

# CONSTRUCTIVISM- A SCHOOL OF THOUGHT IN EDUCATIONAL PSYCHOLOGY

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# KEY POINTS

- A theory based on the idea that students learn by doing
- A student builds and constructs what they know themselves using previous knowledge
- The instructor is there to translate information into a format that students can use and comprehend
- Social constructivism: Constructivists focus on what's happening within the minds or brains of individuals; social constructionists focus on what's happening between people as they join together to create realities. Social constructivism stresses the need for collaborative learning. ... Some examples of collaborative learning activities are group problem solving, group inquiry, simulations, and debates. The activities encourage creativity, value and also foster higher-level thinking (Brown, 1999).
- Radical constructivism: Coined by Ernst Von Glaserfeld in 1974 in order to emphasize that from an epistemological perspective any constructivism has to be complete (or "radical"). The basic tenet of RC is that any kind of knowledge is constructed rather than perceived through senses.

# HOW DID CONSTRUCTIVISM COME ABOUT?

- Maria Montessori
- Maria Montessori believed
  - Children learn through experience
  - If children are provided the tools for their developmental age level, they will be successful learners.
  - children learn by participating in hands-on group activities, and that children should be free to explore their environments.

# PRINCIPLES OF CONSTRUCTIVIST TEACHING

- Pose problems that are or will be relevant to the students.
- Structure learning around essential concepts.
- Strategies:
- The teacher has to work on the mind, on the feeling of the child we have to provide opportunities to success the child.
- Child rearing practices are very important.
- The teacher's task is to train the pupil to perceive the object accurately to the mind. we cannot neglect the imaging and intuitive side of the child this is important for promoting creativity in children.

# IMPORTANT CONSTRUCTIVISTS<sup>5</sup>

- John Dewey (1859-1952)
- An educational psychologist, philosopher, and political activist who was an advocate for child-centered instruction
- Learning should engage and expand the experiences of the learners
- Agreed with Vygotsky that education was a social process
- He began the University Elementary School (the Dewey School)
- School should be an extension of society and students should play a role in it
- Felt learning should be student-directed with a teacher serving as a guide for resources
- He was a part of progressive education
- Focused on educating the whole child, physically, mentally, and socially

# IMPORTANT CONSTRUCTIVISTS<sup>6</sup>

- **Jean Piaget (1896-1980)**
- Developed the cognitive learning theory after observing children for many years
- Children learn by constructing new knowledge by building on what they already know
- Believed there were 4 stages children progressed through for learning
- Sensorimotor: learning takes place through the child's senses and motor actions
- Preoperational: children use symbols and images using language symbols and play pretend games
- Concrete Operational (age 7): children begin to think logically and learn facts
- Formal Operational (age 12): children transition from concrete thinking to abstract thinking by forming hypotheses and understanding cause and effect
- During these 4 stages children use adaptation, assimilation and accommodation
- Adaptation: children's cognitive understanding at a given time
- Assimilation: children assimilate new knowledge and they experience new things
- Accommodation: children take the new information and relate it to their previous knowledge to make sense of the world around them

# IMPORTANT CONSTRUCTIVISTS

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- **Lev Vygotsky (1896-1934)**
- Vygotsky's Social Development Theory is one of the foundations of constructivism
- Three major themes in his theory:
- Social interaction plays a fundamental role in the process of cognitive development
- The More Knowledgeable Other (MKO). The MKO is anyone who has a better understanding or a higher ability level than the learner, with respect to a particular task, process, or concept
- The Zone of Proximal Development (ZPD). The ZPD is the distance between a student's ability to perform a task under adult guidance and/or with peer collaboration and the student's ability solving the problem independently.
- Learning occurred in the ZPD
- Vygotsky focused on the connections between people and the sociocultural context in which they act and interact in shared experiences

# IMPORTANT CONSTRUCTIVISTS

- Jerome Bruner (1915- 2016)
- Proposed that learning is an active process where the learner constructs new ideas based on current/past knowledge
- Constructivist learners are participatory learners; actively engaged learners
- Children learn a subjects through doing different activities
- His constructivist theory provides a framework for the study of cognition
- Cognition: a individual progresses though different intellectual stages

# CLASSROOM IMPLICATIONS

- Teacher's Role
- Teachers must develop a rich learning environment where the students in their class can learn hands on. The students, based on this theory, learn best when the activities are student centered and can actively engage. Vygotsky went further to say that teachers should promote collaboration and discussion because it allows students to learn from one another. Teachers should develop a curriculum that allows the students to solve problems using critical thinking to come to an answer while the teacher monitors the learning.
- Using technology teachers could have the students do research using a computer and/or books to put together a brochure or report of some sort. Make a powerpoint, a movie, song, or collage of pictures about a topic they are learning in class rather than working on a worksheet.
- Without technology a teacher could have the students do group work, have a student teach the lesson or even build/create a project using everyday materials.

# HOW DO TEACHERS SUPPORT

- Teacher engages students by providing knowledge expansion tools the Constructivist Environment?
- students use, collaboratively and cooperatively through inquiry, exploration, teamwork, whole group discussions, and evaluation.
- Listen Collaborate Explore Evaluate
- Advantages: Students ...
- LISTEN to their peers
- COLLABORATE with group members Disadvantages: Requires extensive planning time
- EXPLORE independently
- Teacher EVALUATES what students learned

# CONSTRUCTIVISM: ENGAGE

- In the stage Engage, the students first encounter and identify the instructional task.
- Teachers must engage students in their lessons in order for them to learn. Engage students by: guiding whole group discussions, asking students to explain what they learned, working together in small groups to complete projects or tasks.

# CONSTRUCTIVISM: EXPLORE

- In the Exploration stage the students have the opportunity to get directly involved with phenomena and materials.
- Students inquire, work together, form hypotheses, learn about new ideas and concepts on their own before coming together as a whole class. Students develop an idea of what they may think an object or idea is, then explore it further to see if their idea was accurate. Students use tools such as textbooks, the internet, scientific instruments, and their creative minds to explore new concepts.

# CONSTRUCTIVISM: EXPLAIN

- Explain, is the point at which the learner begins to put the abstract experience through which she/he has gone /into a communicable form.
- The student will define and explain the current concept using their own words. The student will accomplish this using informational readings, group discussions, and teacher interaction. Learners will support each other by sharing their ideas, observations, questions, and hypotheses.

# CONSTRUCTIVISM: ELABORATE

- To Elaborate the students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them.
- Students will expand their learning on the concepts by making connections to related concepts and applying their understanding to the world around them. This will help students make connections that will lead them to more inquiry which will lead to new understandings.

# CONSTRUCTIVISM: EVALUATE

- Evaluate, the fifth "E", is an on-going diagnostic process that allows the teacher to determine if the learner has attained understanding of concepts and knowledge.
- Constructivism encourages teachers to assess their students learning on an ongoing basis. In traditional classrooms, assessment would be paper tests taken by the students after the content was taught and in which they received a grade. In a constructivist classroom the teacher assesses the students work and adapts the lesson plan to meet the needs of the learner.

# CLASSROOM IMPLICATIONS

- **Students**
- Constructivism can be used in virtually every classroom setting as it allows for children to create their own learning setting.
- Communities of practice theory can be used by creating small groups of children with the same interests. The use of elective classes utilizes this theory because students in the classroom have the same level of excitement for the subject.
- Discovery learning caters toward students who are good with numbers, such as students who work well in math or science. Experiments allow students to work out problems through doing, not just seeing.
- Stage theory is useful for teachers to get an idea about the level of thinking that their students are able to achieve. Knowing these boundaries can help teachers when they are making lesson plans and activities for their class.

# CONSTRUCTIVISM: PROS AND CONS

- Advantages:
  - – Each person in the world builds their own knowledge.
  - – Focuses on student- centered learning
  - – Teacher guides students in building their own understanding and knowledge.
  - – Students actively engaged in their learning process
- Disadvantages:
  - – Lack of teacher preparation for constructivist classrooms
  - – Difficult to break the cycle of those who have been taught in a classroom where they were expected to solely absorb information

# ***THANK YOU***

