Introduction to Learning

> 'The capacity to learn is **a gift**; the ability to learn is **a skill;**
> the willingness to learn is a **choice**" (Brian Herbert)

Introduction

There is a huge amount of literature on how people learn. This research literature has built up over the centuries. In Ancient Greece, philosophers adapted a question and answer approach. Teachers as Plato and Socrates used to ask questions for which they would teach their followers the answers. The basic of much formal education is this presentation approach with a question and answer technique employed to assess learning. It was until the 19th and early twentieth century that people questioned this method of learning. Children were no longer seen as blank slates. This approach implies that failures in learning are the child's fault rather than of other factors that might be relevant such as - differences between learners in terms of their motivation, self discipline and individual development

1- Conceptions of Learning

A number of research projects have investigated people's understandings of learning, showing that the word 'learning' has different meanings for different people. Marton et al (1993) report the following meanings. They referred to them as *"Everyday Conceptions of Learning."*

1-"*Getting more knowledge.*

2- *Memorizing and reproducing.*

3- *Applying facts or procedures.*

4- *Understanding.*

5- *Seeing something in a different way.*

6- *Changing as a person*" (Watkins et al, 2007:10)

In the same context, Brown (2000) reported the following meanings for learning.

1. *Learning is acquisition or "getting".*

2. *Learning is retention of information or skill.*

3. *Retention implies storage systems, memory, and cognitive organization.*

4. *Learning involves active, conscious focus on acting upon events outside or inside the organism.*

5. *Learning is relatively permanent but subject to forgetting.*

6. *Learning involves some form of practice, perhaps reinforced practice.*

7. *Learning is a change in behaviour."* (Brown, 2000:7)

Furthermore; there are several prominent views about how we learn. For instance, Moreno (2010) referred to behaviourist and cognitive views of learning and summarized them in table 3 as follows:

	BEHAVIOURIST VIEW	COGNITIVE VIEW
DEFINITION OF LEARNING	A relatively enduring change in **observable behaviour** that occurs as a result of an individual's interaction with the environment.	A relatively enduring change in **mental structures** that occurs as a result of an individual's interaction with the environment.
FOCUS	Producing desirable behaviours or reducing undesirable behaviours.	Promoting growth in students' mental structures.
INDIVIDUAL DIFFERENCES	Reflect differences in students' past conditioning, reinforcement, and punishment.	Play a fundamental role in understanding how students construct new knowledge or acquire new skills.
METHODS	Controlled laboratory experiments conducted with animals other than humans and examining only observable behaviour.	Varied research methods conducted with a diversity of humans examining observable behaviour and mental states.

Table 1: Behaviourist versus Cognitive views of Learning (Moreno, 2010: 196)

2-Models of Learning

Mayer (2001 as cited in Watkins et al, 2007: 15) identified three major models of learning. They are summarized as follows:

Reception	Concerned with quantity, facts and skills; assumes transmission of knowledge from an external source (e.g.: teacher) Learning = being taught
Construction	Concerned with the learner's construction of meaning through discussion, discovery, open-ended learning, making connections Learning = individual sense making
Co-Construction	Concerned with the learner's construction of meaning through interaction and collaboration with others, especially through dialogue Learning = building knowledge with others

Table 2: Models of Learning (Watkins et al, 2007: 15)

Reception:

- The teacher and teaching are dominant

- The purpose is gathering more knowledge. It focuses on the quantity of knowledge learned**.**

- Assessment is used to work out if they get it.

Construction:

-The learner is more dominant.

-The social context is brought into focus.

-Assessment promotes individual interpretation and choice in order to assess understanding.

Co-Construction:

-Learners create knowledge together. They may create a collaborative product.

- The teacher helps the learners.

-Assessment is integrated into the process of learning and may take many forms.

Discussion

1-Which models of learning are dominant in your school and in your classrooms?

2-To what extent do the teachers in these classrooms promote a particular model of learning?

3- Learning Theories

There are many factors related to learning directly and indirectly which psychologists divided into three trends: **Behaviourism, Cognitivism, and Constructivism.**

3.1 Behaviourism

"Behaviourism is a theory of animal and human learning that focuses upon the behaviour of the learner and the change in behaviour that occurs when learning takes place" (Woollard, 2010:1).

It is a learning theory which focuses on objectively observable behaviours. It can be defined as the acquisition of new behaviours as a result of teaching, training or tutoring. Learning is demonstrated by the reactions of learners to further stimulus (stimulus will produce a specific response). The principles derived through the works of Pavlov, Watson, Thorndike, Skinner and others remain an important influence in current teaching and learning. There are many criticisms of behaviourism. As reported by Woollard (2010), Behaviourism does not account for all kinds of learning, because it disregards the activities of the mind. Moreover, learners are seen to be passive empty vessels waiting to be filled with knowledge, and the benefits of behaviour modification are only short term, instead of being lifelong.

3.2 Cognitivism

"Cognitive theories focus on the conceptualization of students' learning processes and address the issues of how information is received, organised, stored, and retrieved by the mind.'' (Ertmer and Newby, 2008: 58).In contrast to behaviourist theories which argue that learning takes place through a mechanism of stimulus-response, Cognitive psychology is interested in the mental processes that are involved in learning. Cognitivism stresses the acquisition of knowledge and internal mental structures. In short, Cognitivism is the study in psychology that focuses on mental processes including how people perceive, think, remember, learn and solve problems.

3.2 Constructivism

"Constructivism is a theory which regards learning as an active process in which learners construct and internalise new concepts, ideas and knowledge based on their own present and past knowledge and experiences. Knowledge is constructed rather than received." (Cohen et al, 2004:167). In other words, constructivism stresses the relationship between new information and prior knowledge where learners use their background knowledge of the world as an initial frame to relate new information.

The theory of constructivism is generally attributed to Jean Piaget (1966, 1972, and 1974) who suggested that through processes of "accommodation and assimilation" individuals construct new knowledge from their experiences. In the same context, William and Burden (1997:23) explained that:

> When we receive new input of the language, for example by listening
> to a conversation, we need to modify what we already know about the
> language (accommodation) so as to 'fit' the new information into our
> existing knowledge (assimilation).

4- The Pyramid of Maslow's Hierarchy of Human Needs

Maslow's hierarchy of human needs is a motivational theory in psychology. It is a five stage models of human needs. The five-stage model is divided into two parts. The four first steps are often referred to as **deficiency needs** (D-needs). The top level is known as **growth being needs** (B-needs).
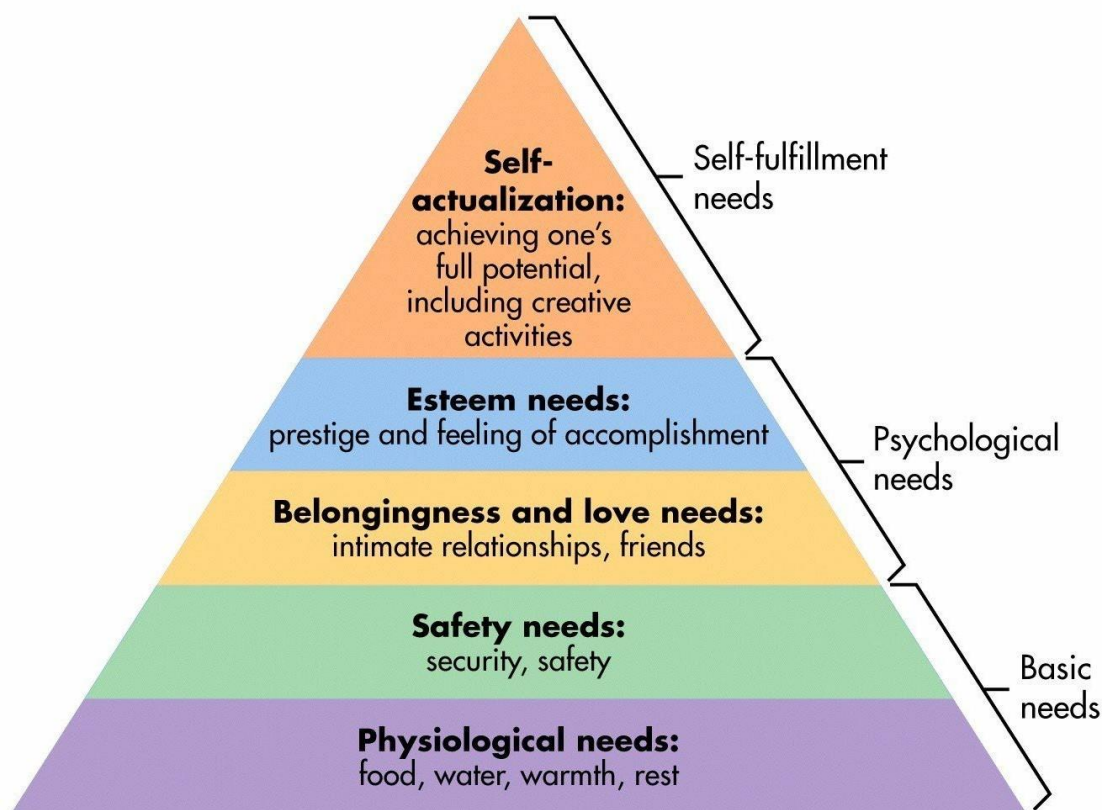

Figure 1: Maslow's Hierarchy of Human Needs (Mc Leod, 2020:1)

According to Maslow (1954) individuals must initially satisfy lower deficiency needs before progressing to meet higher growth being needs. Unfortunately, progress is often disrupted by a failure to meet lower level needs. The most basic need for learners is physical survival since it motivates them to progress. Once this level is fulfilled, they can move to the next level.

Self-actualization level is the highest level in Maslow's hierarchy. It refers to the achievement of one's own potential, self-fulfilment and peak experiences "to become everything that one is capable of becoming" (Maslow, 1954:46).The emergence of self-actualization needs depends on the prior satisfaction of the psychological, safety, love and esteem needs.(Ibid)

Maslow (1954) pointed that the order of needs might be flexible based on external factors. He stated that the order in the hierarchy "is not nearly as rigid." (Ibid: 51) For instance, he explained that for some persons, the need for self-esteem is more important than the need for love. For others, the need for creative actualization may replace the most basic needs.

A seven-stage model was developed during the 1960's and 1970's. It kept the same five stages and added two others. **The cognitive needs** are about knowledge, understanding, curiosity and exploration. **Aesthetic needs** refer to appreciation and research for beauty.

4-1Characteristics of Self-actualizers

1-They perceive reality efficiently and can tolerate uncertainty.

2- They are able to look at life objectively.

3- They are highly creative.

4- They are spontaneous in thought and action.

5- They have strong moral and ethical standards.

4-2 Educational Applications of Maslow's Hierarchy

Maslow's hierarchy of needs theory has made a significant contribution to teaching and classroom management in schools. For instance, in order to progress and reach their full potential, learners need to feel physically and emotionally safe and not rejected in the classroom. However, Maslow's operational definition of self-actualization has been criticized for not being based on scientific facts. It is Maslow's personal opinion which may reduce the validity of any obtained data.

5- Bloom's Taxonomy of Learning

Bloom's Taxonomy was created in 1956 under the leadership of the educational psychologist Benjamin Bloom in order to promote higher forms of thinking in education such as analyzing and evaluating. Anderman & Anderman (2009) refer to it as the Taxonomy of Educational Objectives and defined it as "a framework intended to classify any curriculum objective in terms of its explicit or explicit intellectual skills and abilities." (107) At first, the term taxonomy was unfamiliar as an educational term and little attention was given to the first taxonomy. Now, the framework has become widely known, cited, and translated into 22 languages. (Jordan & Stack, 2008)

In this taxonomy of learning, Bloom proposed three domains of learning – the cognitive, affective and psychomotor – which translate learning into overt observable behaviours. Each domain presents a set of behaviour, which are hierarchical according to complexity and sophistication. The **cognitive domain** is the best-known and most educationally applicable of Bloom's domains. The **affective domain** is less well-known because it deals with attitudes and values. The **psychomotor domain** is the simplest and most obviously behaviour domain. It is useful in indicating levels of skills performance.
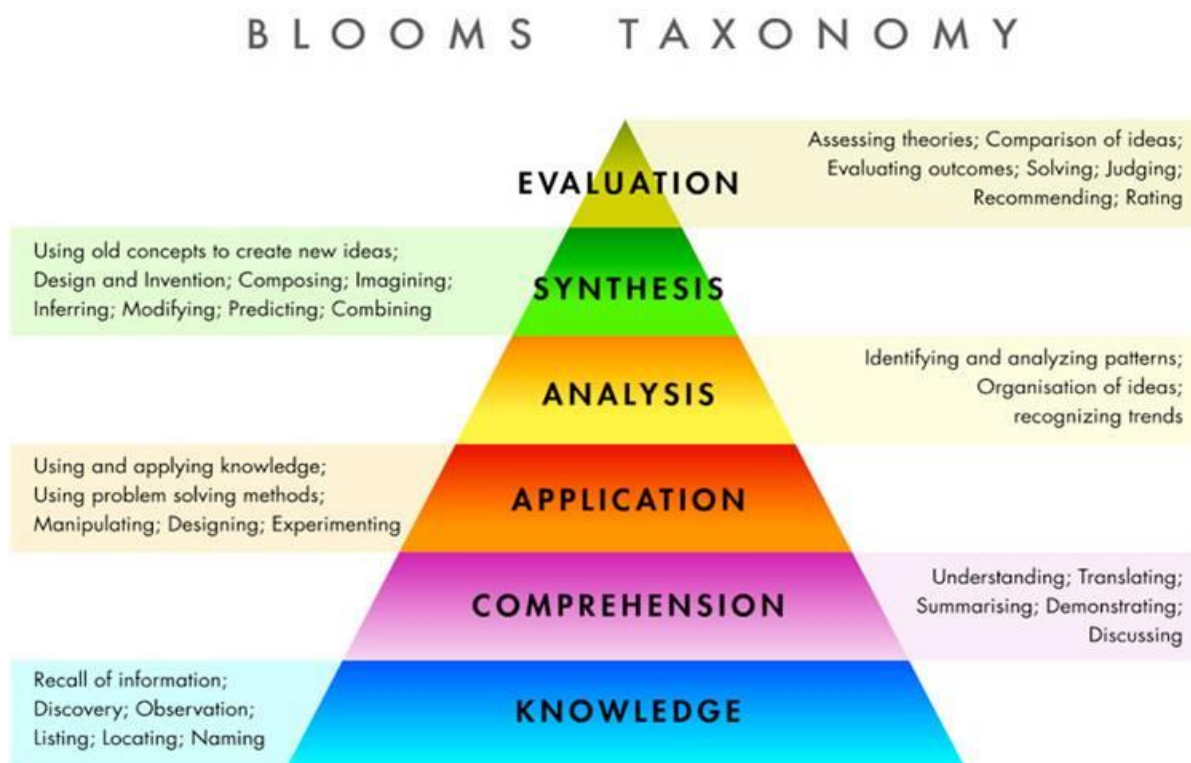

Figure 2: **Bloom's Taxonomy (De Bruyckere, 2017:2)**

Figure 2 shows the six categories of cognitive processes, starting from the simplest to the most complex. The categories can be thought of as degrees of difficulties. The first ones must normally be mastered before the next one can take place. The triangular representation was quite likely designed by educational practitioners (e.g. teachers and administrators). It was developed to indicate that the six categories formed a cumulative hierarchy. That is, it was believed by the authors of the original taxonomy that mastery of each lower category was necessary before moving to the next higher category. For example, you have to comprehend something before you can apply it.

6- Bloom's Revised Taxonomy

Advances in cognitive psychology suggested a need for revision. In 1995 Krathwohl and Anderson formed a committee composed of other scholars and made a revision of the taxonomy which they edited in 2001. The revised taxonomy emerged with a new title. *Taxonomy for Teaching, Learning and Assessment*. The new title is significant because it moves away slightly from Bloom's original idea of "educational objectives." The revision made 12 major changes that fall in three categories, changes in emphasis, terminology and structures.
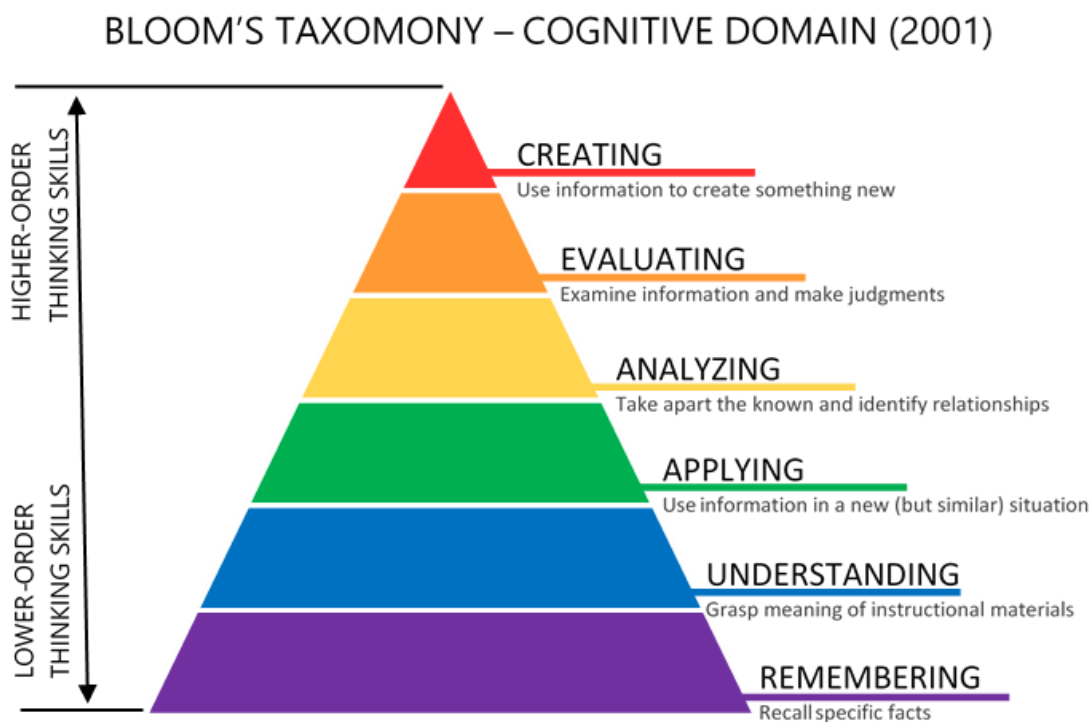
BLOOM'S TAXOMONY – COGNITIVE DOMAIN (2001)

HIGHER-ORDER THINKING SKILLS

CREATING
Use information to create something new

EVALUATING
Examine information and make judgments

ANALYZING
Take apart the known and identify relationships

APPLYING
Use information in a new (but similar) situation

UNDERSTANDING
Grasp meaning of instructional materials

REMEMBERING
Recall specific facts

LOWER-ORDER THINKING SKILLS

Figure 3: Bloom's Revised Taxonomy (Kurt, 2020:3)

6-1 Changes in Emphasis

The revision emphasizes the alignment of curriculum, instruction and assessment. **Alignment** refers to "the degree of correspondence among the objectives, instruction and assessment." (Anderson et al, 2001:10)

6-2 Changes in Terminology

The nouns forming the categories on the cognitive process dimension were rewritten as verbs. Second, the term Knowledge became Remember, but remained the least complex cognitive process. Third, Comprehension and Synthesis were renamed Understand and Create. Finally, the categories were completely renamed, reorganised, and were written as verbs.

6-3 Changes in Structure

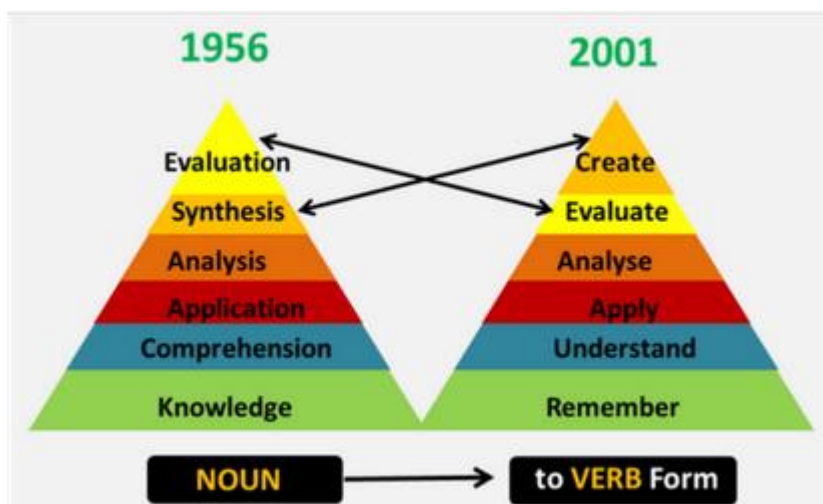The claim that the cognitive process dimension was a cumulative hierarchy was eliminated.

Figure 4: Original Bloom's Taxonomy Vs Revised Bloom's Taxonomy (Pradhan, 2020: 2)

7-Benefits of Using Bloom's Taxonomy

First, it is important to outline learning objectives in order for both students and instructors to understand the purpose of each exchange in class. Second, learning goals can be easily clarified and understood by both the students and the instructor if the objectives are organized. Third, organized learning goals help the instructor create appropriate activities, develop relevant instructional strategies, and review whether both the instructor and the evaluations are consistent with learning objectives (Kurt, 2020).

8- Criticism of Bloom's Taxonomies

1-Learning is not orderly sequential. Bloom's hierarchy looks like too artificially constructed and it is linear. A learner might move knowledge to application then analyze the application and come to a conclusion, then reanalyze the application. Learning is recursive more than linear.

2-It is incomplete. Bloom's concentrated his efforts only on learning, yet there is little about motivation or classroom management.

3-It is individualistic. Bloom's Taxonomy emphases heavily on how an individual learns. It misses the other way of learning like social interaction and group discussion.(Kurt , 2020)

Furst (1994) declared that the taxonomy was a "purely descriptive scheme in which every kind of goal could be represented in a relatively neutral way. (28) However, Schulman (2002) had the right idea when he wrote "what is important about these taxonomies is that they are ... heuristics. They help us think more clearly about what we're doing, and they offered us a language through which we can exchange ideas and dilemmas." (42)

Both Furst (1994) and Schulman (2002) as cited in Anderman & Anderman (2009:109-110) presented different opinions concerning the taxonomies. The first one put them as purely descriptive. However, the second described them as being helpful to learn and exchange ideas. In other words, these taxonomies offered to learners a possibility to think in a clear way about the learning process and develop as learners effectively.

9- "Maslow before Bloom"

The phrase *"Maslow before Bloom"* is popular in educational settings. It is typically used to communicate how humans need their basic needs before academic learning can be fully achieved. Teachers cannot focus on Bloom without first making sure the students' needs are met.

Practice

1-Find tips or ways to help learners "Maslow before Bloom".

2-How is it possible to integrate "Maslow before Bloom" in the Algerian context?

3-Write a paragraph to explain how to" Maslow before Bloom".

References

-Anderman, E.M & Anderman, L.H. (2009.*Psychology of Classroom Learning.*

      An Encyclopedia.USA: Cengage Learning.

-Anderson, L.W., Krathwohl, D.R., Arrasian, P.W., Cruikshank, K.A.,Mayer, R.E., Pintrich, P. R. , ...

      Wittrock, M.C. (ed). (2001). *A Taxonomy for Learning, Teaching, and Assessing.*

      A revision of Bloom's Taxonomy of Educational Objectives. New York: Pearson,

      Allyn & Bacon

-Brown, H.D. (2000).*Principles of Language Learning and Teaching.* (4th ed) New York : Addison

      Education.

-Cohen, L., Manion, L & Morrison, K. (2004). A Guide to Teaching Practice (5th ed). London:

      Routledge

-De Bruyckere,P. (2017). From Experience to meaning. A longer piece on the taxonomy of Bloom.

      The economy of meaning. Retrieved on Feb 11th, 2021 from

      https://theeconomyofmeaning.com/2017/08/24/a-longer-piece-on-the-taxonomy-of-bloom/

-Ertmer, P.A & Newby, T.J. (2008). Behaviourism , Cognitivism , Constructivism : Comparing

      Crititical Features from an Instructional Design Perspective. Article in Performance

      Improvement Quarterly , 6 (4) PP 50-72. Retrieved on Jan 25th, 2021 from

      https:// www.researchgate.net/publication/229494297.

-Jordan, A. Carlile,O. & Stack, A. (2008). *Approaches to Learning. A Guide for Teachers.* England:

      Open University Press

-Kurt, S. (2020). Bloom's Taxonomy. Educational Technology. Retrieved on Feb 11th, 2021 from

      https://thepeakperformancecenter.com/educational-learning/thinking/blooms-

      taxonomy/blooms-taxonomy-revised/

-Maslow, A.H. (1954). *Motivation and Personality*. New York: Harper and Row.

-McLeod, S. A. (2020). Maslow's Hierarchy of Needs. Simply Psychology. Retrieved on

      Jan 30 th, 2021 from https: // www. simplypsychology.org/maslow.htnl

-Moreno, R. (2010). *Educational Psychology.* USA / John Wiley & Sons. Inc

-Pradhan, R. (2018). Application of Bloom's Taxonomy in E-Learning. PRO corporate E-Learning.

Retrieved on Feb 9th, 2021 from / https://playxlpro.com/application-of-blooms-

taxonomy-in-e-learning

-Watkins,C., Carnell, E & Lodge,C. (2007). *Effective Learning in Classrooms*. London : Paul

Chapman Publishing

-Williams, M. & Burden, R. L. (1997). *Psychology for Language Teachers.* A social constructivist

approach. Cambridge: Cambridge University Press