of procrastinating until the very last minute." Other comments were: "Material we discussed enabled me to begin to look at individual parts while understanding how they fit together," "They were a challenge, but this was an area that I really needed and wanted to understand," and "You really have to comprehend everything you read and not just read something because you have to."

Other comments focused on how students had come to understand their process of learning. One student commented, "My way of learning the out of class part of it was trying to do the homework and then bringing it to class and learning what it was that I did wrong." Another remarked, "The book, however, was a bit of a struggle for me. I have always depended on class lectures to guide me through the material. However, this was not possible for the scope of the class." A student used to traditional modes of teaching commented, "I have to admit that I was a bit skeptical at first, when I realized that there were no tests, and that most of my work would consist of reading, sharing in groups, and forming my own opinions about ethical issues." From another student we heard, "This class has also taught me that participating in class can actually improve being

able to understand the topic." Another reflection demonstrates a student's new understanding of how she learned:

> *Sometimes I would not get the homework on the first try but I would always make sure that by the end of class I knew how to do it. Also at home I would look at the problem again and make sure I really understood the problem. This helped me throughout the entire term.*

Some comments were more personal in nature. One student remarked, "I was worried that I would get burned out, but I only developed more enthusiasm for this course. I found myself anxious to try to apply my new knowledge to my place of work, and my personal financing." Another commented, "For some reason, some of the students from the other groups created an intimidating environment for me, resulting in me not contributing as much as I normally would." Another stated, "For some reason, over the past couple of years I've become more timid and not as willing to talk when the environment is uncomfortable for me. However, I need to overcome this fear and not be afraid to speak my mind no matter who I'm around."

Other comments indicated students' optimism, as demonstrated by one student, "I find it difficult to speak my opinion or to give an idea because of a little fear I have of what they will think of it. I am getting better." And others said: "I feel that through setting small goals, I was better able to accomplish what I had set before myself," "This is something that I will struggle with through out life and I will have to keep working towards improving my skills," "I am much more observant of my own as well as others' behavior at work and school," and "I'm a very self-motivated, determined, hard worker with high hopes and ambitions for myself so I don't expect anything less than perfect. I realize that this is not always possible. However, I can strive to achieve my goals." From another student we heard:

> *At first I was hesitant to give advice because I was unsure of how well I understood the course. However, after the first two weeks I became more confident in helping my group members. I would go over the homework with them in class to help them better understand it.*

There were several comments that reflect students' growing understanding of themselves as learners:

> *I came into this class knowing that in order for me to succeed, I was going to have to participate as much as possible. At the beginning of the term I wasn't really attempting to get involved in class. I figured that I could just sit back and blend in like all my other classes. However I soon came to realize that I was going to really have a hard time unless I became more involved.*

> *Quality of work is an issue that I struggle with. I feel as though there are two standards: grading standards and my standards. I don't ever feel as though I reach my full potential, so it is very hard for me to feel 'great' about my work. This is both a negative and positive personality characteristic.*

One student reflected on his improved work habits. Talking about having difficulty getting up for an 8 a.m. class, he said:

> *I think that was because I was simply tired and not used to getting up that early. But as the term went on I got more used to it and my ability to concentrate grew and I actually liked the idea of being done with class that early in the morning. I got a lot more done and out of my days.*

Many students commented on how much they appreciated the opportunity to do an SSA. One student described how he benefited from the SSA by stating:

> *Thank you for a wonderful term and allowing me to evaluate myself and tell you how I feel about the class and my individual accomplishments. This has allowed me to reflect on my accomplishments and decide whether I met all the goals that I set for myself. I feel that I accomplished my goals and am proud of myself.*

Honesty and Self-criticism. Despite the reality that students' SSA could result in a lower grade than desirable, most students were remarkably honest in their assessments and critical of their performance when appropriate. As one student noted, "I would guess that there is no right or wrong way to do this as long as I am honest with myself and everyone else." From two students we heard, "I could accept this [receiving a grade higher than she would assign to herself] much better if I knew that we had the highest quality product but we didn't and I knew it" and "My weighted average grade came out to be 80.5%, which in all honesty, I felt was a little too high."

Other comments included: "Figuratively speaking this [85%] is correct, but in retrospect I feel that even one missed day can drastically hinder the learning experience," "I personally believe school is work; if I miss days flagrantly I will be fired or failed," "I was not a good student in this class until the last few weeks," and "Organization is something I could have done much better." Other students admitted, "Waiting until the last minute to get things done in this class was my underlying theme; I did procrastinate a lot" and "… at this point I can see that I could have done much more."

Many students described how their procrastination or failure to complete the assignments led to poor performance and then took full ownership for the result. One student commented, "As this is my senior year and second to last term I have greatly increased my procrastination habits and decreased my study time." Another candidly admitted,

> *There isn't much to say here. I did a horrible job at keeping up with my readings. When the term first started I was reading each chapter twice before coming to class. Then I got my first exam back and decided that I could relax for a couple of chapters. The result of this stupid technique is present in my second exam score. By far this was the weakest point of my term.*

One student wrote about his priorities in a philosophical manner, explaining the reason for his poor performance without attempting to make excuses for it:

> *One thing that has put me in a different category than most has been the fact that I am attending school here... for only one year on exchange from New York. Because of this I feel like I can't let the outside [recreation] opportunities pass me by. I am in a great place with the surroundings dream like. I am not the kind of student that lets school and work dominate my life. I need other stimulation. I don't think so, but my schoolwork may have been sacrificed a little because of the outside opportunities. I would be foolish not to think otherwise. I have tried to stay focus[ed] on school as much as possible. I have tried to live a balanced life between work and play. But I have also tried to see and do as much as I can.*

A student who clearly struggled with the process stated:

> *Writing self-evaluations has never been an easy task for me. There is always a part of me that wants to be humble, and yet there is always a part of me that thinks that I have tried my hardest, and done my best. However, somewhere there is a middle ground, that is the absolute brutal truth, that is not always easy to own up to.*

Discussion

We believe SSA is an important pedagogical tool that can help management and leadership students become more self-aware and engaged in their own learning. As it is with other professional programs, we believe an important goal of management education is to foster an understanding of and the skills needed for assessing one's learning and needs for further learning. This is particularly true today as new graduates enter into the workforce supervised by managers with large spans of control, working in cultures that expect a high degree of independence and the ability to be self-directing in learning.

Our preliminary findings suggest that SSA might be useful as a pedagogical tool to help students become more self-aware and self-managing. Thus, using SSA might help students take better advantage of their educations, as well as prepare them for transition into professional life. For this reason, we are encouraged by our preliminary findings and encourage further study on its use with management students.

There are, however, challenges to future researchers of SSA. Despite the wide range of studies conducted in many settings among various disciplines and programs, there is a paucity of methodological consistency in these studies. There is also little consistency in goals or desired outcomes. We were able to find only two studies that have examined the use of SSA in management curricula, and one dealt with a graduate class. Thus, there are no methodological models available for use in undergraduate management classes. We are forced to use methods from other disciplines or create methodologies that appeal to our own needs, goals, and desired outcomes.

In conducting this case study, we chose to create our own methods. While we had hoped to find a single method we could subject to further study, our own differences and contexts led us down different methodological paths. What surprised us both was how similarly effective we both found our methods to be, based on the qualitative data we collected, as well as our observations made in and out of class. Perhaps, as Boud (1995) stated, that the reason "…work on self as-sessment will not disappear is that it is not associated with a very specific set of practices" (p. 214).

Whether or not this is true, we have questions we hope would be answered in further study:

- Is there a consistent set of program and/or course goals and desired outcomes that SSA can achieve more effectively than professor-directed assessment? If so what are they?
- Can a single SSA methodology be used to achieve those goals and outcomes? If so, will it allow studies to be generalizable to other management programs regardless of their size, cultural factors, and administrative differences, allowing the discipline to create best practices?
- Should several methodological designs be tested to accommodate different contexts (length of semester, student demographics, grading policies)?
- What are the institutional barriers to using SSA? Are there management programs where SSA should not be used? Why?

Conclusion

This article has addressed the use of student self-assessment as a pedagogical tool for enhancing students' engagement in their learning, especially self-directing and self-managing behaviors. Our aim in using SSA was to help students develop the skills needed to become life-long learners through the process of setting goals, establishing criteria for successful outcomes, and reflecting on their learning and needs for further learning.

In order to accomplish our goals, we used SSA in multiple methods, in part because of our different contexts, styles, and student populations and in part because we employed an iterative process of continually evaluating our methods and making appropriate changes to improve them. Our own experiences, as well those reported by authors in the literature on SSA, support the notion that SSA provides strong benefits for students regardless of the method used. In each of the methods we used, SSA provoked positive responses from students, despite the initial discomfort experienced by some who had not conducted a self-assessment in either a course or in the workplace.

Qualitative data from student surveys, reflection papers, and our discussions with students provide considerable support for the benefits of SSA. Using Nvivo (QSR International Pty Ltd., 2000), software designed for qualitative data analysis, five major, but overlapping, themes emerged: how SSA provided the opportunity for students to see the transformative impact their educations had on them, how SSA acted as a motivator to their performance, how SSA encouraged them to take personal responsibility for their learning, how SSA had impact on their reflec-

tions as learners, and how SSA encouraged students to be more honest and self-critical about their performance.

Given the strong support for SSA used in multiple methods in the literature and the strong responses we obtained from students using our different methodologies, we have tentatively concluded that the process of using SSA may have its own intrinsic value separate from the method chosen. By this we mean that the mere act of using SSA may result in higher student engagement in learning than professor-driven assessment only. Until there is further investigation, we can only speculate about this. We are encouraged by our students' responses to SSA and intend to further our work in this area.

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