

How We Create Effective Teaching-Learning Environment

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Abstract: Teaching and Learning "meet" in the teaching and learning environment. Building a good learning environment means taking into account both the psychologist's and the instructionalist's perspectives. Many administrators and instructors are familiar with course management systems and campus portals, fewer have experience with virtual worlds and may question their academic relevance. The teaching activities of the teacher and the learning activities of the learner are both directed towards matching individual performances.

Key Words: Psychologist, Portals, Allignment, Virtual

I. Introduction

The physical characteristics of learning environments can affect learners emotionally, with important cognitive and behavioral consequences. Although emotional reactions to environmental stimuli have been shown to vary widely across individuals and activities, most students would probably find learning difficult in a classroom that is stiflingly warm. Conversely, environments that elicit positive emotional responses may lead not only to enhanced learning but also to a powerful, emotional attachment to that space. It may become a place where students love to learn, a place they seek out when they wish to learn, and a place they remember fondly when they reflect on their learning experiences. In higher education, we hope to provide such places for our students to learn, even as we build yet another large lecture hall and attempt to squeeze our students into crowded, noisy, and uncomfortable spaces. Clearly, some learning environments are more comfortable and offer fewer distractions than others. In any learning environment, physical characteristics that cause discomfort can be expected to interfere with learning; environments that produce positive emotional states can be expected to facilitate learning and the development of place attachment. The areas of psychology that relate most directly to classroom design and learning environments are environmental, educational, human factors (engineering), and social psychology. Previous research on the effects of such environmental variables as light, temperature, and noise on learning has yielded some predictable results that are addressed through traditional classroom design. Learning appears to be affected adversely by inadequate light, extreme temperatures, and loud noises—variables maintained within acceptable ranges in most college classrooms. Other results, however, reflect the often complex, subtle, and surprising interplay between the learner and the learning environment. Years of research on the impact of environmental variables on human thoughts, feelings, and behaviors indicate that other variables often moderate the effects of environmental variables. In a summary of the research on educational environments,

Virtual Learning Environments

Today's students spend an increasing amount of their time peering at computer screens. These virtual environments have physical characteristics that are just as real as those of a dormitory room or a brick-and-mortar classroom, and students can become just as attached to them. On one end of the continuum are virtual worlds that emulate a natural, multidimensional environment. On the other end of the spectrum are the online work spaces that students use every day, such as course management systems and campus portals. Somewhere in between are applications such as

Facebook and MySpace, or persistent, customizable, social spaces that lack the immersive qualities of virtual worlds but are more open, recreational, and social than campus work spaces.

Although many administrators and instructors are familiar with course management systems and campus portals, fewer have experience with virtual worlds and may question their academic relevance. A good example of a virtual world used as a classroom is Second Life, an online environment designed to support creativity, collaboration, commerce, and entertainment. Although members can play games in this world, the environment itself is not a game in the traditional sense. Instead, it is an open environment (what some call synthetic reality) where members can interact with each other and build things (for example, buildings, games, clothing, furniture) for use within the virtual world.

Constructive alignment?

'Constructive alignment' has two aspects. The 'constructive' aspect refers to the idea that students *construct meaning* through relevant learning activities. That is, meaning is not something imparted or transmitted from teacher to learner, but is something learners have to create for themselves. Teaching is simply a catalyst for learning: *'If students are to learn desired outcomes in a reasonably effective manner, then the teacher's fundamental task is to get students to engage in learning activities that are likely to result in their achieving those outcomes... It is helpful to remember that what the student does is actually more important in determining what is learned than what the teacher does.'* (Shuell, 1986: 429) The 'alignment' aspect refers to what the teacher does, which is to set up a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes. The key is that the components in the teaching system, especially the teaching methods used and the assessment tasks, are *aligned* with the learning activities assumed in the intended outcomes. The learner is in a sense 'trapped', and finds it difficult to escape without learning what he or she is intended to learn. In setting up an aligned system, we specify the desired outcomes of our teaching in terms not only of topic content, but in the *level of understanding* we want students to achieve. We then set up an environment that maximises the likelihood that students will engage in the activities designed to achieve the intended outcomes. Finally, we choose assessment tasks that will tell us how well individual students have attained these outcomes, in terms of graded levels of acceptability. These levels are the grades we award.

There are thus four major steps:

1. Defining the intended learning outcomes (ILOs);
2. Choosing teaching/learning activities likely to lead to the ILOs;
3. Assessing students' actual learning outcomes to see how well they match what was intended;
4. Arriving at a final grade.

Defining the ILOs

When we teach we should have a clear idea of what we want our students to learn. More specifically, on a topic by topic basis, we should be able to stipulate how well each topic needs to be understood. First, we need to distinguish between *declarative* knowledge and *functioning* knowledge. Declarative knowledge is knowledge that can be 'declared': we tell people about it, orally or in writing. Declarative knowledge is usually second-hand knowledge; it is about what has been discovered. Knowledge of academic disciplines is declarative, and our students need to understand it selectively. Declarative knowledge is, however, only the first part of the story. We don't acquire knowledge only so that we can tell other people about it; more specifically, so that our students can tell us - in their own words of course - what we have recently been telling them. Our students need to put that knowledge to work, to make it function. Understanding makes you

see the world differently, and behave differently towards that part of the world. We want lawyers to make good legal decisions, doctors to make accurate diagnoses, physicists to think and behave like physicists. After graduation, all our students, whatever their degree programmes, should see a section of their world differently, and to behave differently towards it, expertly and wisely. Thus, simply telling our students about that part of the world, and getting them to read about it, is not likely to achieve our ILOs with the majority of students. Good students will turn declarative into functioning knowledge in time, but most will not if they are not required to. Accordingly, we have to state our objectives in terms that require students to demonstrate their understanding, not just simply tell us about it in invigilated exams. The first step in designing the curriculum objectives, then, is to make clear what levels of understanding we want from our students in what topics, and what performances of understanding would give us this knowledge. It is helpful to think in terms of appropriate verbs. Generic high level verbs include: Reflect, hypothesise, solve unseen complex problems, generate new alternatives Low level verbs include: Describe, identify, memorise, and so on. Each discipline and topic will of course have its own appropriate verbs that reflect different levels of understanding, the topic content being the objects the verbs take. Incorporating verbs in our intended learning outcomes gives us markers throughout the system. The same verbs need to be embedded in the teaching/learning activities, and in the assessment tasks. They keep us on track.

Choosing teaching/learning activities (TLAs)

Teaching and learning activities in many courses are restricted to lecture and tutorial: lecture to expound and package, and tutorial to clarify and extend. However, these contexts do not necessarily elicit high level verbs. Students can get away with passive listening and selectively memorising. There are many other ways of encouraging appropriate learning activities (Chapter 5, Biggs 2003), even in large classes (Chapter 6, op. cit.), while a range of activities can be scheduled outside the classroom, especially but not only using educational technology (Chapter 10, op cit.). In fact, problems of resourcing conventional on-campus teaching, and the changing nature of HE, are coming to be blessings in disguise, forcing learning to take place outside the class, with interactive group work, peer teaching, independent learning and work-based learning, all of which are a rich source of relevant learning activities.

Assessing students' learning outcomes

Faulty assumptions about and practices of assessment do more damage by misaligning teaching than any other single factor. As Ramsden (1992) puts it, the assessment is the curriculum, as far as the students are concerned. They will learn what they think they will be assessed on, not what is in the curriculum, or even on what has been 'covered' in class. The trick is, then, to make sure the assessment tasks mirror the ILOs. To the teacher, assessment is at the end of the teaching-learning sequence of events, but to the student it is at the beginning. If the curriculum is reflected in the assessment, as indicated by the downward arrow, the teaching activities of the teacher and the learning activities of the learner are both directed towards the same goal. In preparing for the assessments, students will be learning the curriculum. The cynical game-playing we saw in our psychology undergraduate above, with his 'two pages of writing', is pre-empted. Matching individual performances against the criteria is not a matter of counting marks but of making holistic judgments. This is a controversial issue, and is dealt with in more detail in Biggs (2003, Chapters 8 and 9). Just let me say here that the ILOs cannot sensibly be stated in terms of marks obtained. Intended outcomes refer to sought-for *qualities of performance*, and it is these that need to be stated clearly, so that the students' actual learning outcomes can be judged against those qualities. If this is not done, we are not aligning our objectives and our assessments.

Teacher Perspective--- Objectives--- ILO--- Teaching Activities--- Assessment

Student Perspective--- assessment--- Learning Activities--- Outcomes

PEOPLE THINK ABOUT THEIR OWN LEARNING, AND THEIR FEELINGS MATTER

Both thoughts and emotions shape the learning process. Metacognitive skills —being able to think about and monitor one’s own thinking — enable learners to manage their learning process, to learn difficult new concepts, and to problem-solve effectively. Good metacognitive thinkers are also good intentional learners; they are able to redirect the normal frustration that occurs when things are confusing or not initially productive into further learning. Emotions also play a role; students who are fearful, anxious, depressed, or distracted cannot focus to process information. Positive emotions – feelings of confidence and willingness to exert effort – help students to think, perform a learning task, and process new knowledge. Emotional intelligence – the ability to recognize and manage one’s emotions, to solve conflicts, to motivate oneself, and to persevere in the face of difficulty – can also be taught.

WHAT TEACHERS CAN DO TO ASSIST LEARNING

Teachers can be more effective in their work if they teach in ways that are compatible with the natural processes of learning. How can what we know about learning help us to think about effective teaching? What is the teacher’s role in student learning? The following points are emphasized throughout the series:

TEACHING IS A PROCESS OF ORGANIZING THE ENVIRONMENT

Effective teachers can organize the environment to provide students with active, hands-on learning and authentic tasks and audiences. Opportunities for “active” learning experiences, in which students are asked to use ideas by writing and talking about them, creating models and demonstrations, applying these ideas to more complex problems, and constructing projects that require the integration of many ideas, have been found to promote deeper learning, especially when they are combined with reflective learning experiences. Teachers can develop learning activities with real purposes, audiences, and activity structures that mirror those outside of school settings. By encouraging discourse among students about ideas, concepts, and relationships they can create environments where the teacher is not the only source of knowledge. Teachers can also organize reflection on activity and analysis of ideas and products that enables learners to transform activity into broader understandings.

TEACHING IS A PROCESS OF ORGANIZING KNOWLEDGE, INFORMATION, AND ACTIVITIES

Teachers can organize information in the environment by taking into account how people process information, and by linking learning to prior experience and prior knowledge. Learning with understanding is more likely to occur when students are provided with categories of understanding, or concepts, as opposed to an unrelated body of facts. By using advance organizers, teachers can help students structure knowledge and information so that the big ideas within a content area are clear. With an understanding of the structure of the discipline they are teaching, teachers can provide cognitive maps of the terrain to be learned, along with content-specific strategies, examples, analogies, and diagrams to make material meaningful to students and to address common misconceptions. They can also teach students how to think about and monitor their own learning and performance by providing opportunities to practice metacognitive strategies. Teachers can foster students’ understanding and capacity to undertake complex performances by organizing a systematic process of modeling and demonstrating how experts approach the task, scaffolding steps in the learning process, coaching learners, and providing

feedback. These roles and strategies can change over time in response to how learners develop and change.

TEACHING IS A PROCESS OF ORGANIZING PEOPLE

Much learning occurs in groups and among individuals engaged in tasks together. Students learn from each other and from adults outside the school as well as from their classroom teachers. Effective teachers organize learning opportunities in social contexts by enabling students to learn together. Teachers can create a sense of community within their classrooms by developing clear norms for behavior, creating an emotionally safe environment, encouraging collaborative learning, and having students teach students. This includes identifying roles for students as they interact with one another in group tasks, pairs, and other arrangements, fostering student discourse, and managing the complexities of multiple ongoing tasks and activities. Teachers can capitalize upon the diversity within their classes by helping students make connections between their home experiences and school experiences, enabling them to teach each other about their experiences (thus expanding each student's knowledge base), and by providing choices for how to pursue learning activities in ways that work best for them. Teachers can also organize adults in their environments to improve learning by creating more coherent curriculum across grade levels and classrooms, by sharing knowledge with one another to increase everyone's teaching repertoire and curriculum choices, and by collaborating with colleagues to encourage learning for understanding throughout their schools.

II. Conclusion

The effective teaching and learning demands consistent policy frameworks with support for teaching and learning as their primary focus. This principle is aimed at policy-makers in government, local education authorities and schools, asking for policies "to be designed to make sure everyone has access to learning environments in which they can thrive". Although technology might develop and styles of learning might change, it suggests that a main focus should be placed on maintaining consistent learning environment.

III. References

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