Implementing a High-Impact, Critical Thinking Process in a Learner-Centered Environment

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Using antiquated teaching methods in modern day learning environments is no longer acceptable. Many educators understand the importance of a learner-centered teaching model that encourages critical thinking skills. However, the methods that can be used to attain such a learning environment can be perplexing. The challenges of the 21st century demand that educators seek out and utilize new methods to enhance the education of students where teachers empower learners to solve problems and think critically. A five-step pedagogical process to transition courses, in any discipline, toward one that develops critical thinking skills in a learner-centered environment is proposed.

INTRODUCTION

Modern educational theory has revolutionized the way we teach and how students are expected to learn. This has caused a paradigm shift in higher education from a teacher-centered to learner-centered approach (McClean & Gibbs, 2010). The philosophy of learner-centered teaching changes the focus from the teacher to the learner. Focusing on students has always been considered a crucial ingredient of effective teaching (Smart & Csapo, 2007). Teachers provide learners with resources and opportunities to acquire knowledge according to their own learning styles (McClean & Gibbs, 2010). In the learner-centered paradigm, faculty focus less on transferring factual knowledge to students and more on developing a learning environment that empowers students to construct knowledge for themselves (Webber, 2011).

The expectations of students in a learner-centered approach are very different. Through active engagement and experiential learning, students are required to become independent and reflective life-long learners who are able to function in a dynamic educational and professional environment. Instead of conveying information, teachers develop active learning experiences (McClean & Gibbs, 2010). The first step in using active learning is a willingness to change the teaching approach. Teachers must thoroughly plan activities and accept the risk of sharing control of the classroom with students (Smart & Csapo, 2007). Active learning provides opportunities for interaction and involvement through controlled activities and instructional interventions that are planned around clear objectives (Smart & Csapo, 2007).

Lifelong employability requires knowledge, the ability to apply that knowledge in multidisciplinary, team-oriented, and dynamic environments, and lifelong learning (Bedrow & Evers, 2011). The directive for lifelong learning calls for a different mindset, one that embraces reflection and self-learning.

Educators must effectively prepare students as lifelong learners to ensure a seamless transition to work environments (Bedrow & Evers, 2011). Evidence is mounting that "knowing" is not enough. Being able to apply that knowledge to analysis, decision making, and problem solving within team-based, complex environments is essential for success (Bedrow & Evers, 2011). Active learning strategies develop more engaged students, with deeper learning and a greater ability to solve problems and think critically (Smart & Csapo, 2007).

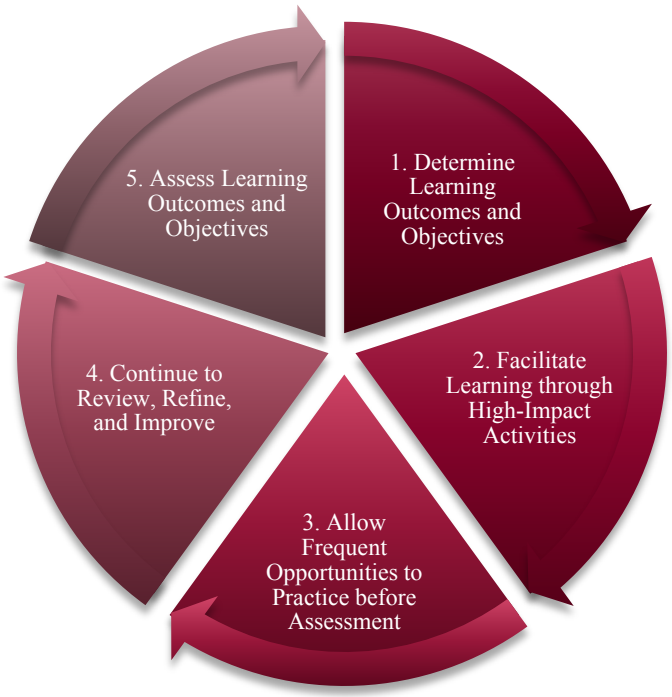
Based upon existing theory and best practices, the authors have developed the following five-step *Process for the Development of Higher Level Thinking Skills* which can be implemented in virtually any teaching setting (including online) to create a more active learning environment and to move learners toward higher level thinking.

DESCRIPTION OF THE PROCESS

Step 1: Determine Learning Outcomes and Objectives

Considering the importance of a course, its placement in a program, and its role in providing a base of discipline knowledge, a teacher should carefully identify key learning outcomes and objectives that recognize what learners should know when they exit the course. The development of well-written outcomes and objectives will greatly accelerate a learner's movement into higher level thinking (Ball & Garton, 2005). To make critical thinking happen, these learning outcomes and objectives, as well as the linked activities and assessments, must require students to perform and demonstrate higher level thinking. Thus, an effectively designed course should target a specific behavior, introduce and practice the desired behavior, and end with the learner exhibition of the behavioral response. Learning outcomes focus on what students will learn, not on what the instructor is teaching. Outcomes include an appropriate verb and impact to clearly define what the student will do and how they will apply the knowledge. For example, students will be able to design a company report, using information provided in the case study, suitable for discussion at the Board level. The behavior is to "design" the report, using the "case study materials" provides the practice for this behavior, and "suitable for discussion at the Board level" describes the expected behavioral response.

FIGURE 1
PROCESS FOR THE DEVELOPMENT OF HIGHER LEVEL THINKING SKILLS



(Limbach & Waugh, 2012)

Step 2: Facilitate Learning Through High-Impact Activities

To make learning more meaningful, teachers should develop high-impact activities. Activities, experiences, or interventions that are focused around clear objectives develop more engaged learners, with deeper learning, and a greater ability to think critically (Smart & Csapo, 2007).

According to Swaner (2011),

> The term 'high impact' comes from George Kuh's work with NSSE [National Survey of Student Engagement]. They are particularly beneficial for students in terms of academic and personal growth, career development, and a wide range of desired learning outcomes. There's something unique about these practices. They seem to have a greater impact than what we're used to. (p. 7)

Swaner (2011) also stated that high impact practices

> Tend to be very intense, not simply students walking into a lecture hall and hearing a lecture but students [being required] to learn on multiple levels. They're creating new knowledge, implementing it in real-life settings, and reflecting on the implications for themselves and the community. (p. 7)

Students respond positively to high-impact practices, but they do pose additional challenges.

Swaner (2011) found the following about high-impact practices:

> Students find them to be worthwhile and connected to their lives. These experiences help give them direction and skills for career choice. Obviously this is not the only goal, but it is a goal of students. One negative piece about it, and this speaks to the intensity of these experiences, is that students report that [high-impact practices] are a tremendous amount of work, that it's eating up a lot of their time and energy and effort. (p. 8).

For learners to foster understanding and stimulate intellectual growth, they must pose arguments, state opinions, and critique evidence using primary and secondary sources. The art of interactive discussion begins with establishing what is known and allows the teacher to extend beyond to develop new ideas and

understandings. Clasen and Bonk (1990) posited that although many strategies exist that can impact learner thinking, teacher questions have the greatest impact. They went on to indicate that the level of learner thinking is directly proportional to the level of questions asked. When teachers plan, they must consider the purpose of each question and then develop the appropriate level and type of question to accomplish the purpose. All learners need experience with higher level questioning once they become familiar with a concept. Choosing high-impact, learning activities that allow the learner to critically think, is important (Schafersman, 1991). There are many options to consider when choosing high impact practices. Collaborative assignments and projects teach students to solve problems and provide an opportunity to work in teams. Community-based learning projects bring together academic knowledge and real-world applications. Capstone projects allow students to exhibit mastery in a discipline. Internships provide real-world working experiences.

Step 3: Allow Frequent Opportunities to Practice before Assessment

Practice is necessary to master any skill; learners must have the opportunity to practice the knowledge, skills, attitudes, and behaviors that will be evaluated. Learners become responsible for their own learning when teachers create a supportive environment by providing clear expectations, monitoring class activities, and carefully tracking student participation. Collecting feedback from students about what they have, or have not learned, may present the need to offer opportunities for re-learning and expose areas in need of improvement. Practice improves learning and makes it more permanent. Improving at any skill requires the investment of time and energy, it also requires immediate feedback to ensure proper learning. Students can use instructions to guide them in their practice and feedback to make necessary adjustments.

Step 4: Continue to Review, Refine, and Improve

Teachers should strive to continually refine their courses to ensure that their instructional techniques are in fact moving learners toward critical thinking. Feedback, like assessment, compares criteria and standards to student performance in an effort to evaluate the quality of work (Ko, 2004). When assessing a course, and prior to providing opportunities to practice what is to be assessed, learners must first understand the standards by which they will be assessed. Next, learners should be provided with constructive and relevant feedback by the teacher and peers, as well as assessing their own performance. Learner feedback can then be used to improve instruction and learner performance. Feedback is define by The American Heritage Dictionary (2009) as "the return of information about the result of a process or activity; an evaluative response" (para. 1). Feedback that is positive will cause continuation of a behavior, feedback that is negative, will cause a change in behavior.

According to Wiggins (2012),

> Advice, evaluation, and grades are not improving learning because they do not provide the descriptive information that students need. To be useful, feedback should be goal referenced; tangible and transparent; actionable; user friends (specific and personalized); timely; ongoing; and consistent. (para. 10)

Step 5: Assess Learning Outcomes and Objectives

Learner achievement should be measured based on learning objectives, course and program outcomes, and specific discipline knowledge. This measurement can provide an immediate and significant source of information for the outcomes-based assessment process in evaluating a particular course, departmental program, curriculum, instructional techniques, specific learning activities, and learner achievement. This step facilitates the continuous review of the course outcomes and learning objectives to ensure they are still relevant. When reviewing the course, teachers should pay particular attention to alignment.

Quality Matters (n.d.) suggests that

> Alignment is achieved when Learning Objectives, Assessment and Measurement, Resources and Materials, Learner Engagement, and Course Technology work together to ensure that students

achieve the desired learning outcomes. When aligned, each of these course components is directly tied to and supports the learning objectives. (para. 5)

SUMMARY

The successful implementation of the *Process for the Development of Higher Level Thinking Skills* in any learning environment requires the thoughtful consideration of current instructional techniques and the commitment to embrace changes and differences so as to flourish in an active, high-impact, learner-centered learning environment.

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