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Title: A Carrot or a Stick: Enhancing Student Motivation through Accountability in Online and Face-to-Face Courses

Short Abstract (60 words): This engaging presentation features a variety of innovative and practical teaching strategies that are intended to increase student accountability in online and face-to-face courses. Based on their assessment methods and drawing from the literature, the presenters demonstrate how student accountability has a direct impact on extrinsic and intrinsic student motivation that translates into improved student learning and academic success.

Presentation format: Presentation

Description (800-2000 words, plus references) – Scholarly Teaching:

Over the past few semesters, the presenters have noticed a significant drop in student performance in their courses and discovered that this observation is not unique after conferring with their colleagues and academic advisors. Many students seem to have disengaged from the learning process entirely. Some students are stunned when their performance is assessed as insufficient and even become irate that a passing grade requires actually turning in assignments and participating in class. This situation is particularly alarming because as students transition into graduate study or careers, they are ill-prepared for the rigors of this next phase of their lives and they do not have the requisite skills of self-regulation and personal responsibility. The traditional extrinsic forms of positive motivation in courses (“the carrot”), such as good grades, high GPAs, awards and recognition, no longer seem to be enough to encourage students to do more than the bare minimum towards their course requirements. On the other hand, traditional extrinsic forms of negative motivation (“the stick”), such as the threat of poor grades, probation, dismissal and loss of future graduate study opportunities, do not seem effective with the current generation of

college-age students. The intrinsic motivations of simply learning to learn and the pleasure of the learning process appear to be lacking in the current climate of sound bites, multi-tasking and instant gratification. The literature supports the relationship between motivation and student performance and addresses some of the factors that promote or detract from motivation. (Cerino, 2014; Zook & Herman, 2011; Schweinle & Helming, 2011; Radovan, 2011; Prowse & Delbridge, 2013; Petty, 2014; Center for Teaching, Vanderbilt University, 2015; Culver, 2010)

Yet there is still a gap or disconnect between student motivation and academic success. As they discussed their strategies for trying to motivate students and reviewed the literature and what they learned at the 34<sup>th</sup> Annual Lilly International Conference on College Teaching, the presenters determined that what is needed is to move beyond student motivation to student accountability as a way to improve student learning and academic success and to overcome the prevalent attitudes of apathy and entitlement. Although there is considerable discussion of accountability at the institutional level, such as for program review and accreditation purposes, few authors have explored the important and powerful linkage between making students accountable for the learning process and success in their courses. (Alsharif, 2014; Conley & French, 2014; Winter & Marchel, 2014) Accountability can thus serve as both a carrot and a stick in terms of motivating students and can be used to both pull and push students forward.

The presenters have implemented a combination of techniques, representing both carrots and sticks, to make students more accountable to themselves and to their peers so that students are both extrinsically and intrinsically motivated and are more actively engaged in their own learning. (Kim, Hong, Bonk, & Lim, 2011; Sondergaard & Mulder, 2012) Some of the outcomes they want to see in their courses overall are for: 1) students to be more motivated to do more than the minimum in their courses, 2) students to take more responsibility for their own learning as well for the overall learning experience in the course as a whole, 3) students to have the opportunity to fairly and objectively critique their own course work and participation as well as become skilled in providing useful feedback to others and 4) students to gain a more realistic view of their performance in courses throughout the semester and correct their behavior if necessary. These objectives contribute to a more collaborative learning environment overall, where active learning is both encouraged and expected. (Pinheiro & Simoes, 2012; DeWitt, 2012; Wolfe, 2012) The presenters have determined that the most impactful techniques for enhancing student motivation through accountability are providing exemplars of projects and homework assignments and a range of opportunities for self-reflection/self-assessment and peer review, including the use of pre-tests and post-tests, group projects, online discussion forums and oral presentations, especially those where students grade and provide feedback to each other, which is consistent with other findings. (De Grez, Valcke, & Roozen, 2012; Griesbaum & Gortz, 2010; Zhan & Mei, 2013)

In terms of group projects and presentations, the peer review covers five items: accountability, degrees of both preparation and cooperation and the quality and quantity of contributions. Scores from this then get factored into the students' overall grade for the project. Self-reflection in one course focuses on class participation, where students rate themselves on their engagement, attention and behavior on a 1-4 scale. Engagement evaluates how the student actively volunteers, participates in class discussion and responds to questions from others. Attention assesses whether a student closely listens to other students and the instructor and whether he or she is fully engaged in the class session. Behavior judges whether a student displays any disruptive or inappropriate behavior in the classroom. Group projects are especially

useful in promoting accountability, because the peer pressure from students who need everyone to participate in order to complete an assignment may be more effective than any kind of extrinsic motivator such as low scores or zero points for missing assignments. (Hwang, Hung & Chen, 2014; Peterson & Schreiber, 2012; Hall & Buzwell, 2012) For example, one of the presenters had a significant number of students fail to submit the Midterm Project in a course, in spite of numerous reminders and a one-week grace period, which resulted in a high DFW rate in a core required course and many students needing to repeat the course. When a modest group component was added to the Midterm Project, 100% of students in the course submitted the assignment. That small amount of accountability to one's peers was enough to boost completion rates for the assignment and the course is no longer identified as having a problem with DFW rates.

Another technique for peer review is that students in online courses provide feedback to discussion forum responses posted by other students. The class is divided in half, with half of the students responding to the discussion forum questions for odd-numbered modules and the other half of the students responding for even-numbered modules. Each week, one of the questions is to select a student from the previous week's modules and critique his or her responses. Thus, students have an opportunity for feedback and interaction not only from the instructor and her teaching assistant, but also from one or more students. The presenter has found that it is especially difficult for students to be accountable in online courses because she does not interact with them in person on a regular basis. However, building a sense of community and responsibility for providing feedback to each other has improved participation in the discussion forums and resulted in students posting their responses sooner, often even before the due date, and submitting more thorough responses, so that they have the best chance of being selected for feedback by their peers the following week.

Peer evaluation provides an opportunity for more regular and robust feedback beyond what the faculty member can provide, especially in online courses or courses with large enrollments. (Wang, 2010; Brill & Hodges, 2011) Students have an incentive to post their responses to the discussion forum questions as quickly as possible in order to have the best chance for feedback from other students, which promotes some level of competition between students. The scores for peer review for participation in group projects and oral presentations are included in the overall grading scheme. Students have the opportunity to reward or punish their peers based on contributions to group projects and assume the responsibility of doing this in an objective manner, knowing that this will impact student course grades. (Kahiigi, Vesisenaho, Tusubira, Hansson, & Danielson, 2012)

In terms of self-reflection, preliminary results indicate that students tend to be more honest and even harsh in evaluating their own class participation and work quality, including such facets as engagement, attention and behavior. (Fritz, 2011; Clauss & Geedey, 2010) The presenters have noticed that after students complete a self-reflection form, they tend to become more engaged and more active in their courses. By doing a midterm self-assessment, students are able to identify the weaknesses in their behavior that are undermining their performance in the course so that they can choose to make a commitment to alter these behaviors during the second half of the semester. (Ibabe & Jauregizar, 2010; McMillan & Hearn, 2008) This provides intrinsic motivation for students to recognize and change their behavior without the teacher's intervention through either reward or punishment. In the ethics course, students complete a pre-test and post-

test and then reflect on how their views about moral, ethical and legal issues have changed and why. They also compare their responses to a variety of ethical scenarios with those of a panel of experts in the field. The self-reflection assignment in the ethics course not only gives students an opportunity to discern how and why their responses to various ethical scenarios might have changed, but also indicates that the course has had a significant influence on student values and beliefs about ethical and legal issues that they might confront in their careers, also an intrinsic motivation and evidence of deeper learning.

The presenters also promote intrinsic motivation through providing exemplars of many of the projects and homework assignments that students will be expected to complete throughout the semester at the very beginning of the course or well before the due date. Rather than “giving away the answer”, the projects and homework assignments are unique enough that each student will be required to showcase his or her individual skills and effort. Providing exemplars not only helps students to differentiate between work that is worthy of an A versus minimum efforts, but they also revise a student’s own internal view of what it means to be excellent and what he or she should strive for. Exemplars demonstrate the skills that students will be learning in their courses and how these skills translate into real-world applications that will be part of a student’s future career, which is a significant intrinsic motivator. Students whose work is selected as exemplars are thus honored and rewarded in front of their peers, but examples of work that has been recognized as setting a standard for excellence also becomes part of the student’s professional portfolio, which is now expected for many careers as well as for admission to graduate programs in a number of disciplines.

This engaging presentation will feature a variety of innovative and practical teaching strategies that are intended to increase student accountability in online and face-to-face courses. Based on their assessment methods and drawing from the literature, the presenters will demonstrate how student accountability has a direct impact on extrinsic and intrinsic student motivation that translates into improved student learning and academic success. They will compare and contrast their approaches (both carrots and sticks) and provide insights on which approaches have been most effective in helping students become more motivated and accountable. The presenters teach several required core and elective courses in undergraduate and graduate degree, minor and certificate programs. These courses range from 200-level logic and programming/application courses, which are taught in a face-to-face format, to a 400-level course on ethics, a 300-level course on security and a 500-level course on entrepreneurship, which are all taught online. Their students are a mixture of traditional-age and returning/adult students and are diverse in terms of gender, race and nationality. Therefore, the presenters’ various strategies for promoting student accountability as a way to enhance both extrinsic and intrinsic motivation are applicable to nearly any academic setting or course level and are easy to integrate with current teaching practices.

#### References:

Alsharif, N.Z. (2014). Knowledge, Skills – and Accountability? *American Journal of Pharmaceutical Education*, 78, 1-2.

Brill, J.M., & Hodges, C.B. (2011). Investigating peer review as an intentional learning strategy to foster collaborative knowledge-building in students of instructional design. *International Journal of Teaching and Learning in Higher Education*, 23, 114-118.

- Cerino, E.S. (2014). Relationships between academic motivation, self-efficacy, and academic procrastination. *Psi Chi Journal of Psychological Research, 19*, 156-163.
- Clauss, J., & Geedey, K. (2010). Knowledge surveys: Students ability to self-assess. *Journal of the Scholarship of Teaching and Learning, 10*, 14-24.
- Conley, D.T. & French, E.M. (2014). Student ownership of learning as a key component of college readiness. *American Behavioral Scientist, 58*, 1018-1034.
- Culver, S. (2010). Course grades, quality of student engagement, and students' evaluation of instructor. *International Journal of Teaching and Learning in Higher Education, 22*, 331-336.
- De Grez, L., Valcke, M., & Roozen, I. (2012). How effective are self- and peer assessment of oral presentation skills compared with teachers' assessments? *Active Learning in Higher Education, 13*, 129-142.
- DeWitt, J.R. (2012). Using collaborative research projects to facilitate active learning in methods courses. *Journal of Faculty Development, 24*, 19-26.
- Fritz, J. (2011). Classroom walls that talk: Using online course activity data of successful students to raise self-awareness of underperforming peers. *Internet and Higher Education, 14*, 89-97.
- Griesbaum, J., & Gortz, M. (2010). Using feedback to enhance collaborative learning: An exploratory study concerning the added value of self- and peer-assessment by first-year students in a blended learning lecture. *International Journal on E-Learning, 9*, 481-503.
- Hall, D., & Buzwell, S. (2012). The problem of free-riding in group projects: Looking beyond social loafing as reason for non-contribution. *Active Learning in Higher Education, 14*, 37-49.
- Hwang, G.J., Hung, C.M & Chen, N.S. (2014). Improving learning achievements, motivations and problem-solving skills through a peer assessment-based game development approach. *Educational Technology Research & Development, 62*, 129-145.
- Ibabe, I. & Jauregizar, J. (2010). Online self-assessment with feedback and metacognitive knowledge. *Higher Education, 59*, 243-258.
- Kahiigi, E.K., Vesisenaho, M., Tusubira, F.F., Hansson, H., & Danielson, M. (2012). Peer assignment review process for collaborative e-learning: Is the student learning process changing? *International Journal of Advanced Computer Science and Applications, 3*, 149-155.
- Kim, P., Hong, J.S., Bonk, C., & Lim, G. (2011). Effects of group reflection variations in project-based learning integrated in a Web 2.0 learning space. *Interactive Learning Environments, 19*, 333-349.
- McMillan, J.H. & Hearn, J. (2008). Student self-assessment: The key to stronger student motivation and higher achievement. *Educational Horizons, 87*, 40-49.
- Mulder, R., Baik, C., Naylor, R. & Pearce, J. How does student peer review influence perceptions of engagement and academic outcomes? A case study. *Assessment & Evaluation in Higher Education, 39*, 657-677.

- Peterson, S. & Schreiber, J. (2012). Personal and interpersonal motivation for group projects: Replications of an attributional analysis. *Educational Psychology Review*, 24, 287-311.
- Petty, T. (2014). Motivating first-generation students to academic success and college completion. *College Student Journal*, 48, 257-264.
- Pinheiro, M.M., & Simoes, D. (2012). Constructing knowledge: An experience of active and collaborative learning in ICT classrooms. *TOJET: The Turkish Online Journal of Educational Technology*, 11, 382-389.
- Prowse, A. & Delbridge, R. (2013). "I can't be arsed": A small-scale exploration of students' self-reported motivation on entering a course of study and eventual "success". *Education + Training*, 55, 654-664.
- Radovan, M. (2011). The relationship between distance students' motivation, their use of learning strategies, and academic success. *Turkish Online Journal of Educational Technology – TOJET*, 10, 216-222.
- Schweinle, A. & Helming, L.M. (2011). Success and motivation among college students. *Social Psychology of Education: An International Journal*, 14, 529-546.
- Sondergaard, H., & Mulder, R.A. (2012). Collaborative learning through formative peer review: Pedagogy, programs and potential. *Computer Science Education*, 22, 343-367.
- The Center for Teaching, Vanderbilt University (2015). Motivating Students. <http://cft.vanderbilt.edu/guides-sub-pages/motivating-students/>, accessed 1/14/15.
- Wang, M. (2010). Online collaboration and offline interaction between students using asynchronous tools in blended learning. *Australasian Journal of Educational Technology*, 26, 830-846.
- Winter, L. & Marchel, C. (2014). How to teach your students accountability through improving self-regulation. *34<sup>th</sup> Annual Lilly International Conference on College Teaching*, November 21, 2014, Oxford, Ohio.
- Wolfe, A. (2012). Implementing collaborative learning methods in the political science classroom. *Journal of Political Science Education*, 8, 420-432.
- Zhan, Z., & Mei, H. (2013). Academic self-concept and social presence in face-to-face and online learning: Perceptions and effects on students' learning achievement and satisfaction across environments. *Computers & Education*, 69, 131-138.
- Zook, J.M. & Herman, A.P. (2011). Course-specific intrinsic motivation: Effects of instructor support and global academic motivation. *Journal on Excellence in College Teaching*, 22, 83-103, 2011.