

CONSTRUCTIVIST THEORY

When you make the finding yourself—even if you're the last person on Earth to see the light — you'll never forget it."
Carl Sagan



Exponents

- Jerome Bruner (1915 -)
- “Learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge”



Exponents

- Jean Piaget (1896-1980)
- Swiss biologist and psychologist
- representative of the psychological Constructivism
- “The developing child builds cognitive structures--in other words, mental "maps," schemes, or networked concepts for understanding and responding to physical experiences within his or her environment.
- the child is the subject of study, and individual cognitive development is the emphasis



Exponents

- Lev Vygotsky (1896-1934)
- Russian psychologist and philosopher
- Representative of social constructivism”
- “Social interaction plays a fundamental role in the development of cognition”
- “Consciousness is the end product of socialization”.
- “Individual development derives from social interactions within which cultural meanings are shared by the group and eventually internalized by the individual”



Exponents

- Howard Gardner (1943 -)
- “The theory of multiple intelligences suggests that there are a number of distinct forms of intelligence that each individual possesses in varying degrees”
- “Learning/teaching should focus on the particular intelligences of each person”



Assumptions

- Learning is the result of mental construction
- Students fit in new information together with the old one
- Knowledge is (re)constructed – not transmitted
- Each brain is unique



Constructivism

- How we construct knowledge is based on what we already know
- Learning is an active rather than passive process.



Constructivism

- Learning is based on students' active participation in problem-solving
- Involving critical thinking
- Learning activity is relevant and engaging



Constructivism



- „constructing“ their own knowledge by testing ideas and approaches based on their prior knowledge and experience
- Applying these to a new situation
- Integrating the new knowledge gained with pre-existing intellectual constructs

FAMILY CIRCLE



"How do they fit so much water in that little sink?"

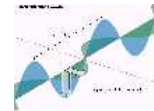
Learning is affected by

- Context
- Student's belief
- Student's attitude



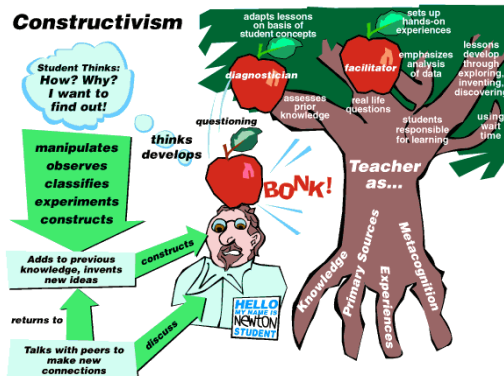
Learner 1

- Selects information
- Transforms information
- Constructs hypotheses
- Makes decisions
- Constructs new ideas based upon past knowledge



Learner 2

- Goes beyond the information given
- Creates meaning from experience
- Creates own version of reality



Principles in the classroom 1

- Learning involves the learner's engagement with the world
- People learn to learn as they learn meaning and system
- We need activities which engage the mind as well as the hands
- Learning involves language



Principles in the classroom 2

- Learning is a social activity
- Learning is contextual
- One need knowledge to learn – the more you know, the more you learn
- Learning takes time – learning is product of repeated exposure and thought
- Motivation is a key component to learning



Knowledge

- Is (re) constructed by each person
- Cannot be transmitted from one person to another

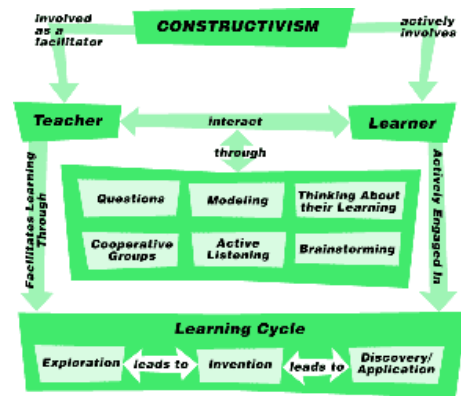
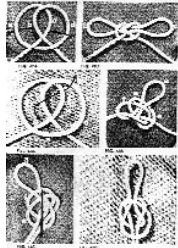


Instructor

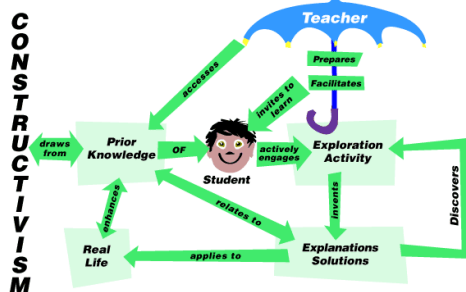
- Encourages students to discover principles themselves
- Counsellor
- Makes links between facts and fosters new understanding



Can you teach how to do knots simply by reading out the instructions to the class?



The Umbrella of Constructivism



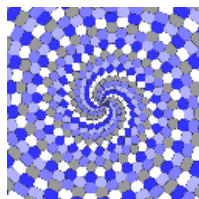
ACTIVITIES

- constructing
- experimenting
- practicing
- summarizing & reading
- conducting research and analysis
- articulating (writing, drawing)



Curriculum

- In a spiral manner
- Builds upon students' knowledge



Principles

- Learning is search for meaning, not just memorising the „right“ answer
- Meaning requires understanding wholes and parts
- Learning process focuses on primary concepts, not isolated facts
- Teachers must understand the mental models of students



Basic assumptions 1

- *Learning is constructed.*
- People learn from experience. It is a process in which one builds an "...internal representation of the world"

Basic assumption 2

- *Interpretation is personal.*
- Reality is not shared. What a person learns is based on his or her personal interpretation of his or her experiences.

Basic assumption 3

- *Learning is active.*
- The learner takes an active role in developing knowledge through experience

Basic assumption 4

- *Learning is collaborative.*
- Conceptual growth comes from interacting with others and sharing multiple perspectives. Through sharing perspectives, people change their "internal representations"

Basic assumption 5

- *Learning is situated.*
- Learning should be placed in real world situations. Settings should be realistic.

Note: Learning should occur in situations meaningful to students and relevant to the context in which the new information will be used. That can often be accomplished in settings other than "real world" contexts. Anchored and situated learning strategies are preferred.

Basic assumption 6

- *Testing is integrated.*
- Testing should not be a separate activity. It should be integrated with the learning experience.

