



EDU 504
Learning Theories



Behaviorism

Major Theorists

Ivan Pavlov 1849-1936

Classical Conditioning

John B Watson 1878-1958

Classical Conditioning

B.F. Skinner 1904-1990

Operant Conditioning

Classical conditioning is where a response is created and conditioned to a stimuli that didn't already exist. Example: bell rings at school, students get up to go to the next class.

Operant conditioning is using reinforcement to create a response



Theory In Practice

Positive reinforcement can be used to motivate student behavior. Rewards can be given to students when they perform well or perform the desired behavior. Providing a point system for a classroom party where students receive points when they mimic the correct behavior. Rather than using negative reinforcement to deter behavior, the positive reinforcement is just taken away. They would receive 0 points for when they do not perform well.



Limitations

Behaviourism ignores internal psychological and mental processes. It also doesn't support the idea that there can be changes in behavior or that humans have free will. It oversimplifies human learning when it can be much more complex.



Cognitivism

Major Theorist

Jean Piaget 1896-1980

4 stages of learning

Sensorimotor stage -birth-2- knowing world through senses and movement

Preoperational stage- 2-7- develop language and symbolic play

Concrete operational -7-11- logical thought but struggle with abstract and theoretical thinking



Theory In Practice

The teacher helps students build on prior knowledge by using cues, questions, notes, etc. The teacher is there to help students organize their thoughts and to draw from their prior knowledge more readily. One way to put this theory into practice is by creating concept maps. For example while learning about the human body system, a concept map could be created to show the interrelationships between organ systems. It could start with the smallest part of that system and build upwards. This could allow students to use the prior knowledge of the smaller pieces like the cell and build understanding as they learn the larger pieces.



Limitations

Cognitivism is limited in that it doesn't support environmental conditions that a student may be subjected to which in turn can hinder their memory. The theory does not work on it's own either.



Constructivism

Major Theorist

Jean Piaget 1896-1980

Founder of constructivism

John Dewey 1859-1852

Learning is interactive, student oriented, and problem solving approach with original thinking. Knowledge is gained through action, reflection, and construction and humans are the center of their learning.

Lev Vygotsky 1896-1934

A child's cognitive development can be guided by mediated social interactions



Theory In Practice

Using hands on activities to enhance problem solving skills for students is a great way to use constructivism in the classroom. Propose a problem and allow the students to solve that problem while using hands on learning to guide them. Science fair projects are a great example of constructivism. The student in this case often creates the question and then tries to solve it. They provide the methods to prove or disprove their question and create the evidence to support their own ideas.



Limitations

Not all students have the same set of skills for this type of learning, which can lead unbalanced learning outcomes. The theory also takes away from content and factual information that is needed.



Humanism

Major Theorists

John Dewey 1859-1952

Provided the framework that shaped humanism theory.

Carl Rogers 1902-1987

Did psychological research that showed how optimal learning happens when a student trusts the educator and that there is mutual respect for one another.

Abraham Maslow 1908-1970

Hierarchy of needs. The lower basic needs have to be satisfied before attention is given to higher needs.

Lawrence Kohlberg 1927-1987

Developed the stages of moral reasoning.



Theory In Practice

The teacher creates a safe and respectful learning environment that allows students to learn. Encouraging students to build friendships and to be kind to one another throughout collaborative work. Keeping in mind humans have lower level needs and that those needs to be met before optimal learning is possible.



Limitations

The theory lacks structure and is opinion based. The teacher has to make assumptions about how well individual needs are met for each student. It isn't always that clear what students are suffering because they may not be willing to share. Content still needs to be learned and the theory may take away from learning especially at an older age.



Experiential

Major theorists

David A Kolb 1939-present

Knowledge results from making meaning through direct experience

4 stages of learning

Concrete experience

Reflective observation

Abstract conceptualization

Active experimentation



Theory In Practice

This theory can be applied to hands on activities and labs in a science classroom. Making a connection with the content in a lecture to a hands on lab helps build meaning to that content through experiencing it. For instance a lecture on microbial life found in freshwater systems can be enhanced with looking at a drop of pond water under a microscope. The hands on part of seeing microbes in real life context help build meaning to what students learn.



Limitations

There isn't always enough resources to apply this theory effectively. Some students struggle with hands on learning. The theory doesn't support social and cultural aspects that is embedded in the learner. It also lacks reflection on learning experiences.



Transformative

Major theorists

Jack Mezirow 1923-2014

Father of transformative learning theory

Critical reflection of experience and new information leads to the altering our thinking.

Stages of transformative theory

Experiencing a disorienting dilemma

Doing self-examination

Critically assessing your assumptions

Planning a course of action

Gaining new knowledge or skills to implement your plan

Exploring and trying new roles

Building self-efficacy

Explains how adults continue to learn.




Theory In Practice

Allowing students the opportunity to learn about different cultures and people who differ from themselves. This could look like research or presentations from guest speakers. Schools are often invited to festivals that celebrate and represent various nations and cultures. Allowing students to experience different foods and activities help transform their thinking and make a connection to people that differ from them.



Limitations

The theory is relatively new and there isn't a lot of research behind it. The theory is for older learners although it could be implemented at a younger age. Not all cultural based learning is supported and can be controversial. It can also be thought to be too individualized rather than transforming thinking within a group.



Major Theorists

Stephen Dowe 1959-present

Eight Principles of the Connectivism Learning Theory

Learning and knowledge rests in diversity of opinions

Learning is a process of connecting specialized nodes or information sources

Learning may reside in non-human appliances

Capacity to know more is more critical than what is currently known

Nurturing and maintaining connections is needed to facilitate continual learning

Ability to see connections between fields, ideas, and concepts is a core skill

Currency is the intent of all connectivist learning activities

Decision making is itself a learning process

George Siemens- 1959- present

Turning to digital technology through connection to solve problems



Theory In Practice

Many online learning platforms can be used to apply connectivism. For instance using a google classroom or a class chat to work on a project together. Allowing for open discussion through messenger to help each other learn. Another way a teacher could utilize the theory is by virtual reality and simulations.



Limitations

The theory overlooks the learners experience and knowledge of using online resources. There will be a learning curve. Interacting through technology can be difficult to interpret what people mean. It is difficult to get a message across appropriately. There is a lack of structure while learning through discussions. Students may have difficulty understanding what is important and what is not.