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Learning and teaching in medical education

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Learning

🌳 Learning is an enduring change in behaviour, or the capacity to behave in a given fashion, which results from practice or other forms of experience (Schunk 1991)

🌳 Individuals addressing practical learning problems cannot afford the luxury of restricting themselves to only one theoretical position (Snelbecker, 1983)



*Education is what survives when what has been learned has been forgotten.
B.F. Skinner*



Educational theories

- Behaviourism
- Cognitivism
- Constructivism
- Social learning



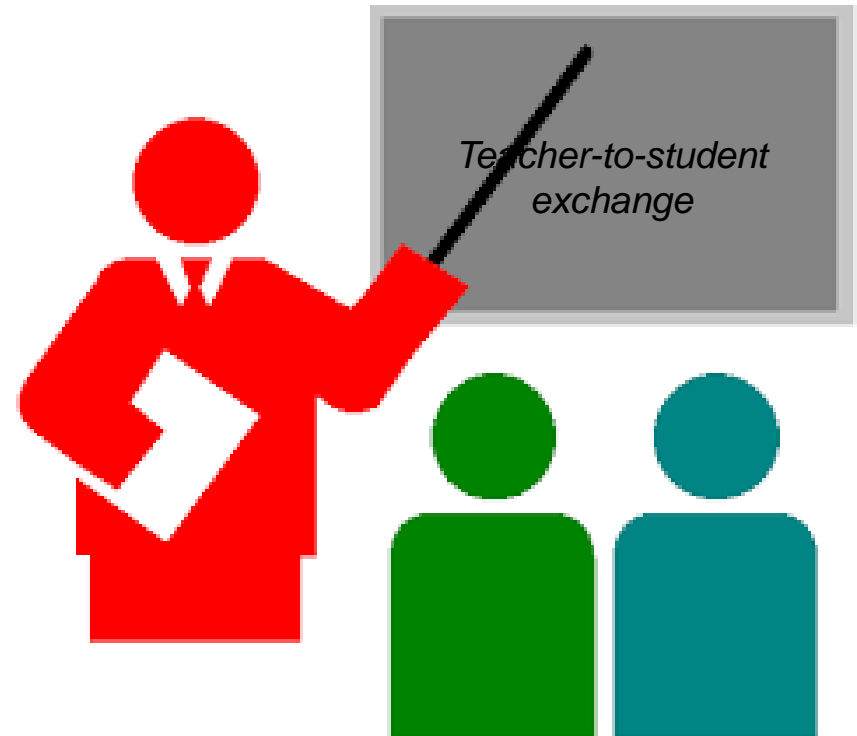
I never teach my pupils; I only attempt to provide the conditions in which they can learn.
Albert Einstein

Behaviourism

🌱 Behaviour can be shaped through the selection and application of appropriate stimuli (Skinner, 1972, McDonell , 2006)

🌱 Our responses to the positive and negative stimuli creates our behaviour, hence knowledge

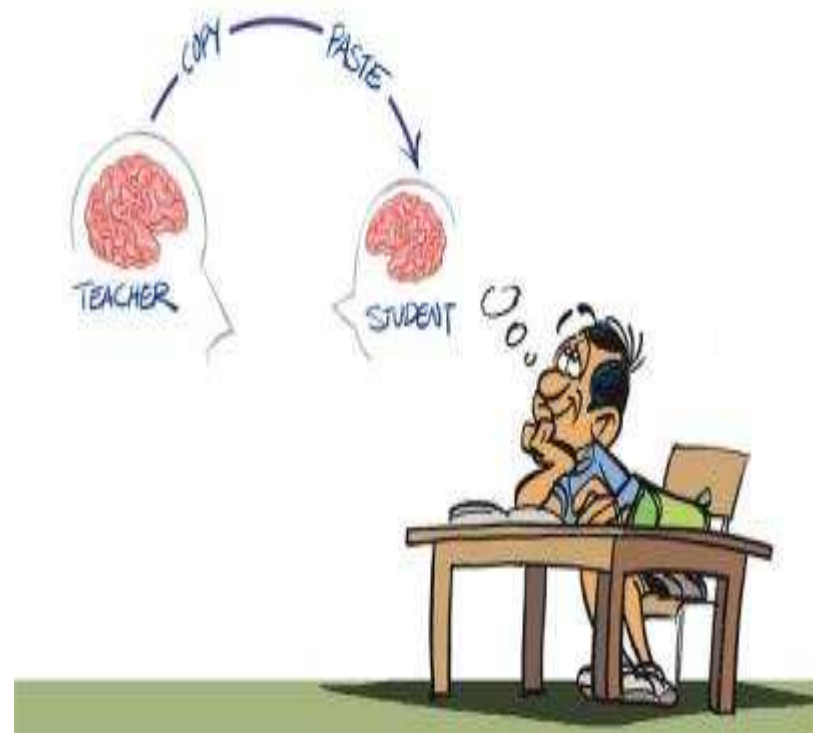
🌱 Learning is acquisition of a new behaviour



*It is the mark of an educated mind to entertain a
though without accepting it.
Aristotle*

Behaviourism

- Teacher is supposed to determine the desired behaviour, to set the reward system, therefore to produce **accepted behaviour**
- Students are supposed to constantly provide good answers
- Lessons that are well learned are rewarded with good grades
- Student learn through experience in a series of trials and errors (McDonell, 2006)



Tell me and I forget. Teach me and I remember. Involve me and I learn.
Benjamin Franklin

Cognitivism

• Cognitivism focuses on the thought processes behind behaviour, such as thinking, memory, perception and conclusion

- Knowledge is organized
- Individuals are actively involved in the learning process
- Cognitive processes influence learning
- People control their own learning
- People acquire knowledge easily while associating it with something they already know.....



*Learning is a treasure that will follow its owner everywhere
Chinese proverb*

Cognitivism

- 🌳 Teacher should use his knowledge to enable students to connect new concepts with previously learned information (Bayer, 2001)
- 🌳 Students are active participants in their own learning experience (Harris, 1995)
- 🌳 Learning takes place when information is received into the mind and processed
- 🌳 Learning is possible by connecting it to existing information



Education is not the learning of facts, but the training of the mind to think
Albert Einstein

Constructivism

🌱 The goal of a practitioner is to convert theory into practice through facilitation of learning (Kaufman, 2003).

🌱 The students learn by themselves, through active participation (Kearsley, 1994).



Live as if you were to die tomorrow. Learn as if you were to live forever.
Mahatma Gandhi

Social learning

- 🌳 A bridge between behaviorist and cognitive learning theories- it encompasses attention, memory, and motivation
- 🌳 Learning occurs through observing others' behavior
- 🌳 Attention
- 🌳 Retention (remembering)
- 🌳 Reproduction
- 🌳 Motivation



Real knowledge is to know the extent of one's ignorance
Confucius

Combination of two educational principles for learners' best outcomes

Teacher-centered classroom

(learning by listening and memorizing, the knowledge acquired is more objective and observable)

Learners-centered classroom

(learners are encouraged to ask, to discuss, to make mistakes, to conclude their own decisions)

Learners-centered classroom

(learners are constructing their own knowledge by solving real-life problems)



*Understanding of every educational theory is of great importance for the good teacher (Bruner, 1971)
Confucius*

Disadvantages of this educational principle

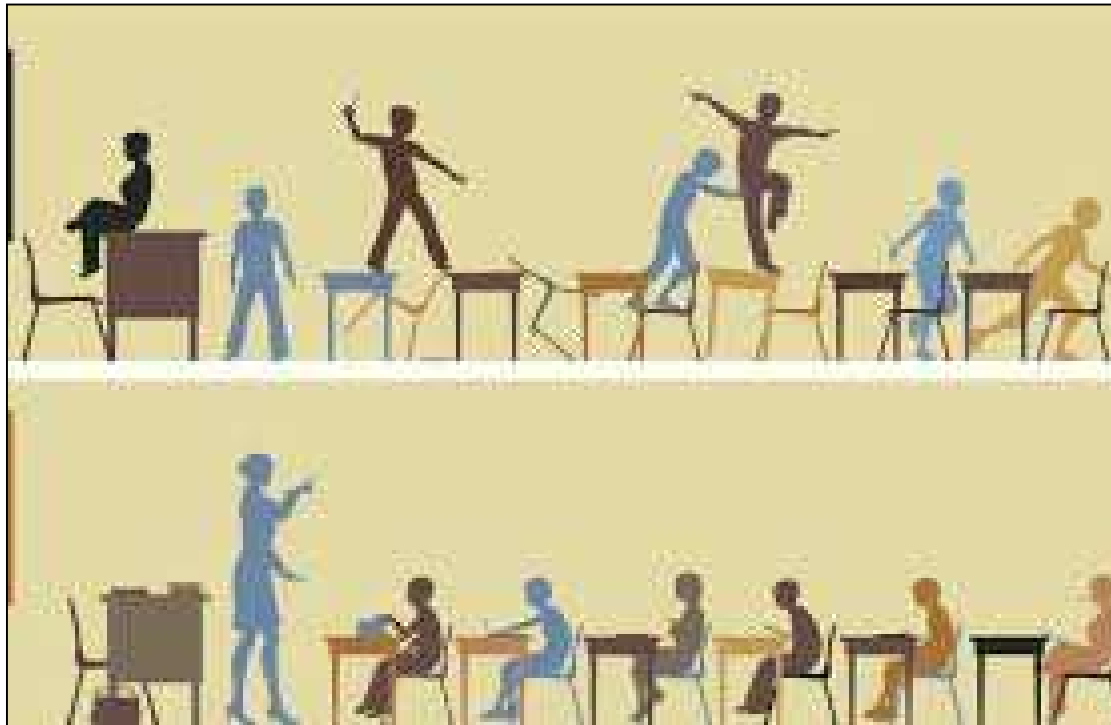
- Behaviourism may not primarily teach students how to critically reflect, but shows them that good work will be rewarded
- Constructivism calls for elimination of grades and standardized testing, so the students should take a larger role in judging their own progress
- The responsibility for the learning outcome would be equally distributed between students and the teacher.



"Just remember, Facebook is not a book."

Lesson plan

Provides an outline for a teacher to follow to achieve the intended *learning outcomes*



The roots of education are bitter, but the fruit is sweet
Aristotle

Gagne 9 steps

- 🌳 *Gain attention*
- 🌳 *Inform learners of objectives*
- 🌳 *Stimulate recall of prior learning*
- 🌳 *Present the stimulus*
- 🌳 *Provide learning guidance*
- 🌳 *Elicit performance*
- 🌳 *Provide feedback*
- 🌳 *Assess performance*
- 🌳 *Enhance retention and transfer*



Gagne et al.,(2005)

Conclusion

Traditional classroom

Lecture

Lecturer

Whole group

Independent

Single-tasking

Teacher-centered classroom

Traditional instruction

21st century classroom

Discussion

Facilitator

Small group

Collaborative

Multi-tasking

Student-centered classroom

"learning by doing"



*The good life is one inspired by love and guided by knowledge.
Bertrand Russell*

Conclusion

🌳 When teaching *medical students* the best way is to carefully analyze their learning methods and combine it with the most appropriate teaching method for their needs

🌳 Students do not all learn in the same way, so this approach should be as personalized as possible

🌳 *Critical reflection* is an important skill for health practitioners



Conclusion

*"Beauty will save the world", Prince Myskin
Fyodor Dostoevsky*

