Narrowing the Gap between Students and Instructors: A Study of Expectations

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Abstract:

Students often come to a course desiring one kind of learning experience while instructors expect and prepare for another. This gap in expectations can foster students' disengagement and hinder their motivation and self-efficacy, while also creating less-than-ideal learning environments for both students and instructors. The purpose of this study was to more precisely identify those gaps between student and instructor expectations and to bridge them through improved instructor-student communication

about these varied expectations. Additionally, researchers wanted to determine whether better communication could aid in the identification of effective learner-centered classroom practices and increase student motivation. This project suggests that inviting student feedback about a course and then sharing and discussing the results with them improves the instructor-student working relationship, the students' engagement, and their awareness of how they think and learn. This result held true across the wide variety of disciples involved in this study. A key lesson for instructors to take away from this project is that an important component in creating positive learning environments is removing the expectation gap between instructors and students.

Key Words:

Expectations, student engagement, metacognition, classroom assessment techniques, communication.

Introduction

Most instructors intend to create positive learning environments for students, but what defines a positive learning environment? Students might say it includes having clear and manageable course materials, schedules with all deadlines noted, activities in class that interest but don't overtax them, and instructors who are not boring. Instructors, on the other hand, might point to students being engaged, active participants who demonstrate a desire to work hard and learn. Thus, a gap emerges between what students and instructors expect in the day-to-day operations of effective classroom experiences.

Because students may desire one kind of learning experience while instructors expect and prepare for another, this disconnect can foster students' disengagement and hinder their motivation and self-efficacy, while also creating less-than-ideal learning environments for both students and instructors. In addition, patterns in communication between instructors and students in class are often problematic (Sutton, 2011), typically following a question-and-answer format with instructors at the forefront and students rarely articulating their expectations or not expressing them in constructive ways.

One way to simultaneously close the gap between expectations and improve communication in the classroom is for instructors to adopt a more learner-centered approach. Research has shown that learner-centered teaching can positively impact the student learning experience. For example, in a survey of undergraduate students about effective teaching (Allan, Clarke, & Jopling, 2009), a majority selected factors directly related to supportive learning environments, learner-centered teaching strategies focusing on the needs, skills, and interests of the learner, and processes conducive to developing their own understanding and achievement, being true "partners in learning." These findings beg the question if sharing both students' and instructors' expectations and partnering in the learning process would affect the quality of the educational experience. Would improving communication between instructors and students and asking students to reflect on their learning increase their motivation, engagement, and self-efficacy, thereby creating something closer to the instructor's goals of a positive learning environment?

The purpose of this study was to more precisely identify those gaps between student and instructor expectations and to bridge them through improved instructor-student communication about these varied expectations. Additionally, researchers wanted to determine whether better communication could aid in the identification of effective learner-centered classroom practices and increase student motivation. Researchers on this project adapted some commonly used classroom assessment techniques (CATs; Angelo & Cross, 1993) for gauging student expectations and hopes for the course and then for checking their learning throughout the semester. Beyond gathering snapshots of students' thinking, feeling, and learning—the typical formative use of these CATs—researchers wondered what effect the information gathered from the evaluative tools would have on the learning environment, specifically on student motivation, engagement, metacognition, and ultimately learning.

Literature Review

The literature review for this study was challenging because its central concepts (e.g., engagement, motivation) were complex, given the diverse roles of the researchers in this study. Understanding the expectations of students and incorporating their voices into the learning process is important as instructors strive to improve the quality of education (Mann, 1998). Clear communication is key to the relationship between students and teachers, who must listen and gain greater awareness of how students learn best (Brookfield, 1995; McCombs & Whisler, 1997; Weimer, 2003).

Expectations

The expectations of instructors and students shape the learning environment. Studies on instructor expectations indicate that positive perceptions of students' abilities correlate to higher interactions and thus an enhanced learning environment (Rosenthal & Jacobson, 1968; St. George, 1983; Rubie-Davies, 2010). According to Peterson, Rubie-Davies, Elley-Brown, Widdowson, Dixon, and Irving (2011), a relationship exists between the perception of teachers as sufficiently caring about students' learning and the students' resulting motivation to learn. Two studies by Mueller, Katz, and Dance (1999) shared that when students see their instructors as caring, students' self-expectations and their resulting achievement and behaviors were enhanced. Chickering & Gamson (1987) contented one of the seven principles of good practice in undergraduate education is to "communicate high expectations". Expecting students to perform well becomes a self-fulfilling prophecy when high expectations are held (Chickering & Gamson (1987). Therefore, students' expectations of instructors may influence students' attitudes and possibly their motivation to learn.

Supportive Learning Environments

Communication is a priority in creating a positive environment that supports student learning within the complex contexts of the classroom, the students' variety of classes, and their larger lives beyond the university. Instructor use of critical reflection becomes imperative to gain greater awareness of what students need to learn and to integrate responsive teaching practices that better meet those needs (Brookfield, 1995; McCombs & Whisler, 1997; Weimer, 2003). According to Chickering and Gamson (1987), learning is not a spectator sport. Instructors can adapt different strategies and

develop relationships to better meet students' learning needs, without sacrificing high expectations for learning (Wiemer, 2002). This type of communication and response can help an instructor assist students in overcoming strategic barriers to learning. According to Vorster (2011), "we need to focus more on our students and on how we can encourage them to become independent learners than on our command of the teaching process" (p. 921). This is a dramatic and fundamental change in the traditional view of education with students as passive recipients of information, rather than active agents of their own learning processes (Weimer, 2003). Weimer (2002) states that students' lack of confidence holds them back from doing well. They need to get past self-doubt, awkwardness, and the fear of failure and move to where they can ask questions, make contributions to a group, and speak coherently in front of peers. Providing a supportive learning environment may balance classroom power and authority to increase students' independence, self-motivation, and individual responsibility on behalf of the learner. Studies show that involving students in discussions that seek to understand the value of assignments, reflect on experiences, and provide ideas to strengthen courses increases their sense of responsibility for their own performance (Keeley, et al, 1995; Johnson, 2000; McBrayer, 2001). Weimer (2002) provides insight on the practices that encourage students to view themselves as empowered learners by providing resources, experiences, and skills needed to move ahead in their development.

Engagement

Fredericks, Blumenfeld, and Paris (2004) propose that the term "engagement" encompasses behavioral, emotional, and cognitive dimensions which together are necessary in successful learning. According to Kennedy (2010), behavior engagement relates to the amount of effort, concentration, persistence, and verbal contributions made in class, while emotional engagement refers to a student's interest, boredom, anxiety, happiness, and sense of belonging. Cognitive engagement, on the other hand, includes the extent of a student's motivation to learn (intrinsic versus extrinsic), as well as setting goals that bring in the metacognitive strategies of planning, rehearsal, monitoring, and evaluating said to be essential for sustaining the learning effort. The most frequently used indicators of cognitive engagement involve increased participation in the learning process and higher levels of personal attachment to and/or ownership of the program (Kennedy, 2010).

Motivation

In education, motivation frequently relates to the internal drive that stimulates, guides, maintains, and directs a learner toward a specific learning target. In relation to behavior, motivation dominates the learning strategies and the amount of effort in wanting to learn (Liju, 2011). Frequent student-faculty contact in and out of class is the most important factor in student motivation (Chickering & Gamson, 1987). Students who are intrinsically motivated engage and perform tasks because they find them interesting, appealing, and satisfying, and thus perform the behaviors out of interest, pleasure, and pure enjoyment (Deci, 1971; Deci, 1975; Prat-Sala & Redford, 2010; Hashmi & Shaikh, 2011). Students who are extrinsically motivated, on the other hand, seek to complete the task to please others or to be rewarded with high grades (Lynch, 2006). Ryan and

Deci (2000) put forward a self-determination theory which proposes that students internalize demands (regulations) and integrate them into self-regulation as they become more intrinsically motivated. Williams and Williams (2011) state that the five factors affecting student motivation are (1) students, (2) teachers, (3) course content, (4) teaching methods, and (5) learning environment. In particular, instructors can reach out to students to help them feel more engaged, and having a better understanding of students allows instructors to tailor instruction to student strengths. Rugutt and Chemosit (2009) showed a positive correlation between instructor-student interactions and motivation.

Self-Efficacy

According to Bandura (1995), self-efficacy is defined as relating to the beliefs in one's abilities to organize and execute the courses of action required to manage situations. Efficacy beliefs influence how people think, feel, self-motivate, and act. Good learning is collaborative and social, not competitive and isolated (Chickering & Gamson, 1987). When compared to students with low levels of self-efficacy, students with higher levels of self-efficacy are more likely to persevere when faced with challenges, are more likely to experience intrinsic motivation when engaged and performing a task, and are less likely to feel disappointed when faced with task failure (Prat-Sala & Redford, 2010). Lent, Taveira, Sheu and Singley (2009) and Elias, Noordin and Mahyuddin (2010) reported that self-efficacy and environmental support were solid predictors of goal progress, academic adjustment, and improvement. Bell and Kozlowski (2002) also found that student's cognitive abilities impacted their self-efficacy.

Prat-Sala and Redford (2010) studied undergraduate students' motivation in relation to their tendency to use deep or surface learning. Deep learning occurs when learners encounter new information and are attempting to integrate the new information with prior knowledge and experiences, while surface learning involves repetitive rehearsal and rote memorization of information (Weinstein & Mayer, 1986; Entwistle & Ramsden, 1983). The results have implications on motivating student behavior and self-regulation, as it provides insight on the extent of effort a student gives and how much the student will persist in a difficult situation.

Metacognition

An understanding of metacognition is necessary to comprehend the impact of expectations on a student's ability to learn. According to Huber and Freed (2000), metacognition "suggests a meta-level of consciousness of one's own thought process. It involves an almost simultaneous, conscious degree of self-awareness" that comes with examining a problem and deciding how best to solve it and move ahead (p. 244). Metacognition suggests students have knowledge of strategies for three different processes: the abilities to name the strategy (declarative), describe how to implement the strategy (procedural), and know when and why to use the strategy (conditional) (Paris, et al, 1994). Conditional knowledge implies that a student would have self-regulation and potentially know when and how to implement learning strategies within an activity. This also suggests that learners have intimate knowledge of intellectual approaches and strategies they use for learning (Huber & Freed, 2000). Research by Sandi-Urena, Cooper, and Stevens (2011) reported that strategies for metacognitive

skill development succeed in making students stop and think. With the use of probing, teachers led students through prompting and collaboration, which helped them become more reflective and aware of their own problem-solving strategies. In a study conducted by Cheang (2009), critical thinking skills and metacognitive self-regulation improved. Furthermore, this study suggests that metacognitive students were more skilled in controlling, regulating, and monitoring their own cognition and were able to make adjustments to their learning strategies based on the task at hand. This heightened level of awareness could be essential for improving self-efficacy of students.

In summary, clarifying expectations between instructors and students may contribute to creating a supportive positive learning environment. Student engagement, motivation, self-efficacy, and metacognition are factors that affect student learning and might be influenced by increased instructor-student communication, particularly regarding expectations.

Methodology

The context for this project was the researchers' courses at a Midwestern university of about 9,300 students. The study was carried out over four semesters (fall 2010 to spring 2012) in courses including art and design, education, engineering, food and nutrition, leadership, mathematics, and physics, with mainly undergraduate but also some graduate students. The researchers designed three surveys. The first week pre-survey gauged the students' expectations of the course, the instructor, and themselves, as well as their motivation to learn in the course. Basic course expectations were discussed on the first days of class; in addition, the survey responses and the instructors' expectations were discussed in more detail after the first week survey. The survey given at the fifth and tenth weeks of the course asked about identifying instructional methods which met the students' needs, in addition to addressing gaps between student and instructor expectations. The questions pertaining to instructional methods were implicitly linked to expectations, as students revealed their hopes and expectations of the instructor's teaching. Students also identified potential gaps between their original expectations and what was actually happening, both in regard to their efforts and the course instruction. The final week post-survey gathered student perceptions of their motivation, instructor communication, the learning environment, and students' metacognition resulting from the project. In the second year of the study, additional questions were asked pertaining to factors that affect motivation to learn, learning strategies, engagement with the subject, and confidence in their abilities to master subject material. The project was approved by the university's Institutional Review Board for the Protection of Human Subjects.

Surveys were administered using a program called Qualtrics, which generates a URL link that is emailed to each student enrolled in the participating classes. To ensure a strong response rate, practices included faculty encouragement of students and in-class incentives, such as extra-credit in some classes. In year two, more formal processes were used to gather responses: prior to all survey deployments, an invitation was sent via email to potential respondents, which included an explanation of the survey purpose, length and duration, contact information, and an implied consent statement. One survey reminder was sent to initial non-respondents. Also in year two,

the results of the first and final surveys were administered using a pre-post design in order to compare responses from the beginning of the semester to the end. Students were not able to see their pre-survey answers when completing the post-survey. The approximate number of survey respondents was 280 for the fall 2010 term, 150 for spring 2011, 150 for fall 2011, and 112 for spring 2012. Note that these numbers are averages of the semester's surveys, since not every participating student completed all four surveys given during the semester.

Once each set of surveys was completed, the results were compiled into a single document. The instructor then provided written comments to the student responses and posted this document to the course webpage. In addition to the written feedback, each instructor held a class discussion regarding the student responses and the instructor comments. This process of surveying the students, providing instructor feedback, and holding a class discussion was conducted at weeks one, five, and ten of the semester. The feedback was explicitly acted upon in a timely manner by both instructors and students, further validating the survey process. The instructor did not provide feedback to the final week survey responses. Rather, the final survey questions were intended to acquire insight into students' perceptions of the survey and feedback process.

Finally, at the end of the study (spring 2012), focus groups were implemented in four classes to gather additional information about students' perceptions of the surveys and feedback process and their impact. (Complete surveys can be downloaded at http://goo.gl/19Xawn.)

Data Analysis

During year one, the data analysis was completed by two graduate assistants versed in survey analysis. Quantitative data was analyzed for all respondents on each survey. The qualitative responses were thematically coded to determine significant trends in student responses, and the themes were verified by a second reader. This coding allowed for identification of general themes which apply across the various disciplines, as well as an ability to parse the data according to demographic attributes.

During year two, the university's Applied Research Center (ARC), which assists in planning, implementing, analyzing, and compiling final reports for research projects, analyzed the data. Quantitative data was analyzed using Statistics Package for the Social Sciences (SPSS). In the pre-post comparisons, data analysis was conducted only with respondents who completed both the pre-survey and the post-survey. For analyses examining only the pre-survey or only the post-survey, all respondents were included. Qualitative responses were analyzed using NVivo software. Themes were identified after an initial reading and verified by a second reader. Responses were coded into the themes, and the coding was again verified by a second reader. Data from students in the four classes participating in the focus groups was analyzed by ARC.

Although data was collected for each individual course, the data analysis for this paper was done on the combined data for all courses. Therefore no specific individual course data is discussed. The data was also not analyzed by class standing, since the students' year in college was not identified on the surveys.

Findings

Changes in Motivation

A few of the final survey questions were asked in both years of the project. A common question from both years is summarized in Table 1. Note that the wording was slightly changed from year one to year two of the project; the words in parentheses were added in year two.

Table 1: Motivation to Learn

On a scale of 1-5, how has the research project affected your motivation to learn in this course?	Fall 2010	Spring 2011	Fall 2011	Spring 2012
1 = greatly (strongly) decreased	3%	3%	0%	0%
2 = moderately (slightly) decreased	8%	2%	3%	4%
3 = did not affect	59%	72%	54%	47%
4 = moderately (slightly) increased	23%	19%	37%	40%
5 = greatly (strongly) increased	6%	4%	6%	9%

In year one of the project, the researchers hypothesized that frequent survey and feedback activities would have an effect on student motivation to learn course content. Although the instructors observed increased levels of student engagement in their courses, these survey results show only a limited impact on motivation.

As a result, students in year two were asked to describe in detail how the surveys affected their level of motivation. For students who indicated increases in motivation, the most frequent answers in fall 2011 were that comfort with the instructor and clarification of expectations caused the increase. In spring 2012, the most frequent answers were hearing the viewpoints of other students, the opportunity to give feedback, and the changes that the instructor made based on the feedback. The students who selected no change in fall 2011 said they were already personally motivated, and the surveys were informative but not enough to change their motivation. For the students in spring 2012, the top response (already personally motivated) was the same as the fall. The second most frequent reasons given for no change in motivation was that the course did not change after the surveys. There was not enough data for the students who selected a decrease, since that category only included three students in fall 2011 and four students in spring 2012. When students were asked what additional methods would increase motivation, the top themes for both semesters were nothing or N/A, more hands-on activities, and more feedback.

Student-Instructor Working Relationship

Some other common questions included the following, for which students answered simply "yes" or "no":

- I more clearly understand my roles and responsibilities as a student as a result of participating in this research project.
- I more clearly understand the roles and responsibilities of the instructor as a result of participating in this research project.
- I have found that student-instructor communication has improved as a result of participating in this research project.

Results from these questions are summarized in Table 2. Values in the table represent the percentage of students completing the survey who answered "yes," rounded to the nearest percent.

Table 2: Working Relationship

Survey Question Topic	Fall 2010	Spring 2011	Fall 2011	Spring 2012
understanding of roles and responsibilities as learners	70%	71%	80%	87%
understanding of roles and responsibilities of instructor	78%	78%	82%	85%
student-instructor communication	69%	67%	90%	94%

One question from the first-year final survey that was not specifically included in the second year was the following: "*I have become more aware of how I think and learn as a result of participating in this research project.*" In fall 2010, 63% of students agreed with this statement, and in spring 2011, 65% of students agreed with this statement. While these percentages are lower than those in the table above, the positive response was surprising to the researchers and resulted in a more specific focus on metacognition during the second year of the project.

Self-Efficacy, Metacognition, and Engagement in Year Two

Self-efficacy. In the final week post-survey, students were asked "As the semester has progressed, how has your confidence in your ability to master the subject material in this course changed?" Responses are summarized in Table 3.

Table 3: Self-efficacy

Response	Fall 2011	Spring 2012
Decreased greatly or slightly	7%	22%
No change	12%	7%
Increased greatly or slightly	81%	71%

Student responses to "As a result of completing these surveys and discussing the results throughout the semester, I have become more confident in my ability to master the subject material in this course," are summarized in Table 4.

Table 4: Confidence in Ability to Master Subject Material

Response	Fall 2011	Spring 2012
Strongly disagree or disagree	20%	14%
Neutral	33%	47%
Strongly agree or agree	47%	39%

For the follow-up prompt, "*Describe in detail how completing these surveys and discussing the results throughout the semester has affected your confidence in your ability to master the subject material in this course,*" the students' most frequent responses both semesters were that it did not change, but they had a clearer understanding of instructor expectations, they gained an understanding of how they and their classmates were learning and performing, and the instructor now understands what is happening in the classroom and has adapted the class accordingly.

Metacognition. In the final week post-survey, students rated the following: "As a result of completing these surveys and discussing the results throughout the semester, I more often think about the planning strategies I will use to learn that material." Responses are summarized in Table 5.

Table 5: Metacognition

Response	Fall 2011	Spring 2012
Strongly disagree, disagree, or slightly disagree	30%	25%
Strongly agree, agree, or slightly agree	70%	75%

When prompted to "Describe in detail how completing these surveys and discussing the results throughout the semester has affected the degree to which you think about the planning strategies you will use when trying to learn new material," the students' most frequent response both semesters was there was no effect, perhaps because this is the easiest answer for them. This was then followed by the responses that they learned new planning strategies and that discovering how their classmates learned was helpful for understanding the instructor's expectations.

Engagement. In the first week pre-survey, students were asked two qualitative questions on engagement. In response to "*Please describe what it means to you to be engaged with the instructor and the learning process,"* the top three responses for both semesters were active participation in class, comfort with instructor, and open communication. For "*Please describe some examples of how the instructor has*

engaged you in learning in the way you described above," the top three examples for both semesters were types of interactive instruction methods, instructor policies, and the instructor's personality and approachability. Final week post-survey students were asked follow-up questions on engagement:

"How has the degree to which you have been engaged in learning in this course changed since the beginning of the semester?" Responses are summarized in Table 6.

Table 6: Engagement with Learning in the Course

Response	Fall 2011	Spring 2012
Decreased greatly or slightly	5%	10%
No change	28%	25%
Increased greatly or slightly	67%	65%

"How has completing these surveys and discussing the results throughout the semester affected the degree to which you have been engaged in learning in this course?" Responses are summarized in Table 7.

Table 7: Engagement Change due to Surveys and Discussions

Response	Fall 2011	Spring 2012
Decreased moderately	2%	4%
No change	52%	56%
Increased moderately or greatly	46%	40%

For the final engagement question, "Describe in detail how discussing the survey results throughout the semester have affected the degree to which you have been engaged in learning in this course," the students' top response for both semesters was there has been no change. The remaining responses were split between the following: their motivation increased, their understanding of instructor expectations and of the course increased, and they valued their peers' viewpoints and were better able to relate to them.

Focus Group Results

A total of 38 students from four different courses attended four focus group sessions at the end of the spring 2012 semester. The top three responses for questions pertaining to the project are given. The percentages represent the number of comments for the theme divided by the total number of comments for the question.

How has this project impacted you?

- 26%-Instructor used feedback to alter content, adjust teaching style and respond to student needs

- 15%-Students had the opportunity to provide feedback to the instructor to influence the course
- 15%-Students better understood the instructors and their own expectations and the learning outcomes of the course

How would you attempt to increase student motivation if you were the instructor?

- 39%-Provide timely and consistent feedback, modification and clearer explanation of grading system
- 15%-Include course content that is applicable to students in their personal or professional lives
- 12%-Provide opportunities to interact with professionals in their field

How would you attempt to increase student engagement or communication between students and instructors if you were the teacher?

- 17%-Move students around and collaborate with peers in class
- 14%-Be relatable, open, supportive, respectful, non-judgmental, and create a personal connection with the students
- 14%-Incorporate student-led activities, such as leading discussions or working problems on board

How has this project affected your relationship/interactions with your instructor?

- 48%-Felt more comfortable speaking in class and asking questions, related better to the instructor
- 24%-More trust and honesty, sharing of ideas
- 14%-Better understanding of the effort that the instructor puts into class and his or her teaching style

In what ways could the process for this project (surveys, discussions with class, etc.) be improved?

- 42%-Use fewer open-ended questions and more subject-specific questions
- 19%-Better explain the process and purpose of the surveys
- 16%-Nothing could be done to improve the process

Discussion

The goal of this project was to start a dialogue between students and instructors to close the gap between what they expect of one another. As a result of the process of surveying and then discussing expectations, students reported gains in self-efficacy, student engagement, and metacognition. Students also claimed they had a better understanding of their own role and the instructor's role in the class and felt they had a better working relationship with the instructor as a result of completing the surveys and discussing the results.

The communication process of gathering the survey results, sharing them with students, and discussing the results in class showed the instructor's willingness to hear what students have to say and created a supportive learning environment. Discussing student concerns in class seemed to validate their concerns and showed the students

that the instructor cared about their learning. The openness of instructors to make changes in response to student comments actively demonstrated to students that the instructor was taking an interest in what they have to say. This openness to change does not account for all improvements because in some cases students stated they were unaware of changes to the course as a result of the survey. Students who perceived their instructor as caring had enhanced self-expectations and academic achievement. One student stated in a focus group interview that "the most frustrated students being able to voice an opinion without being called out in class" was a significant benefit of this process. Students overwhelmingly saw improvements in communicating with their instructors, and the majority of students felt more respect for their instructor as a result of the opportunities to complete the surveys and discuss the results.

Students reported that their self-efficacy was also improved by the instructor's willingness to make changes to improve the learning environment in response to student comments. Changes made by instructors ranged from small tweaks to larger changes in the course. For example, instructors made changes to deadlines to accommodate students, used email to communicate class news, or changed the format of the grade book posted online. Larger changes included having students present problems themselves, working more difficult examples during class, changing how feedback was given on quizzes, or allowing students more choices for project topics.

In addition to giving instructors the opportunity to make changes to the class in response to student concerns, the survey and discussion process also helped self-efficacy by giving students a clear understanding of the instructor's expectations. A significant number (81% in fall 2011, 71% in spring 2012) of the students in this study felt their confidence in mastering the material increased over the semester, and a sizeable group (47% in fall 2011, 39% in spring 2012) connected this increase to the surveys. One student stated in a focus group that

> students are able to set expectations a little higher because the teachers' expectations are so clear, and there is no confusion and you can be confident that you're going to have a good outcome because there is no confusion, everything is so clear you almost have an exact idea of what you're going to do.

The students also felt more engaged by the end of the term (67% in fall 2011, 65% in spring 2012) with 46% in fall 2011 and 40% in spring 2012 attributing those gains to the survey and discussion process. Students felt that gaining a better understanding of their instructor's expectations and of their peers' viewpoints strengthened their sense of engagement. Two quotes taken from student focus groups illustrate this point nicely:

> I thought it was useful knowing what everybody else does through the surveys and kind of applying it to myself, like if I wouldn't have known that a lot of people go to the tutor lab and [the instructors] office hours I probably never would have even thought about going.

> I think [discussing the survey] helps to level the learning environment in the sense that the teacher isn't like a hawk sitting up on top of the classroom anymore, but makes it more seem like you're all peers and you're just trying to get the best education you can.

A somewhat surprising finding from the first year of survey data was that students did spend more time thinking about their learning process as a result of the survey and discussion process. As a result, several questions related to metacognition were added to the surveys during the second year to further explore the effects of the surveys on student metacognition. During the in-class discussions of expectations, some instructors talked about strategies for mastering material. It is possible that these discussions gave students some guidance on how to think about their thinking. The second-year survey data showed that 70% (fall 2011) and 75% (spring 2012) of students gave more thought to how they learned as a result of discussing new planning strategies and hearing how classmates studied. The impact of this process is not just in opening communication between the instructor and student, but also facilitating communication between the students themselves, as well as helping students become more skilled learners.

Another surprise was that there was little difference in the results across the various disciplines and instructor personalities included in this project. For a few questions, there were differences between how the classes in different subject areas responded to the survey, but on the whole, the data was very similar across the varied courses studied (mathematics, engineering, education, art and design, business, and physics), suggesting a universal impact of this process.

Implementing Our Process

We believe the key components to making this process work for instructional purposes includes administering a survey several times throughout the term, sharing all student responses with the entire class, and holding a discussion with the students about the survey results. The survey questions should lead to a discussion about what students and the instructor can do to improve the learning experience. To help give the instructor some context about what does and doesn't work, questions should not just focus on "yes" or "no" answers, but should also ask "how" or "why" and require students to justify their answers. This may include questions about how students study or view their role in the class, how they feel they are performing in class, or what changes might make the class more beneficial to them. The unedited results of the survey should be shared with the entire class, and all students should be encouraged to review the results before the class discussion. When discussing the results, it is important to address both positive and negative responses from the student surveys. A couple of comments from the focus group indicate that students appreciate it when instructors are open to addressing some of the harshest comments, provided the instructor does not do so defensively.

Conclusion

This project suggests that inviting student feedback about a course, sharing the results with students, and discussing the results with them improves the instructor-student working relationship, the students' engagement, and their awareness of how they think and learn. Surprisingly, there was little difference among the different disciplines involved in this study. Although there were a few cases in which a single class might have a statistically significant difference on a particular question, no one course scored consistently better or worse than the others. This consistency suggests that the observed improvements should be attainable across many disciplines.

One of the limitations encountered when analyzing the data was the difficulty in finding universal themes across all classes. Student comments frequently focused on teaching styles and grading strategies of individual instructors, making it difficult to draw general themes from this data. From a research perspective, further refining of the survey questions would help with this issue, but for instructional purposes, the class-specific nature of the student feedback and class discussions is a key component in validating student concerns and clarifying expectations.

A significant fraction of students felt the survey and discussion process helped them become more confident in their ability to master the material. Students also reported they had a much better understanding of their own role as learners and the role of their instructors as a result of explicitly discussing these expectations in class. Instructors felt students were more open and willing to share concerns about the course as a result of discussing the survey results.

One of the key benefits of this process for the students is that it validated their perspectives and gave them a greater sense of ownership of the course. By openly discussing the instructor expectations and giving students a voice, students felt like the instructor was more responsive to their concerns. In focus groups, several students commented that they liked feeling they had a say in the course.

The primary complaint from students was the frequency and length of surveys. Although students found the process valuable, some felt that the amount of time spent on the surveys was too much. This survey fatigue brings up an interesting question: does the frequency of surveys impact the improvements observed? Instructors implementing this process as an instructional strategy instead of a research project could choose not to use the final survey, especially if course evaluations are normally given at the end of the term, alleviating some of the survey fatigue.

Even though the researchers expected to see increased motivation as a result of conducting these surveys, there was no statistically significant change in student motivation between the start and end of the term. Research does show that student-instructor interactions are a factor in student motivation (Rugutt & Chemosit, 2009), but the students in this study documented no change in motivation over the course of a semester. One possibility is that without the surveys and discussions of the results, there might have been a drop in motivation. A more likely explanation is that the top factors affecting student motivation mentioned during focus group interviews, which were external factors like desire for a good grade, needing the course for a degree, and other courses placing demands on student time.

A key lesson for instructors to take away from this project is that an important component in creating positive learning environments is removing the expectation gap between instructors and students. Improved communication leads to better student understanding of the roles and responsibilities of themselves and the instructor and can lead to a better instructor-student working relationship. Instructors using this survey-and-response process can also expect to see increased student self-efficacy, metacognition, and engagement. An instructor who solicits feedback from the students, shares those results and discusses them with the entire class, and is willing to make

appropriate changes based on student suggestions can also expect improved student engagement.

Acknowledgements

The authors would like to thank the University of Wisconsin's Office of Professional and Instructional Development (OPID) for funding this research and the Nakatani Teaching and Learning Center at the University of Wisconsin-Stout for their support. We would also like to thank the following for the use of their data: Joy Becker, Jeanette Kersten, Ruth Nyland, Julie Peterson, Charlene Schmidt, Laura Schmidt, Renee Surdick, Derek Wissmiller, Todd Zimmerman, and Eileen Zito. We are especially grateful to Nancy Chick for her incredible editorial help in putting this paper together.

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