Teaching Methods

Related course material to real-life situations

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Why this Teaching Method Matters

There are many reasons for incorporating real-life situations into instruction. Foremost are that applications of theoretical material in real-life situations make content easier to understand, and that the relevance of content is demonstrated by real-life examples. Relevance is a major component of many motivational models (1, 2) and particularly important if learners' experiences can be used as a basis for new learning. Recent literature on brain function and learning (3, 4) reinforces a constructivist view in which existing knowledge forms the foundation for incorporating new information into more complex and sophisticated schemas. Thus, if prior experience can be connected to new material in a meaningful way, that material can be more clearly understood and more easily learned. There is a caution, of course – that student misconceptions can interfere with new learning (5, 6). Exposure to the application of content in real life situations may help to correct such misconceptions. Research on the dimensions of college teaching (7) also provides powerful evidence of the importance of connecting content to real-life situations.With respect to student achievement, the four most strongly correlated teaching dimensions are organization, clarity, perceived outcome, and stimulation of interest.

All of these dimensions relate just as powerfully to motivational issues like inclusion, attitude, meaning, competence, and satisfaction (1). As additional information, look at your scores on IDEA items #4 (demonstrating the significance of the subject), #6 (make clear how topics fit), #13 (introduce stimulating ideas), and #10 (explain material clearly). Item #11 correlates strongly with these items and with IDEA learning objectives dealing with gaining factual knowledge, learning to apply course material, developing specific professional skills, and values development.

Applying this Teaching Method in the Classroom

It is always helpful to know about students' prior experience and learning, and particularly so when misconceptions exist. Here, appropriate use of assessment techniques can help the instructor to determine the extent to which existing knowledge and experience can be effectively used, or whether alternative approaches are needed. Angelo and Cross (8) suggest techniques for determining not only factual knowledge, but also skills in analysis, synthesis, critical thinking, problem solving, and student attitudes and values. Many times, misconceptions are the result of a combination of misinformation and misinterpretation, but such errors can not simply be dismissed. Zull (3, 4) strongly recommends that finding a way to use past experience is more effective than simply telling the student, "That's wrong. The right answer is..." Misconceptions don't go away simply because we provide the right answers. However, with an understanding of the nature of students' misconceptions, it is possible to help students reorganize existing knowledge and to help students reconstruct old ideas in new and appropriate ways. Zull (p.93) sums it up as follows: "First, prior knowledge is a fact....Second, prior knowledge is persistent....Third, prior knowledge is the beginning of new knowledge. It is always where all learners start. They have no choice." Given this it seems not only wise, but necessary for teachers to make clear the relationships between prior knowledge/experience and new material.

When course material is connected to real-life situations, the instructor can demonstrate logical organization: "Today, as we discuss supply and demand I will show how theory X can be applied to solving problem Y. I've chosen this example because it provides a clear path to gaining a solid understanding of the basis for many economic decisions." Applications make content more clear and understandable: "Now, let's do this case study see how and why this principle works." Connecting content to a desired real-world outcome demonstrates practical val-

ue: “This is the kind of project that you will have to carry out as professionals in the workplace.” Finally, making connections as above stimulates interest by getting students engaged in solving problems that interweave, theory, applications, and recognizable tasks: “Let’s see how this example relates to your attempts to develop a business plan.” Coincidentally, these four teaching dimensions (organization, clarity, perceived outcomes, and stimulation of interest) are also among the most powerful predictors of student ratings of teaching. It is easy to see how organization and clarity are related, and a logical structure makes it easier for students to know what is expected. The combination allows students to grasp the importance of the course and they are more easily motivated, more often engaged, and more frequently successful.

Maryellen Weimer (9) notes that we need to “…treat experiential knowledge more analytically and more objectively” (p. xiv) and she describes “learner-centered teaching” as a process that “…accepts, cultivates, and builds on the ultimate responsibility students have for learning” (p. xvi). When we relate course material to real life situations, we acknowledge the potential of prior experience to enhance learning and at the same time tell our students that they have to connect new information to their own experiences. Learning requires this synthesis and we can not do this for them. Thus, “learner-centered teaching” has as its focus, two kinds of partnerships: the personal one that acknowledges the responsibilities of teachers and learners, and the cognitive one, that requires synthesis of old and new knowledge. In this sense, learner-centered teaching models the real-life processes that students will have to face – they will have to work with others to apply existing knowledge and to adapt that knowledge as situations change and new problems arise.

Applying this Teaching Method Online

The differences between face-to-face and online learning do not affect this issue a great deal because demonstrating the relevance of course material can be done in many ways and the essential purposes do not change. While on-campus classes may include field trips or other off-campus demonstrations of course content in action (because students can all be in one place at one time), online courses can offer virtual tours that provide similar demonstrations of relevance. In fact, any type of course can offer asynchronous opportunities that are more convenient for learners and can connect learners with “real life” professionals and practitioners. Derek Bruff suggests two social networking strategies for increasing relevance: “social bookmarking” (10) and writing (or otherwise creating) for “authentic audiences” (11) provide opportunities for students to get feedback on their ideas and to contact other students or professionals engaged in related work.

This presents an important reminder that we should not create artificial distinctions between on-campus and online curriculum. Instructional needs should determine the technologies used rather than restricting these tools only to those teaching in environments that require the technologies for delivery. Are there unique demands made by online environments? Perhaps there are. For example, teacher enthusiasm is another dimension of college teaching identified by Feldman (7). Such enthusiasm can be conveyed easily in lectures, demonstrations, or face-to-face dialogue with students, but can it be as easily conveyed at a distance? Online courses that include live or recorded video and/or audio transmission capability can incorporate this to some extent, but teachers may have to develop additional ways of transmitting their enthusiasm for the content and its importance/relevance. Teleconferencing, blogs, and social networks can supplement other technologies and allow teachers and student to interact more frequently and effectively in terms of not only developing better interpersonal relationship, but also in terms of reinforcing the relevance of content to real life situations.

Assessing this Teaching Method

If we are trying to connect content to real-life situations, our assessments must demonstrate face validity. That is, they have to model the situations in which the new knowledge and skills will be used. If we only test for knowledge, the opportunity to demonstrate that learning is relevant is missed. Assessment of the connection of new material to real-life experience varies by discipline. In professional fields, the pragmatic links are clear and assessment via case studies, problem solving, individual or group projects, and the development of work plans or processes, is both valid and clearly relevant. It models real-life. In the humanities and social sciences, most content makes connections to human experience in a general if not a specific sense, and papers, essays, and other work can include the need to relate content and real-life. In mathematics and the physical sciences applications-oriented assignments and assessments can help to make the connection. Conceptual understanding is critical and assessments like knowledge surveys (12, 13) can provide useful formative information that points out areas of strength or weakness and that allows teach-

ers to use their (and their students') time more effectively. Active learning is the most widely supported teaching/learning strategy in the sciences because research (14) has shown that engagement through the application of content promotes enhanced learning. Assessments should match the learning objectives and the classroom processes used. An important idea to keep in mind is that assessments (especially major, end-of-term assessments) can reinforce the practical value and applicability of learning to real-life, and there is a positive correlation between the perceived value of learning and students evaluations of teaching and courses. For obvious reasons, this is not a trivial relationship. Assessment in online courses has many similar elements but often lacks the spontaneous feedback found in a classroom "question and answer" or discussion. Thus, in online courses, it may be wise to include more frequent feedback mechanisms (not all of which have to be formal). Discussion boards in course management systems can be used to have learners present definitions, descriptions, ideas, or explanations that are then raw material for other students' comments, edits, changes, or improvements. These dialogues are archived and provide three benefits: 1) they engage students and help to promote a sense of community; 2) they provide a way to assess progress and to monitor participation; and 3) they are raw material for scholarship of teaching and learning-type explorations that help us to understand how best to use these new technologies.

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