M02-2: Learning Theories

Learning theories seek to understand how humans learn. There are different learning theories: “classical” ones such as behaviorism, cognitivism, constructivism, and newer ones such as connectivism or experiential learning and many more (Fig. 1). Since they represent different paradigms, they each have a different outlook on what knowledge actually is and what makes learning “successful”.

Although there are many different learning paradigms (see for example GSI Berkeley), we will now deal with three dominating theories of knowledge acquisition (behaviorism, cognitivism and constructivism) that allow you to understand the process of learning - and finally also of teaching - in more detail.

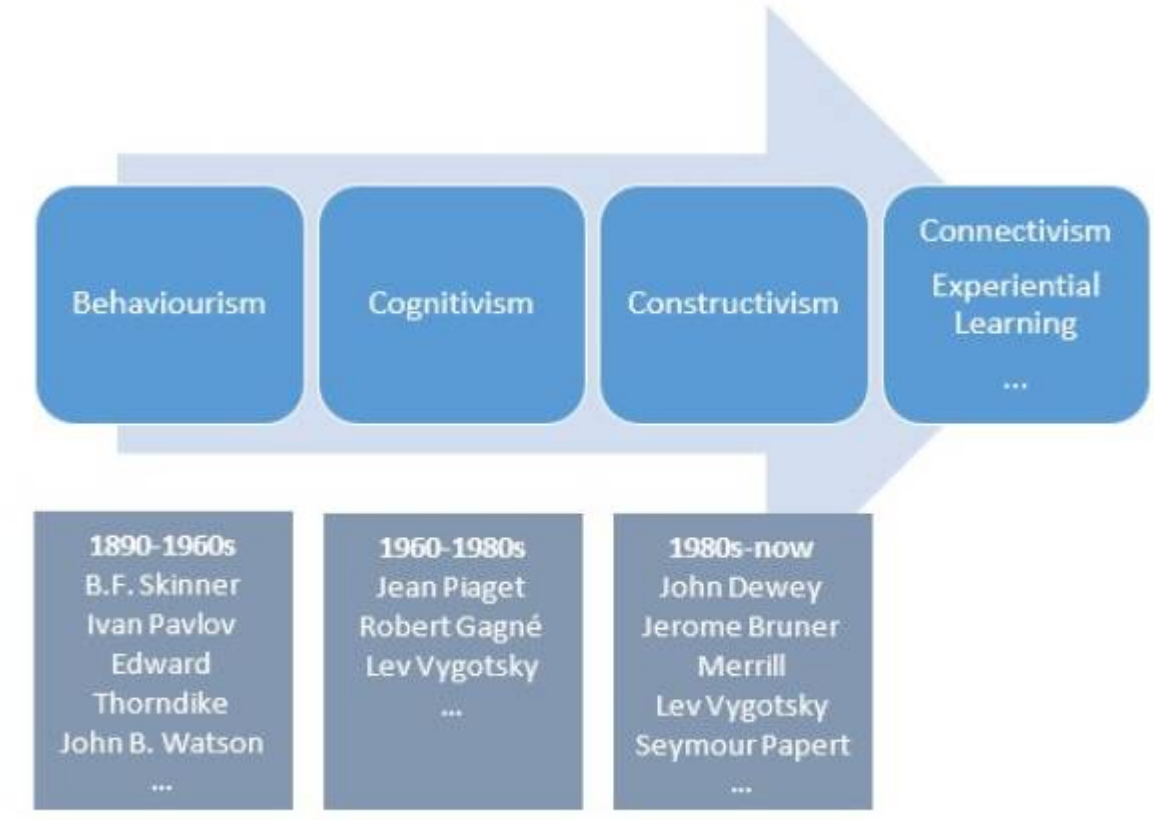

Fig.1 Approximate timeline of learning theory paradigms and their key theorists

Learning Theories are frequently applied in teaching. See some examples here:

Behaviorism

Cognitivism

Constructivism

This table illustrates some key aspects of each learning theory. For deeper information, also check the links in the headlines of Tab. 1:

	Behaviorism	Cognitivism	Constructivism
View of knowledge	Knowledge is a repertoire of behavioral responses to environmental stimuli.	Knowledge systems of cognitive structures are acquired through instruction and constructed by learners based on pre-existing cognitive structures.	Knowledge is constructed within social contexts through interactions with a knowledge community.
View of Learning	Passive absorption of a predefined body of knowledge by the learner. Promoted by repetition and positive reinforcement.	Assimilation and accommodation of new information to existing cognitive structures. Integration of students into a knowledge community.	Collaborative assimilation and accommodation of new information.
Learning results	Stimulus-response-connection	Abstract and generalizable knowledge (e.g. competencies, problem-solving etc.)	Contextualized knowledge, applicable knowledge for specific situations
Implications for teaching	Correct behavioral responses are transmitted by the teacher and absorbed by the students.	The teacher instructs and facilitates learning by providing an environment that promotes discovery and assimilation/ accommodation	Collaborative learning is facilitated and guided by the teacher. Group work is encouraged.
Learning Design	Dividing content into smaller sections/units	Adapting learning materials to learners` conditions	Integration of learning and real-world contexts, Material is authentic, situated
Key methods	Sequential, prepared and structured exposure to content	Exposure to and exploration of content	Exploration, project-work, cooperative learning
Control of learning process	Teacher-centred, learner passive	Teacher-centred instruction, learner-centred depending on learning progress	Learner-centred
Control of learning outcome	Regularly at every step of the way, necessary in order to adapt learning opprtunities	Regularly after complete learning units, at best integrated in learning tasks	For own diagnosis, application-oriented exercises, to create a record of learning processes
Role of media	Controlling and regulating the learning process	Presentation of knowledge, interactivity, adaptivity	Offering opportunities to learn (collaboratively) in joint knowledge construction

Tab. 1 Learning theories (adapted and translated from Kerres 2013, 147; adapted from Berkeley Graduate Division: Overview of Learning Theories)

Literature

Kerres, Michael (2013). Mediendidaktik. Konzeption und Entwicklung mediengestützter Lernangebote. 4. Auflage. München: Oldenbourg Verlag.

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