

Link to Learning and Teaching Theories

Enquiry Based Learning

EBL describes an environment in which learning is driven by a process of enquiry owned by the student. Starting with a 'scenario' and with the guidance of a facilitator, students identify their own issues and questions. They then examine the resources they need to research the topic, thereby acquiring the requisite knowledge. Knowledge so gained is more readily retained because it has been acquired by experience and in relation to a real problem. It is essential that our students are educated for knowledge creation, lifelong learning and leadership. They will take on leading roles in their future working environments: directing change, asking important questions, solving problems and developing new knowledge. The characteristics and benefits of EBL can be seen at:

<http://www.campus.manchester.ac.uk/ceeb/eb/>

Student centred learning

Student-centered learning is an approach to learning focusing on the needs of the students, rather than those of others involved in the educational process, such as teachers and administrators. Student-centered learning is in stark contrast to teacher-centered learning as it focuses on the student's needs, abilities, interests, learning styles, with the teacher as a facilitator of learning. This classroom teaching method acknowledges student voice as central to the learning experience for every learner. Teacher-centered learning has the teacher at its centre in an active role and students in a passive, receptive role. Student-centered learning requires students to be active, responsible participants in their own learning. One of the most critical differences between student-centered learning and teacher-centered learning is in assessment. In student-centered learning, students participate in the evaluation of their learning. This means that students are involved in deciding how to demonstrate their learning. Developing assessment that support learning and motivation is essential to the success of student-centered approaches <http://lsn.curtin.edu.au/tlf/tlf2000/sparrow.html>

Active Learning: Bonwell & Eison 1991, Novak (1984)

Discovery learning, Problem-based learning, Experiential learning, and Inquiry-based instruction are the most often cited forms of active learning. Active learning is a dynamic process involving continuous adjustment and re-structuring of basic element (talking and listening, writing, reading, and reflecting), learning strategies (small groups, case studies, and so on) and teacher resources (outside speakers, homework assignments, and so on).

Just-in-Time Teaching is an example of Active learning developed by Novak and Patterson which is used in over 200 science and humanities courses at 100+ institutions in the US. The JiTT pedagogy blends cutting edge active learning classroom methods with state-of-the art electronic communication technologies. The work creates a need-to-know atmosphere and gives students a sense of ownership of the learning process. <http://a-s.clayton.edu/henry/JiTT.htm>

Constructivist Theory: John Dewey 1933, Lev Vygotsky (1978)

The constructivist theory is a philosophy that views learning as an active process in which learners construct their own understanding and knowledge of the world

through action and reflection. Constructivists argue that individuals generate rules and mental models as the result of their experiences with both other human subjects and their environments and in turn use these rules and models to make sense of new experiences. Learning is not a process of transmission of information from teacher to student, a model which positions the student as a passive receptacle, but an active process of construction on the part of the learner that involves making meaning out of multiplicity stimuli. In practice, educators use active techniques to reflect on and talk about what they did and how their understanding is changing. The teacher makes sure they understand the students' preexisting conceptions and guides activities to address and build on them. Constructivism also often utilizes collaboration and peer criticism as a way of facilitating students' abilities to reach a new level of understanding. <http://mingo.info-science.uiowa.edu/~stevens/critped/terms.htm> and <http://www.kolar.org/vygotsky/> for more information on Vygotsky

Formalization of the theory of constructivism is generally attributed to Jean Piaget , who articulated mechanisms by which knowledge is internalized by learners. He suggested that through processes of *accommodation* and *assimilation*, individuals construct new knowledge from their experiences. Assimilation occurs when individuals' experiences are aligned with their internal representation of the world. The theory of constructivism suggests that learners construct knowledge. Constructivism as a description of human cognition is often associated with pedagogic approaches that promote learning by doing.

Self regulated learning :Zimmerman (1998)

The term self-regulated can be used to describe learning that is guided by metacognition, *strategic action* (planning, monitoring, and evaluating personal progress against a standard), and *motivation to learn*. In particular, self-regulated learners are cognizant of their academic strengths and weaknesses, and they have a repertoire of strategies they appropriately apply to tackle the day-to-day challenges of academic tasks. These learners hold incremental beliefs about intelligence (as opposed to fixed views of intelligence) and attribute their successes or failures to factors (e.g., effort expended on a task, effective use of strategies) within their control. Students who are self-regulated learners believe that opportunities to take on challenging tasks, practice their learning, develop a deep understanding of subject matter, and exert effort will give rise to academic success (Perry et al., 2006). Zimmerman et al (1998) specified three important characteristics of self regulated learning: self-observation (monitoring one's activities); self-judgment (self-evaluation of one's performance) and self-reactions (reactions to performance outcomes).

Community of practice: Lave and Wenger (1991)

The basic argument made by Jean Lave and Etienne Wenger is that communities of practice are everywhere and that we are generally involved in a number of them - whether that is at work, school, home, or in our civic and leisure interests. In some groups we are core members, in others we are more at the margins. Jean Lave and Etienne Wenger have developed an understanding of the nature of learning within communities of practice, and how knowledge is generated which encourages educators to think differently about learning within groups, networks and associations. http://www.infed.org/biblio/communities_of_practice.htm#comms
<http://www.ewenger.com/>

Social development and peer assessment: Vygotsky (1978)

Lev Vygotsky's work has been revived by constructivist educators who have seen in texts like *Mind in Society* (1978) and *Thought and Language* (1962) support for their educational theories and practices. Specifically, Vygotsky's conception of the "zone of proximal development" has been of particular interest to educators and is frequently cited in the educational literature. Vygotsky defined the zone of proximal development as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (*Mind in Society* 1978). Vygotsky's zone suggests that social interaction plays a fundamental role in the development of cognition and has thus been embraced by constructivist educators who believe that real learning takes place in social situations that involve exchanges between learners. The common constructivist practices of collaborative learning, peer mentoring, group work, and peer review all draw on this idea that students can learn through meaningful interactions with their peers, rather than solely with the teacher. These kinds of learning situations can ultimately help students move to a new level of understanding and intellectual development.