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Empowering Students to Think Deeply, Discuss Engagingly, and Write Definitively in the University Classroom

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A typical college classroom is often pictured with the professor talking for several hours while students frantically try to write down everything that is said. This type of classroom has traditionally produced surface learning and has done little to promote learning that lasts. Do university classrooms have to be professor driven? Can university classrooms become engaging and facilitate student learning? What does a learner-centered classroom look like at the university level? The authors of this paper will explore effective strategies for making this shift to learner-centered university classrooms. Strategies include the use of an essential question for a course, a taxonomy of comprehension for class discussion, and writing activities. Specific university classroom examples are included.

A typical college classroom is often pictured with the professor talking for several hours while students frantically try to write down everything that is said. This type of classroom has traditionally produced surface learning and has done little to promote learning that lasts. In addition, many professors, regardless of their discipline, may teach as they were taught rather than considering more effective teaching methods. Therefore, this cycle that restricts teaching beyond this one narrow dimension continues. Do university classrooms have to be professor driven? Can university classrooms become engaging and facilitate student learning? What does a learner-centered classroom look like at the university level? The authors of this paper will explore effective strategies for shifting university students from surface learning to deeper, more lasting learning as they are provided opportunities to become engaged learners through varied strategies. The article is divided into three parts: comprehension strategies, discussion strategies, and writing strategies.

Comprehension Strategies

Empowering students to be able to think deeply about the concepts and skills inherent to a particular discipline is a daunting task. Professors have spent years building their own understanding of the foundational concepts of their disciplines. Add to that process a continuous and singular focus on how these foundational concepts drive the body of knowledge surrounding a discipline. As the professor's learning continues, a more complete understanding and clarity of the related concepts are ferreted out with more intricate and subtle connections. How can professors, within one course, enable students to move past the surface knowledge of a discipline?

The organizational schemata of course information can make a difference in the way students approach their learning. For example, the use of essential questions to frame a course can facilitate students' ability to place meaning on what otherwise may be perceived as unconnected facts (Elder & Paul, 2002). Using essential questions emphasizes the process of thinking for the student rather than their just answering questions. These questions have no singular correct answer and are often provocative, seen as inspirational rather than perfunctory.

Every discipline can utilize this process of essential questions to support learning as students move from surface learning of factual information to a more meaningful understanding of the important concepts of the discipline. For example, when teaching an American History course an essential question could be, "Would you rather be an immigrant in 1890 or 1990 and why?" Using this question does not change the factual information that is taught. It only requires that students become more involved with the facts as they consider how the information they are learning could be relevant to them, making this information seem essential. As previously stated, any discipline can be taught using essential questions, thereby, facilitating the student's ability to put course content into a relevant context.

In addition to assisting students as they attempt to see course information as meaningful, essential questions also can provide students a relevant focus for a discipline that they may not feel confident in or perhaps have had a bad experience with in the past. One such content, unfortunately, that some students may have had unsuccessful experiences in understanding is mathematics.

As a professor of an elementary mathematics methods course, I have experienced the anxiety and tension that some students associate with mathematics. Even though this issue was addressed in a supportive and upbeat manner at the beginning of the course each semester, some students in my class found the course extremely difficult. However, when the entire course

was put into the context of "How can I *show* my students this mathematical concept?" rather than the traditional "How can I *teach* my students this mathematical concept?", the students began to shift their focus. Rather than worrying about the steps of a mathematical procedure, they began to find models that demonstrated the concept.

With this new focus, students were using more descriptive language that described the concept as well as using clarifying models. The students' confidence levels increased in addition to their levels of competence in their mathematics pedagogy. The significant way that the class had changed was the addition of an essential question. The same examples and explanations were used as well as the same activities and tests. However, with the inclusion of an essential question, the students' learning was more evident on test answers and classroom discussion.

Discussion Strategies

Classroom discussion in university classrooms can be enhanced with the use of planned questions. Regardless of the specific discipline, these planned questions can move students from a basic level of understanding of a concept to higher levels of thinking. A taxonomy of comprehension can be used to facilitate this process of thinking deeply about course content. One prominent taxonomy of comprehension is attributed to Benjamin Bloom (1956). Bloom identified six levels of thinking: (a) knowledge, (b) comprehension, (c) application, (d) analysis, (e) synthesis, and (f) evaluation. Planning discussion questions that help students move through these different levels of understanding will provide students with appropriate prompts to discuss issues from an interested and thought provoking position rather than a less involved "I know that answer, let's move on" point of view.

The inclusion of questions requiring higher order thinking is not reserved for courses that involve reading and interpreting literature. Even in an elementary mathematics methods course, students can be asked questions that require different levels of understanding. The following prompts/questions are examples representing different levels of understanding the mathematical concept of the addition of decimal numbers.

Knowledge Level

- Using grid paper, explain 2.36 added to 2.64.

Comprehension Level

- How does this problem support your knowledge of place value?

Application Level

- Explain the addition problem of 2.36 and 2.64 as it relates to the monetary system used in the United States?

Analysis Level

- What other models could be used to demonstrate 2.36 + 2.64?

Synthesize

- How does the process used to add 2.36 and 2.64 support the process used to add whole numbers? Fractions?

Evaluation

- Explain which model you plan to use to introduce decimals to your students.

These same categories of questions can be used in any discipline to ensure that students understand the important concepts, which can result in rich classroom discussion. As students are involved in answering the kinds of questions that require higher levels of thinking, additional strategies may be used to continue the discussion. These strategies include asking students other than the one answering the question to (a) elaborate on a student's response, (b) offer an opposing view to a response, (c) summarize another student's response, (d) clarify the logical rationale, (e) explain how the student's response supports the essential question for the course, and (f) explicate how the student's response empowers the student. Using these strategies can make the difference between a potentially dull exchange of information between students and professors and an exciting dialogue among all class members in any discipline.

Writing Strategies

A popular cartoon depicts one character saying to another character that she would like him to write a theme for her. The second character indicates that if she wants to learn, she will write it herself. At that point, the first character exclaims in surprise, "Learn!"

Yes, one does learn through writing. However, all writing to learn assignments do not have to be the traditional theme, essay, or research paper, which are so common in college classrooms. Brief writing activities can be interspersed throughout a class session to ensure that reflection, or information processing, is taking place.

One example of this type writing is journal writing, which can take many different forms according to both the content area and the professor's goals. Journaling can take the form of reading journals,

learning logs, or reflective journals. According to Wyrick (1996), journals help students confront fears of writing and help them "conquer" the blank page. Wyrick also maintains that journals help improve powers of observation, which the reading journal or learning log can easily do. Journals may also help students prepare for class and focus on a problem, or the essential question, posed by the assignment or class activities. Reflective journaling is especially effective in classes that meet longer than one hour. For instance, in four hour classes, the professor might pause several times for students to reflect, or process, information that might extend over an hour or so. Reflective journaling might also be used to transition from one topic to another during longer class sessions.

Another brief writing strategy, which may also serve as an assessment piece, is the Ticket to Leave, also known as an Exit Slip. At the end of the class session, each student is given a 3x5 index card and is asked perhaps two questions—one concerning learning (essential information) of the day, and the other asking what question or questions still remain. This is, indeed, the students' ticket to leave class. Variations include using sticky notes and placing them on the wall or door as they leave. Very quickly, the professor can sift through these cards and assess what learning took place, and if the essential information from that class session was learned. The professor also knows what direction the next class needs to take based on the questions students still have.

A variation of the Exit Slip is the Minute Paper. Students may use their own paper for this writing activity, which asks two similar questions, phrased however best suits the content area or the professor's objectives. A half-sheet of paper is less intimidating than a full blank page. It also saves the professor time as he/she reads quickly for this informal assessment of both students and the professor's own teaching objectives.

A longer writing assignment can take the form of a RAFT paper, a creative outlet for demonstrating understanding. RAFT stands for Role (what is the writer's role: reporter, critic, observer, eyewitness?), Audience (who will be reading the writing?), Format (what form will the writer use: letter, article, report, poem?), and Topic + strong verb (who or what is the subject of this writing?). This strategy allows the writer to approach the topic from several different perspectives as well as an opportunity to write to someone (or something) other than the professor. Not only will it show knowledge of the topic, but it also will allow some creativity. One example of a RAFT writing assignment comes from a science professor, who designed this writing assignment: "You are a drop of rain which falls into the Mississippi River in upper Minnesota. You travel the length of the Mississippi to New Orleans. Tell your story to the New Orleans *Picayune*."

The amount of higher order learning required for this assignment is astounding. It requires the requisite factual knowledge, but also runs the gamut of Bloom's Taxonomy. Plus, a more creative means of expository writing just might result in better student writing as well as a better score on a test.

Yet another brief writing activity, which also elicits essential information being taught, is The Important Thing. Modeled after Margaret Wise Brown's (1949) *The Important Book*, a children's picture book, students write several facts about a topic, and then they use the higher order thinking skills of analysis and evaluation to determine the *most* important fact about the topic being studied. This strategy requires the professor having a copy of this children's book, reading it to the students, and having them model Brown's style. Once again, creativity occurs in the content area college classroom.

Each of the writing strategies presented can easily be done within a class period, require higher order thinking, are to one degree or another creative, and serve as informal assessment pieces. The RAFT may also be a homework assignment and may become a more formal assessment, as desired. The brevity of the strategies is advantageous to a busy professor's already crowded work load, for each may be quickly read. Furthermore, frequent writing activities allow the professor to get to know the students by seeing how they think and process information. These writing activities also help to create a community of writers and learners, which are important goals of the college classroom.

The above strategies are best utilized when they are woven throughout a class session. For example, a reflective journal entry can be used to access

students' prior knowledge about the day's topic. In addition, a reflective journal entry can be used during the class discussion to clarify the lesson's concept or used as a class closing activity as a means to verify the students' understanding of the essential information presented. Other writing strategies, such as the Minute Paper and Ticket to Leave, can also be used as closing activities that offer the student an opportunity to use higher levels of thinking that ensure the content presented is processed as meaningful information. Discussion strategies can be utilized at strategic times during a class to ensure that students not only know and understand the concepts presented, but that students also can apply, synthesize, and evaluate information for use in long term projects, thus resulting in deeper, more lasting learning.

Increased student learning as a result of using the strategies discussed in this article are evident as professors observe students taking ownership of

course content. Rich discussion with students expressing themselves passionately can become the expectation of class rather than a surprise. Course projects and activities can become more meaningful. Perhaps students will even express their appreciation as professors plan classes that empower students to think deeply, discuss engagingly, and write definitively in the university classroom.

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