ENCOURAGING STUDENT AUTONOMY THROUGH HIGHER ORDER THINKING SKILLS

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ABSTRACT

This article discusses how to empower students to work, think, and act independently in the higher education setting. Inspiring students to progress through the stages of Bloom's Taxonomy emboldens them to discover intrinsic motivation and self-regulated learning. This article defines and focuses on the importance of teaching intrinsic motivation through higher order thinking skills, reliance on materials provided for success, and metacognitive assessment. Additionally, this article provides examples of ways to implement student autonomy in the traditional and online classroom settings.

Keywords: higher order thinking, Constructivism, Bloom's Taxonomy, Self-regulated Learning, higher education, learning motivation, distance learning

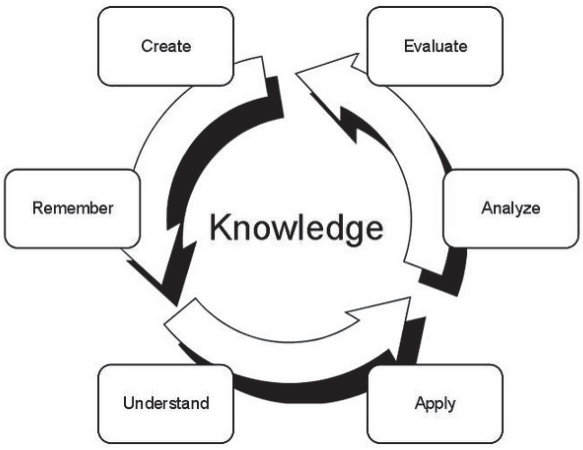
INTRODUCTION

Instructors in any modality—traditional, online, or hybrid—often find that instilling autonomy in students a challenge that some might even find is a fruitless endeavor. However, regardless of the outcome, encouraging student autonomy is a worthy endeavor because it will enable students to think critically and take ownership of their work in all areas of life. The purpose of this article is to teach instructors the importance of encouraging higher order thinking in all teaching modalities, show how intrinsic motivation enables students to achieve autonomy, and demonstrate how Higher Order Thinking Skills (HOTS) help students achieve autonomy.

Constructivism

Constructivism is the theory that students learn and understand better when they can make meaning out of the knowledge presented to them (Notar, Wilson, & Montgomery, 2005). People learn in social environments and teachers must try to put information into contexts that allow students to make meaning of what the instructor teaches. Learning is then based on what a student already knows. Instructors need to allow for varied interpretations of information because students come from diverse backgrounds and bring just as diverse knowledge to a course when it begins (Notar et al., 2005).

Figure 1. Bloom's Taxonomy



Benjamin Bloom theorized that learning occurs in levels. According to Garver and Roberts (2013), "Bloom developed the taxonomy for the cognitive domain of learning—a linear progression through knowledge, comprehension, application, analysis, and synthesis to evaluation" (p. 18). The synthesis, evaluation, and creation levels relate to knowledge,

and instructors can adjust learning to encourage students to move through the cycle from the lower levels of learning to the higher levels. Garver and Roberts (2013) write:

> *Lower levels of learning are important, but a meaningful learning experience must include the two highest levels from Bloom's taxonomy of learning—synthesis and evaluation. In short, synthesis is the ability to plan, create, or do the topic area. Evaluation is the ability to rate or critique a plan, creation or work done in the context of a given subject matter. (p. 17)*

When an instructor encourages students to moves through the cycle of Bloom's stages, he or she simultaneously encourages student autonomy. One way to encourage students to move through the cycles and reach the highest levels of learning is to provide direct, clear expectations about the course. When students conduct peer reviews in the online modality, they often hesitate to think critically about how to handle problems in peer review forums—for example, confusion regarding whom to review, what to do when their peers fail to review their essays, etc.—and often approach the instructor for guidance. While instructors need to and should be available to answer students' questions, they can also enable students to empower themselves and handle situations that occur in the classroom.

Providing a document such as a peer review process letter that explains what the peer review forum is and how to handle inevitable problems that occur during peer review sessions can help. An instructor should construct a letter that reminds students that the peer review process is entirely student driven and is a place to learn about cooperative work. The document also needs to make clear that students need to complete peer reviews in a timely manner and take it upon themselves to reach out to peers when someone does not meet a deadline, as they would in a work environment. Instructors can also make students aware of what to expect in terms of instructor feedback throughout the course, give encouragement, and let students know they are available for help. This letter should not only articulate responsibilities of the student, but also make clear what students can expect in terms of instructor feedback—feedback that, for example, might decrease in volume throughout the course but at the same time empower the student to learn their own writing strengths and weaknesses and assess them accordingly.

In the traditional classroom, students might express concerns about hurting their peers' feelings during a peer review and hesitate to offer criticism of a peer's writing or at worst refuse to participate in the process altogether. When this occurs, an instructor can simply remind the students that unwillingness or fear of participating in peer review not only affects the reviewer (e.g., receiving a lower grade or a zero for not completing the peer review), but it also affects the one reviewed because they either did not receive a review or did not receive an honest one and could potentially receive a lower grade on the final draft of the essay. When instructors reiterate to the class that essay grades and participation grades are "on the line," so to speak, it helps students to understand the magnitude of peer review.

Autonomy

The term autonomy refers to student-centered learning values in which an instructor creates a safe learning environment where students feel comfortable interacting with instructors and peers; in this learning environment, students take responsibility for their own learning. Ke and Kwak (2013) write, "learning environments should emphasize personal relevance by providing concrete, personal-relevant experiences that serve as catalysts for constructing individual meaning" (p. 102). Contextualizing course material in scenarios relatable to students' personal beliefs and experiences makes course material more accessible to the student and helps them remember the concepts taught. Instructors can teach students self-regulation and motivation in tandem with teaching them autonomy. Vonderwell, Liang and Alderman (2007) assert:

> *Learners need regular practice in assessment to become self-monitoring and independent. Online learners need to manage their own learning through self- and peer-assessment, discovery learning, reflection, and articulation. Students need to take an active role in planning, monitoring, and then reflecting and evaluating not only the learning tasks but the process of*

> *learning as well. These processes require a learning environment that supports this active student role (p. 311).*

While for some motivation is innate, it can be taught to and learned by those who may not naturally possess it. This can be achieved by giving clear, concise tools and consistent reminders to students. That way the repetition and the tools give the student a safe framework within which to be successful. Creating a class web site that includes specific pages for each assignment and pages that address FAQs, specific strategies for the overall subject, and links to outside helper sources is a tool that can be used throughout the class. Reminding students to go to the web site for answers, and including the link to a specific page, allows students to learn they can access information on their own, even when the instructor is not available. When students understand they have the tools they need for success with one assignment, it motivates them to take initiative with subsequent assignments.

Intrinsic vs. Extrinsic Motivation

The online environment, especially the asynchronous modality, is a good environment for teaching intrinsic motivation because even though students can email instructors and write to them in the built-in forums provided within the course's learning managements systems, they lack the advantages of having an instructor to offer extra encouragement in person that the traditional classroom affords. Therefore, the asynchronous modality is often the perfect place for students to learn how to self-motivate. Ronald Girmus (2011) writes, "Intrinsic motivation represents the inner drive or passion people have to excel in a particular pursuit. Extrinsic motivation represents the drive to achieve external rewards, such as money or social status" (p. 3). Intrinsic motivation refers to motivation that is personally rewarding, while extrinsic motivation refers to motivation that stems from an individual's need to avoid punishment. Girmus (2011) argues:

> *Individuals with a strong interest in a specific area are intrinsically motivated to succeed in that area of endeavor. Individual interest tends to be stable and long-lasting. Situational interest is generated by certain conditions or stimuli in the environment that focuses attention. (p. 3)*

Individual interest and intrinsic motivation "are highly related, perhaps even synonymous" as are extrinsic motivation and situational interest (Girmus, 2011, p. 3). Additionally, motivation and interest can be learned, and the asynchronous online environment is an optimal place for teaching intrinsic motivation. An example of individual interest is a student who sets a goal to earn an A in a course because he or she genuinely wants to learn as much as possible in a course and is naturally willing to put in the effort and hard work required to achieve that goal. Situational interest, on the other hand, involves a student setting a goal to earn an A in the course due to GPA requirements that require them to make a certain grade in order to remain enrolled in college. In all modalities, instructors can teach students intrinsic motivation by creating a safe space where students can engage in self-regulated learning.

Self-regulated Learning

Self-regulated Learning (SRL) is "an active process in which students plan, monitor, and control their cognitive, metacognitive, and motivational processes as they pursue their own learning goals" (Mihalca, 2014). SRL is the process by which students explore their thoughts, feelings, and actions toward the learning in which they are immersed. For SRL to be accurate, students need to understand what they are observing about their learning processes and see it through a clear lens. It is the instructor's responsibility to teach students' different perceptual lenses. Perhaps the best way to reach the majority of students in a diverse classroom is to offer information at the beginning of class that specifically tells them how to succeed in the course. Using clear, concise writing in handouts or postings in the classroom, and then ensuring students understand your guidelines for success helps students start a class with confidence. Confidence then enables students to regulate their own learning. Examples might include a quiz on the syllabus, a syllabus scavenger hunt, or an in-class game, Jeopardy style, which helps students understand the expectations of the class. This process can be performed with each assignment as well, particularly if the instructor has not personally written the curriculum. In SRL, students look at the assignments presented, determine a course of action with a clear goal, and execute the plan. After a goal is completed, the student self-reflects,

allowing the metacognitive process to help them recall, organize, and make further meaning of what they have learned.

Metacognition

Metacognition is concerned with cognition. Students consider and then reveal what they know and how they learned what they know. Metacognition encourages learners to pause several times in a course, but especially at a course's close, to reflect upon their own learning. In the metacognitive process, students first ascertain what is expected of them (both in terms of individual assignments and in the overall course). Once students are clear about what is required, they devise a strategy for completing the task. Finally, students reflect back on the process of learning and determine if the process worked, how well their strategies worked, how they felt while learning, and, finally, what they learned. Instructors can ask students to reflect upon what facts they have learned (declarative knowledge) and methods for performing activities (procedural knowledge) (Vonderwell, Liang, & Alderman, 2007, Figure 7). Examples of assignments to assist with metacognition include a self-reflective writing worksheet with prompts that allow students to recall what they have learned, a reverse graphic organizer with headings that helps students reverse and write about their learning process, and end-of-course self-surveys. Metacognition is related to autonomy because metacognition determines the learner's ability to control his or her own learning (Vonderwell et al., 2007). The more students are able to manage the SLR process, the greater autonomy they have. An increase in autonomy increases students' intrinsic motivation toward learning.

Instructor as Observer

In the online environment, instructors need to monitor student perceptions of assignments, their processes of learning, and students' application of knowledge. An indicator that students are unable to accurately perceive an assignment would be when the majority of learners in the class fail the assignment. If an assignment is unclear, the SRL process is much less effective because the lens is certainly not clear. In the online environment, unlike traditional learning environments, discussion forums allow instructors to see strings of conversations that will also give indication of student comprehension. Instructors can then create materials to assist students with areas of the learning process that are not clear, thus assisting students with the SRL process. Examples of these materials could include Classroom Assessment Techniques (CATS), forum posts, class web sites, and links to additional resources. CATS are formative assessments placed in the classroom to help both students and the instructor evaluate comprehension and learning (Angelo & Cross, 1988).

An instructor who allows students to explore the learning within the context of a well-organized classroom space should use a professional, kind, and caring demeanor. By setting the tone and clear expectations, instructors provide personalized learning while still promoting autonomy. The instructor becomes an observer when he or she gives students the space to learn. For example, discussions should be student-controlled and driven with the instructor stepping in only when necessary (to ask thought-provoking questions or to add to the discussion). As an observer, the teacher can provide ample motivation by knowing the student body. Of course, humor is always welcome. For example, one instructor uses a letter in week one of her online classroom with the title "UNV 104, PHI 105, ENG 105, oh my!" that scaffolds previous courses to the current course, ENG 105. The letter recaps concepts students have learned in the previous courses, such as how to write headers, headings, thesis statements, in-text citations, and reference pages, and then proceeds to explain that students will need to use that knowledge in ENG 105, as well. The instructor ends the letter with examples and an opportunity for students to share what they have learned for an opportunity to earn participation points. The above example accomplishes the goals of setting course expectations, reminding students they can apply prior knowledge to the current course, and using humor to help students remember the material in the post while simultaneously setting the tone for the course.

In the traditional classroom, one can always scaffold during the semester or quarter through verbal reminders of previous course material and making connections between current course content and content studied earlier in the semester; for example, if one were teaching Victorian Literature in a survey course, one could remind

students of aspects of Medieval Literature they studied since the Victoria era often hearkened back to the Medieval era.

CONCLUSION

Charles Notar, Janell Wilson, and Mary Montgomery (2005) assert that an effective distance learning model includes the following: embedded learning activities in an overarching scenario, the use of pictures—not text—if possible, embedded data needed to solve problems in the learning context, multiple links among concepts, knowledge from multiple perspectives, active learning techniques, continual self-assessment, and exposure of students to expert performance. The same is true of traditional and hybrid modalities. Providing students with the same opportunities, as mentioned above, encourages students to self-regulate their learning and become autonomous in the learning process. These design factors, when implemented, encourage students to take responsibility for their educational success. It is essential for instructors to monitor and assess each student's metacognitive process, as metacognition is the key to self-regulated learning.

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