

Stimulated students to intellectual effort beyond that required by most courses

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Why this Teaching Method Matters

A review of the literature (1) indicates that college students seldom have to perform at Bloom's taxonomy cognitive levels higher than remembering and understanding (2). Many students sit passively in ill-defined lectures and take multiple-choice exams on which they regurgitate facts instead of applying the concepts in authentic ways. Students are seldom asked to complete assignments that require making moral or ethical decisions, drawing conclusions, evaluating decisions, or working cooperatively toward a common cause across disciplines. However, research shows that instructors who "stimulated students to intellectual effort beyond that required by most courses" helped students make significant gains in learning (3).

Item #8 relates to other IDEA teaching methods including: Item #1 (Displayed a personal interest in students and their learning), Item

#2 (Found ways to help students answer their own questions), Item #3 (Scheduled course work—activities, tests, projects—in ways which encouraged students to stay up-to-date in their work), Item #4 (Demonstrated the importance and significance of the subject matter), Item #6 (made it clear how each topic fit into the course), Item #7 (Explained the reasons for criticisms of students' academic performance), Item #13 (Introduced stimulating ideas about the subject), and Item #15 (Inspired students to set and achieve goals which really challenged them). Item #8 is also strongly related with IDEA learning objectives that stress cognitive knowledge, application, critical thinking, and interest in life-long learning. Students are stimulated to greater intellectual effort when they become engaged with the content and the course and make an investment in their own learning.

Applying this Teaching Method in the Classroom

Students will be stimulated not only when they are challenged, but also when they see that they can successfully meet the challenges that are presented. To promote intellectual effort you should design course tasks just past students' current achievement level, but well within their reach (4). Student motivation and intellectual effort are increased when material is connected to students' interests and when instructors provide authentic, real-world tasks relevant to students' academic life (5). Other strategies to enhance students' intellectual effort include increasing active learning through case studies and simulations, setting high expectations by using contracts and rubrics, and stating clear objectives.

To stimulate student's intellectual effort beyond what is required by most courses, think about applying a few of Chickering and Gamson's "Seven Principles" (6). In particular, consider techniques and practices that will develop reciprocity and cooperation among students, encourage active learning, and communicate high

expectations. For example, have small groups of students do such things as generate or summarize ideas, assess levels of skills and understanding, rethink ideas, review problems or exams, process learning outcomes at the end of class, provide formative feedback to the teacher, compare and contrast key theories or issues, relate theory to practice through problem solving, and produce ideas about applications of theory to real life (7). Research indicates that students often perform at a higher quality when they share their writing or other work with each other than when the instructor is the only one who sees the work. (8) To do these types of collaborative tasks you can teach with simulations or other active strategies like case studies that engage students. Case studies that are centered on real-world issues or are connected to service learning projects, where there is a tangible connection to a recognized local need, are ideal. You can create your own case studies or simulations, use published ones, or have students create their own.

In all interactions with your students, communicate high

expectations. As Chickering and Gamson (6) note, being explicit about expectations can help students reach high levels of intellectual effort. One way to be clear about expectations is to incorporate student contracts in your course. Contracts describe the academic work students plan to accomplish in a particular period of time. Such contracts are useful because when students “self-regulate” they become more committed to their work and are more willing to invest both intellectual and personal effort (9). The keys to a good contract are clarity, relevance, manageability, commitment, and oversight.

Another way to make your high expectations explicitly known to students is by using rubrics for assignments and activities. Rubrics provide students with the information about how to be successful on an assignment (10). Making rubrics available to your students will create transparency which gives them a guide to follow and high-level performance criteria to which they can aspire. Providing your students with clear objectives helps to communicate your goals for their learning. You should aim to have course objectives touch on all levels of the cognitive process and knowledge dimensions in Bloom’s Taxonomy, but most importantly to focus on those at higher levels. Creating higher-level objectives, and the activities and assessments aligned with those, will allow students to become more actively engaged in significant learning experiences (11). These experiences give students the opportunity to increase their intellectual effort, allowing them to analyze and solve problems, evaluate ideas and information to make educated decisions, and design and create new products.

Applying this Teaching Method Online

Online learning can be powerful when everyone is involved, engaged, and thinking about concepts on a deep level. In fact, the 2008 National Survey of Student Engagement (NSSE) report stated that it was more likely for online learners, compared to face-to-face learners, to “very often participate in course activities that challenged them intellectually” and for online instructors to “stimulate more intellectual challenge and educational gains” (12). This happens when faculty design and deliver their courses to encourage active learning activities. Active learning in online courses can be achieved through student interactions, such as having students work in groups to complete a project, requiring students to participate in asynchronous discussions, and incorporating manageable peer instruction assignments.

Online instructors are more likely than face-to-face instructors to offer collaborative experiences, many times

through structured discussions (12). Online tools can also be used to connect students with “authentic audiences” outside the course itself, providing additional motivation for students to produce high-quality work (13).

One benefit of online teaching is the ability to construct class discussions in advance. In order to create valuable dialogue in your course:

- Take time to create meaningful, open-ended questions that require students to not only understand and cite concepts, but also to apply the knowledge in new, personal, and authentic ways (14).
- Mix quick fact recall quizzes with discussions that have prompts written at higher levels of Bloom’s Taxonomy: creating, evaluating, and analyzing (2).
- Make sure student participation requirements are clear. Communicate that student postings should enhance the existing conversation and “provide hooks for additional continuous dialogue” (14).
- Have students make multiple posts throughout the discussion availability period, stay on topic, and weave in personal experience or prior course concepts if possible (14).
- Grade some student work lightly, perhaps just on completion, to encourage risk-taking. Provide feedback on that work through comments that don’t affect the student’s grade (10).

Properly designed and facilitated discussions can become the center of an online course and a place where you can move students to think beyond remembering and understanding material to higher levels of application and evaluation.

Another way for your online students to engage in active learning is by incorporating technology tools. You should be cognizant of your rationale for including these tools and communicate that reason to your students. Any tool incorporated into an online course should enhance the learning process, make completing tasks more efficient, and motivate students without overwhelming them with technology. Different tools support different levels of Bloom’s Taxonomy (15, 16); look for tools that help students create, evaluate, and analyze. Often, when students see what they can accomplish with particular digital tools, they are motivated to push themselves beyond what they thought they could do. However, instructors should be aware that utilizing Web 2.0 tools without technology support in place can lead to lower institutional instructor ratings. Providing students with ample tutorials, help documents, and institutional support centers are simple ways to empower your students to solve technical problems (17).

Assessing this Teaching Method

Alignment of learning objectives, activities, and assessments throughout an online or face-to-face course should be obvious to students. Providing measurable and observable objectives allows students to identify what they will be learning and how they will show mastery. These objectives will also help you create assessments and activities that align with the desired course outcomes. It is important to align the assessment with the objective of the assignment and the learning activity in which students engage. You will not want to assess student learning using multiple choice tests when your learning objective is to analyze case studies; nor will you want to have students write an essay when you are asking them to collaborate on a service-learning project. In online situations, alignment of all course components may pose new assessment challenges to the instructor. Student satisfaction with online courses correlates to proper alignment between assessments and the entire course (18).

In addition to considering alignment issues, you should also be sure to assess students' progress with a variety of techniques at many points during the learning process. Angelo and Cross categorized a large assortment of techniques into clusters organized by teaching goals (19). For example, when assessing students' work on activities that intend to stimulate high levels of intellectual effort, you will most likely want to use techniques in Cluster I: Higher-Order Thinking Skills. Some of these techniques are Analytic Memos, Concept Maps, and Problem Recognition Tasks. If you want to assess discipline-specific knowledge and skills, Cluster III would provide you with some appropriate assessment tools.

When students and instructors work together, they can successfully stimulate intellectual effort beyond what is required for most courses. Well-designed courses that include clearly stated objectives, collaborative experiences, and active learning strategies are the first steps toward achieving this goal. By engaging in these activities and taking control of their learning, students can make significant gains in their learning.

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