

## Behaviourism

Theory is based on:

you learn by repeating things and by positive/negative feedback

The brain is like...

a black box, that is answering to certain stimulations

How does learning work?

can be conditioned i.e. learning by heart by repeating and getting positive feedback

What do students learn?

learning has only taken place if a change in behavior is evident

all behaviors are learned and that is why behaviorism in school is seen everyday.

source: <http://www.scumdoctor.com/psychology/behaviorism/Behaviorism-In-School.html>

correct answers, facts

Knowledge is ...

Behaviorism in school assumes that students retain the knowledge and skills they learn in school and then they can apply this knowledge and skills in situations outside the classroom in the real world.

source: <http://www.scumdoctor.com/psychology/behaviorism/Behaviorism-In-School.html>

Role of the teacher?

authority

The role of the behaviorist teacher is providing stimulus material and prompting the correct response...

monitoring the learning process, asking right questions

This style of teaching believes that information passed from a teacher to a student is basically the correct response to specific stimulus.

source: <http://www.scumdoctor.com/psychology/behaviorism/Behaviorism-Teaching-Style-In-Education.html>

Task of the teacher?

teach

....while the learner's role is to be the receiver of the information response until the behavioral change is permanent.

Source: <http://lrs.ed.uiuc.edu/students/jhaberkorn/edpsy399ol/111q4.html>

Therefore, the purpose of education is to ensure that a student has appropriate collection of responses to specific stimuli and these responses are then reinforced.

source: <http://www.scumdoctor.com/psychology/behaviorism/Behaviorism-Teaching-Style-In-Education.html>

Bloom

BENJAMIN BLOOM!!! :)

concerned with features of higher mental processes

1950s

Taxonomie

"Bloom's Taxonomy is a classification system developed in 1956 by education psychologist Benjamin Bloom to categorize intellectual skills and behavior important to learning. Bloom identified six cognitive levels: knowledge, comprehension, application, analysis, synthesis, and evaluation, with sophistication

growing from basic knowledge-recall skills to the highest level, evaluation."  
also thinking and its development (additionally to knowledge and comprehension) six steps to learning  
<http://oaks.nvg.org/taxonomy-bloom.html>

[http://www.google.de/imgres?imgurl=http://www.learnnc.org/lp/media/misc/2008/blooms\\_old.png&imgrefurl=http://www.learnnc.org/lp/pages/4719&usq=aZwWnFPGJB\\_xpO\\_3XKl\\_S\\_nsG0A=&h=502&w=587&sz=28&hl=de&start=14&um=1&itbs=1&tbnid=EoJPS\\_6iGRq7cM:&tbnh=115&tbnw=135&prev=/images%3Fq%3Dblooms%2Btaxonomie%26um%3D1%26hl%3Dde%26client%3Dfirefox-a%26sa%3DX%26rls%3Dorg.mozilla:de-DE:official%26tbs%3Disch:1](http://www.google.de/imgres?imgurl=http://www.learnnc.org/lp/media/misc/2008/blooms_old.png&imgrefurl=http://www.learnnc.org/lp/pages/4719&usq=aZwWnFPGJB_xpO_3XKl_S_nsG0A=&h=502&w=587&sz=28&hl=de&start=14&um=1&itbs=1&tbnid=EoJPS_6iGRq7cM:&tbnh=115&tbnw=135&prev=/images%3Fq%3Dblooms%2Btaxonomie%26um%3D1%26hl%3Dde%26client%3Dfirefox-a%26sa%3DX%26rls%3Dorg.mozilla:de-DE:official%26tbs%3Disch:1)

Motivation to use a computer?

practice and exercises  
computer is patient  
alternative to usual textbook -> computer as motivation

Typical learning software?

Quiz software, Vocabulary trainers, Many games,

- try and error software.

Advantages?

Fairly easy approach

Easy to control the learning process  
teachers give positive reinforcements to students who perform well and follow the classroom rules. This system of reward, in turn, motivates the student further and he performs even better.

source: <http://www.scumdoctor.com/psychology/behaviorism/Behaviorism-In-School.html>

something that's been learned won't be forgotten easily

Disadvantages?

The learner might not really understand why he has to behave in a certain way its not about "behaving" in a certain way. see it like this: a dog sits when you want him to sit, so you give him a reward --> students does something correctly - hence gets a reward. right they learn how to behave to get a reward yes, like give the right answer ... i.e. they know where Niedersachsen is located and win a prize :)

when a student is already at a high level of performance, constant motivation through rewards and reinforcements may actually decrease the student's performance and this is something teachers who follow behaviorism in school should be aware of.

source: <http://www.scumdoctor.com/psychology/behaviorism/Behaviorism-In-School.html>

it is done without the students being aware of it though, i think. disadvantage could be they only do learn because of positive responses and not because out of own motivation/interest

the knowledge gained would not be applicable outside the learning context

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## Cognitivism

[http://www.innovativelearning.com/educational\\_psychology/cognitivism/index.htm](http://www.innovativelearning.com/educational_psychology/cognitivism/index.htm) :)

<http://www.learning-theories.com/cognitivism.html>

Cognitivism means "thought process." This can mean comprehension, reasoning, interpreting, analysing and synthesising. The cognitivist asks the question "why?" in terms of behaviour and in learning. This promotes

independent thinking.

Theory is based on: It is based on quantitative, positivist and scientific methods that are used to understand the mind.

The brain is like...a digital computer: information comes in, becomes processed, and leads to certain outcomes.

How does learning work? The Cognitivist method is student-centred. In other words, the students find out for themselves in a self-directed way. Strategies include case studies, research, discussions, self-assessment and presentations.

(Cognitive theorists view learning as involving the acquisition or reorganization of the cognitive structures through which humans process and store information.)

What do students learn?

suitable strategies for finding answers

They learn to work independently.

Learning is due to experience.

Meaning is constructed by the learner, rather than being derived directly from the environment.

Knowledge is ...

"Knowledge can be seen as schema or symbolic mental constructions. Learning is defined as change in a learner's schemata." (learning-theories.com). This means learning is a mental process.

Role of the teacher?

Tutor

Your understanding of the information-processing model can help you to be a better teacher. Role of the teacher: monitoring the students' progress, asking them lots of questions.

Task of the teacher?

observe and help

The teacher should create a motivating learning environment and he/she supports the pupils by asking questions.

Bloom

1970s

Motivation to use a computer?

It is possible that the pupils develop a more personal connection to the content as new media are an important part of their everyday life. (One aim of cognitivism is to personalize the learning process) With the help of different media, the pupils perceive the content via different 'channels', e.g. films, photos etc. --> visual connection, podcasts --> auditory connection...

The computer certainly helps the students to visualize what they have learnt. But I doubt that it helps them in

the process of understanding. I think this depends on the type of learner. But of course there has to be support by the teacher. Yes, you could be right with the visual learner. I agree to that.

Typical learning software?

e.g. software to create mind maps (mindomo.de) as connections, which we create in our mind, become visible.

commercial learning software, tutoring systems

Advantages?

Failure may be considered a good thing as it is a tool to help learners realize that they need to learn more. concentrates on the learner (student-centered)

- Students connect the new material with their prior knowledge; very effective learning.
- Students maximize their learning by working within the limits of their memory capacity.
- Large volumes of information are processed using of multi-sensory learning.
- Students are always motivated because the activities and exercises are designed to be fun and challenging.

Disadvantages?

Seems to be very time-consuming.

not suitable for every type of learner

- Requires planning, preparation and effort on the teacher's part.
- Sees humans as machines – number crunching processors.
- May become boring for fast paced learners.

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## Constructivism

[http://en.wikipedia.org/wiki/Constructivism\\_%28learning\\_theory%29](http://en.wikipedia.org/wiki/Constructivism_%28learning_theory%29) Here you go....

What if each of us focuses on 2-3 questions and then we just fill it in?

[http://de.wikipedia.org/wiki/Konstruktivistische\\_Didaktik](http://de.wikipedia.org/wiki/Konstruktivistische_Didaktik) Lazy ass...

Theory is based on:

Jean Piaget: He suggested that learners can construct new knowledge from their experiences, e.g. learning by failing.

The brain is like...

You can think of the brain as a huge web. The new acquired knowledge is connected to the previous knowledge and can be transferred into other, different fields. Thus, the learners' previous knowledge is seen as a basis for constructing new knowledge.

How does learning work?

Pupils have an active role in class. They try things themselves, alone or in cooperation with others. They are allowed to discuss their results with their classmates. Due to the fact that the learners experience the new topic, they become acquainted with it more easily. Their actions have a direct impact on the experiment's outcome (it works or it does not work/works just in parts) and that is the reason why the pupils are able to

self-reflect and to learn by succeeding or failing.

What do students learn?

Each student is seen as a unique individual. By trying things themselves they are forced to think and act independently. Moreover, they should learn to be open minded and willing to learn. They learn to act in a complex world with several problems, dimensions and perceptions. -->  
being able to cope with a situation

Knowledge is ...

seen as a whole due to the context and environment in which the learning process takes place. It is interdependent concerning personal experiences and the learning process.

Role of the teacher?

Coach

Teachers have to adapt to the role of facilitators. This means that a teacher has to support and to help the learner to get to his/her understanding of a given context. Teachers are not/no longer seen as lecturers but as facilitators who mainly plan the learning environment.

Task of the teacher?

cooperate

- since exterior acknowledgement is secondary to internal motivation, the teacher must plan activities so that a success is neither too easy nor impossible to achieve.
- the teacher has to be a facilitator. Students are encouraged to discover the relationships of content themselves.
- is in continuous dialogue with the students, asks questions and supports from behind.
- prepares the environment for learning

Bloom

- started with Piaget towards the end of the 19th century.
- basis for almost all education reform movements.

Highest relevance: 1990s

Motivation to use a computer?

- a computer can simulate many different scenarios.
- Experiments can be made without the risk of accidents

Typical learning software?

- simulation software
- Encyclopedia
- Wikis

open learning environments (like what?) like training workshops ("lernwerkstatt") in which books and computers are available and lockable group rooms, where pupils can discuss their ideas isn't that what a wiki does? what do you mean by wiki? like Wikipedia, you produce a hypertext with links and images and that stuff... well wait this would be more virtual than factual...

Advantages?

- It is assumed that pupils are curious. Constructivist teaching gives pupils the opportunity to "explore the world" without restrictions. They can try for themselves.
- Support of the pupils' social competences.
  - preparation for the "real" world
- Students are seen as individuals, teachers try to deal with their problems and challenges

#### Disadvantages?

- Due to the fact that group work is an important method, it is possible that some students dominate the group's discussion and its results
  - If a teacher leans back and says: "Pupils, just experiment for yourselves." The pupils' investigation must be embedded in a wider topic and it must underlie more specific tasks.
  - Students could go in a wrong direction.
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