Theories of Learning

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Objectives:

- consider different theories of learning
- identify several principles of learning
- see how individual differences affect the learning process

There are many different theories about how students learn. It will be present use of different theories on how your students learn and how you teach in educational programs. It is interesting to think about your own learning style and to realize that not everyone learns on same way.

Burns (1995), "think of learning as a relatively permanent change in behavior, behavior includes both observable activity and internal processes such as thinking, attitudes and emotions."

Burns includes motivation of this definition of learning.

Burns believes that should proceed a certain time after the educational process of learning to manifested itself.
Classification

- Sensory stimulation learning theory
- Encouraging Learning
- Gestalt theory of learning
- Holistic learning theory
- Facilitation theory
- Experiential learning
- Based learning
The basic premise of the traditional theory of sensory stimulation that effective learning occurs when the senses are stimulated (Laird, 1985). Laird quotes research that found that most of the knowledge possessed by adults (75%) is learned through seeing. Hearing is the next most efficiency (about 13%) and the other senses-taste, smell and touch account for 12% of what we own. Learning can be enhanced by stimulating the senses, especially the sense of sight. However, this theory says that if more senses are stimulated, greater learning. Stimulation through the senses is achieved through a greater range of colors, volume levels, strong statements, facts presented visually, using different techniques and media.
Encouraging Learning

- This theory was developed by behaviorist school of psychology, B.F. Skinner earlier this century.

- Skinner believed that behavior is a function of its consequences. The student will repeat the desired behavior if positive reinforcement (a pleasant consequence) follows the behavior. Positive reinforcement, or 'rewards' can include verbal reinforcement such as "that's great" or "You're certainly on the right path" to the tangible rewards such as a certificate at the end of the course or promotion to a higher position.

- Negative reinforcement also strengthens particular behavior and refers to the situation when a negative condition is stopped or avoided as a consequence of behavior. Punishment, on the other hand, weakens a particular behavior, it is introduced or experienced a negative balance as a result of an individual's behavior and learn not to repeat the behavior that is negative "rewarded".
Gestalt theory of learning

- The emphasis is on experience, meaning, problem solving and development of insights.
- Burns notes that this theory has developed the concept that individuals have different needs and concerns at different times and that they have subjective interpretations in different contexts.
Holistic learning theory

- The basic premise of this theory is that "individual personality consists of many elements, especially the intellect, emotions, physical impulse (desire), intuition and imagination.

- All of them should be activated for more effective learning.
Facilitation theory

- The basic premise of this theory is that learning will occur when the teacher is a facilitator and creating an environment in which students feel free to consider new ideas, and they do not feel threatened by external factors.

Other characteristics of this theory include:

- the belief that human beings have a natural desire to learn,
- that there is a certain resistance to the unpleasant consequences of giving up what is currently considered to be true,
- that the most significant learning involves change of mind about yourself.

Teachers facilitators:

- less protective of their ideas and beliefs compared to other teachers,
- are able to listen to students, especially when it comes to their feelings,
- willing to pay as much attention to their relationship with the students regarding the teaching content,
- ready to accept feedback, both positive and negative and to use it as constructive thinking about themselves and their behavior.

Students

- encouraged to take responsibility for their own learning,
- open to learning, which occurs on the basis of their observations and experience,
- encouraged to consider that the most valuable form of self-evaluation and evaluation that learning should focus on factors that contribute to solving significant problems or achieving significant results.
Kolb proposed learning process of four stages with a model that is often referred to in describing experiential learning. The process can begin at any phase and it is continuous, there is no limit regarding the number of learning cycles. This theory asserts that without reflection we would simply continue to repeat our mistakes.
Experiential learning

- Kolb's research found that people learn in four ways, in which there is a possibility that they will develop one method of learning more than others.

Learning is achieved through:
- the actual experience,
- observation and reflection,
- abstract concepts,
- active experimentation.
Differences in learning styles

☐ The idea that people learn in different ways is theme of researchers in education for several decades. Kolb, one of the most influential researchers has found that individuals begin with their preferred style in the experiential learning cycle.
Differences in learning styles

Honey and Mumford, who continued the Kolb’s work, identified four learning modes:

- Activist (enjoys the experience),
- Reflector (spends a lot of time and effort on thinking)
- Theorist (successful in making connections and ideas based on experience)
- Pragmatist (enjoys the planning stage).

Each of the mentioned methods has its own advantages and disadvantages.

Honey and Mumford argue that learning is enhanced when we think about our learning so that we can develop strengths and work to reduce disadvantages to a minimum in order to improve the quality of learning.
Based learning is the approach that connects students in small “learning groups” where individuals learn from each other.

Reg Revans is one of the most known researcher of this method.

He said that learning can not be without action and no action without learning.
Benjamin Bloom (1913 – 1999)

- He looked on learning as a process – we build upon our former learning to develop more complex levels of understanding.

- Carried out research in the development of classification of level of thinking behaviours in the process of learning.

- PhD University of Chicago in 1942.

- Worked on drawing up levels of these thinking behaviours from the simple recall of facts at the lowest level up to evaluation at the highest level.
Bloom proposed that knowing is composed of six successive levels arranged in a hierarchy.

The taxonomy consists of a hierarchy of increasingly complex processes which we want our students to acquire.
Bloom's taxonomy is not simple classification scheme - it is an attempt to regulate different processes of hierarchical thinking.

In this hierarchy, each level depends on the ability of the student to complete previous levels or previous levels (phase).

For example, a student who applies knowledge (phase 3), it is necessary to have certain information (phase 1) and at the same time understand that information (phase 2).

Blum found that the learning is process and the teacher's role is to try to encourage the students' thinking and approach it, as far as possible, the level of synthesis and evaluation.

This field "thinking" usually referred to ("cognitive") domain, given that it includes thought processes.
Knowledge can be defined as the ability to recall or memorization of facts, and that they do not necessarily understand.
Comprehension

Understanding can be defined as the ability of understanding and interpretation of scientific information.
The application can be defined as the ability to use learned material in new situations, such as application of ideas and concepts in solving the problems.
Analysis

The analysis can be explained as the ability of giving information to the constituent elements, for example testing of Interrelation and ideas (understanding organizational structure).
Synthesis

The synthesis can be explained as the ability to compile components in the whole.
Evaluation

Evaluation can be defined as the ability to determine the value of a material with respect of the purpose.
Affective domain

- Although Bloom's taxonomy of cognitive domain is most frequently used, Blum and his colleagues performed the research on affective ("attitudes", "emotions", "values") domain.

- This domain is related to the questions of emotional learning components, and ranges from the basic willingness to receive information by integrating confidence, ideas and opinions.
Affective domain

- In order to explain the manner in which we approach things from an emotional point of view, Bloom and his colleagues have developed five basic categories.

1. Receiving
2. Reaction
3. Evaluation
4. Organization
5. Adoption
Receiving refers to the willingness to receive information.

For example:

- individual accepts the responsibility to be in class,
- listens to others with respect,
- shows interest for social problems.
Affective domain - Reaction

- Reaction is related to active participation of the individual in his education.

For example:
- individual shows interest in the subject,
- willing to prepare a presentation,
- participate in discussions in class,
- likes to help others.
Affective domain - Evaluation

- Evaluation ranges from simple acceptance of values to the commitment.

For example:
- individual expresses belief in democratic process,
- recognizes the role of science in everyday life,
- care for the benefit of others,
- understanding of individual and cultural differences.
Affective domain - Organization

- Organization refers to the process through which a person passes when connects different values, resolves conflicts among them and starts adopt them.

For example:

- recognizes the need for balance between freedom and responsibility in a democracy,
- accept responsibility for their own behavior,
- accepted standards of professional ethics.
At the individual level, adoption has developed an evaluation system in terms of their own beliefs, ideas and attitudes that guide their behavior in a consistent and predictable way.

For example:
- manifest self confidence in the individual work,
- manifest commitment to the ethics of the profession,
- shows good personal, social and emotional adjustment,
- represents a healthy lifestyle.
Basic characteristics of the affective domain

1. Receiving
2. Answer
3. Evaluation
4. Organisation
5. Internalization
Psychomotor domain

- Psychomotor domain highlights physical skills primarily involving the coordination of brain and muscle activity. In education, this domain is much less discussed compared to the cognitive and affective domain.

- Psychomotor domain is most widely used in areas such as laboratory research, health, art, music, engineering, drama and physical education.

- Referring to the lack of experience in teaching these skills Blum and his research team did not completed an extensive research on the psychomotor domain.
Conclusion

- The Bologna process emphasizes on the student-oriented learning and the need for higher precision and clarity in the design of curricula and their content.

- Teaching and learning process more transparent and clarify - a challenge for all participants in education.

- ”GOOD LUCK!”