

# Create Rich Environments for Active Learning or REAL's

Presented by Mike Anderson, M.Ed

Camp West 2008

**WORKSHOP DESCRIPTION:** Rich Environments for Active Learning are based on constructivist ideas. Participants in rich active learning environments continuously shape and reshape the knowledge they construct through their learning experiences. For example, if a person works on a complex communication problem in a small-group setting they learn that efficient communication needs active management. On moving into a large group they may find that the skills needed to manage group communication are very different, so their concept of communications management needs to be revised to accommodate a broader range of experience.

**REALs** are a fusion of four different and complimentary learning technologies: cooperative learning, generative learning, student-centred learning, and problem-based learning.

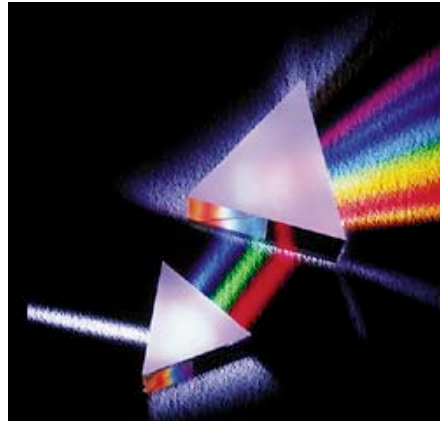
## Cooperative Learning



Cooperative learning brings together individuals to work in small groups to analyze, synthesize, collaborate, and agree on a solution to the issue they are resolving. Participants work together to build and refine knowledge with their peers. These workgroups develop self-regulation through the management, monitoring, and evaluation of the learning experience. Cooperative learning demands that people learning together accept responsibility for their own learning.

**Example: Learning Loops™ & the Executive Puzzle™**

## Generative Learning



Generative learning is the type of learning where students become investigators and 'teachers' become facilitators of knowledge. Generative activities are facilitated through workgroups where participants need to move between roles and collectively problem-solve by discussing their insights and opinions to the subject matter. Generative learning involves students in higher-level thinking processes and helps learners to integrate new knowledge within the structure of old knowledge. Facilitators raise work-related questions in which the participants investigate and then apply the knowledge they have acquired through the production of a tangible output.

**Example: Webmaster Bridge™**

## Student Centred Learning



Student centred learning environments focus on the development of critical thinking and life-long learning skills such as: questioning, metacognition, and reflection.

- Questioning - when learners generate their own questions in response to a particular topic they are using a higher level of active participation in the learning process. They are generating the direction of their learning experience, giving them more ownership of the learning and making the learning more personally relevant.
- Metacognition - this is the process where the student takes conscious control of the learning. The learner thinks about how they are thinking in a cognitive sense. For example, the learner is using metacognition if they realise that the teamwork problem that they thought they had is in fact a problem of imprecise communication.
- Reflection - this is where the learner observes, interprets, and reflects upon their learning experience. This reflection would include the 'who, what, where and why' of the learning experience.

**Example: Simbols™**

## Problem Based Learning



Problem based learning is the type of inquisitive and investigative education for which there is no clear answer or procedural rule. It is an environment where knowledge is constructed and not received. Problem based learning activates prior knowledge, transfers learning and integrates the new knowledge within the structure of the old knowledge. In addition, problem based learning involves students in real problems (often work-based), where they must analyse, synthesise, and hypothesize information to determine possible solutions to a situation, topic, or problem.

**Example: Toxic Waste & Colourblind™**

**active participation +  
direct experience +  
prior knowledge +  
transference of learning =  
Rich Environments for Active Learning**  
Pedagogic Principles underlying the design of REAL's.

Mike Anderson can be reached via email at [mike@petracliffs.com](mailto:mike@petracliffs.com) or [mike@challengeworks.com](mailto:mike@challengeworks.com). You may also call 914-393-9140.

<b>Pedagogic Principle</b>	<b>Learning Technologies</b>	<b>Design Features of the REAL Learning Experience</b>
<p>1. Social construction of knowledge -that learning is enhanced through the process of the communication of ideas, which involves interaction and reflection. (Vygotsky, 1962)</p>	<p>Co-operative Learning</p> <p>Generative Learning</p> <p>Problem-Based Learning</p>	<p>a) Activity has sufficient challenge, variety and complexity to encourage learners to collectively explore possible courses of action before deciding on an initial approach.</p> <p>b) An appropriate duration and degree of repetition so that the learners have the opportunity and encouragement to revisit this exploration of possible approaches.</p> <p>c) The inclusion of periods of activity and times for reflection to allow the effectiveness and impact of current approaches to be experienced and reflected on, both individually and collectively.</p>
<p>2. Transparency of Action- learners need to know why they need to learn something before undertaking to learn it. (Knowles, 1990)</p>	<p>Student – Centered Learning</p> <p>Problem-Based Learning</p>	<p>a) Initial context building that explores the concrete world imperative for the desired learning and cumulates in a clear value statement.</p> <p>b) Progression of activities so that the consequences of particular courses of action may be learned in order to inform choices about subsequent actions.</p>
<p>3. Experience is valued –</p>	<p>Generative Learning</p>	<p>a) Encouragement and opportunity for learners'</p>

<p>experience is a 'subjective' resource that can be applied to learning. (Knowles, 1990)</p>		<p>prior experience to be considered and selectively utilized within the REAL.</p> <p>b) Elements of the simulation that encourage learners to individually and collectively make connections with similar or parallel prior experiences</p>
<p>4. Authentic activities – learning is oriented to the application of knowledge and problem solving that relates to the learners' real life contexts. (Dunlap and Grabbinger, 2000)</p>	<p>Generative Learning</p> <p>Problem Based Learning</p> <p>Student Centered Learning</p>	<p>a) Close examination of the learners' organisational or social context in order to design or select a particular simulation.</p> <p>b) Appropriate simplification of the concrete world context to define, isolate and emphasise the desired learning outcomes.</p> <p>c) A review process that bridges the synthetic world learning and its application to the concrete world.</p>
<p>5. Learning is Generative – there is a need to actively organise knowledge into a structure that reveals relationships between ideas, conflicts and gaps in knowledge (Grabbinger and Dunlap 1996)</p>	<p>Generative Learning</p> <p>Co-operative Learning</p> <p>Problem Based Learning</p> <p>Student Centered Learning</p>	<p>a) A synthetic world that has a sufficient degree of attractiveness, complexity and responsiveness to allow full learner immersion and holistic engagement.</p> <p>b) A design and duration that allows the synthetic world to develop and emerge in response to the actions and needs of the learners who populate it</p>
<p>6. Diversity of voices – voices of key writers, policy makers, practitioners, and students are</p>	<p>Co-operative Learning</p> <p>Student Centered</p>	<p>a) Involvement of multiple stakeholders in the design of the REAL.</p> <p>b) Timely reference to the</p>

included to ground theory in practice.	Learning  Generative Learning	models and research that support the desired and actual learning and its application in the concrete world.
7. Assessment encourages higher order learning and reflects all REAL learning activities.	Co-operative Learning  Student Centered Learning	a) Assessment should be designed to be an extension of the REAL methodology.  b) Where possible the assessment should be integrated into existing organisational or social practices (appraisals, peer observation etc.)
8. Facilitators not Instructors or Teachers		

## **Bibliography**

Vygotsky, L.S. (1962) *Thought and Language*. Cambridge, MIT Press

Knowles, M.S. (1990) *The Adult learner: a neglected species*. Houston, Gulf Publishing

Dunlap, J.C. and Grabinger, R.S. (1996) Rich Environments for Active Learning in the higher education classroom. In B.G. Wilson (Ed.) *Constructivist learning Environments: Case studies in Instructional Design* (pp 65 – 81) Englewood Cliffs, Educational Technology Publications.

Grabinger, R.S. and Dunlap, J.C. (2000) Rich environments for active learning: A definition. In D. Squires, G. Conole and G. Jacobs (Eds.) *The Changing Face of Learning Technology*. Cardiff, University of Wales Press