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## COLLABORATIVE PRACTICES AND THE USE OF DIGITAL TECHNOLOGIES FROM A BLOOM TAXONOMY PERSPECTIVE

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**Abstract:** This work aims to address the theme of the integration of collaborative learning with Bloom's Taxonomy in a perspective incorporating the implementation of digital technologies in collaborative practice. The elaboration methodology of this academic production consists of a bibliographical research, carried out through studies of recent articles referring to the theme discussed here. Starting from the survey of the bibliographic material, readings were made in order to elect a theoretical reference that would provide a detailed view on the subject. The article brings a brief definition of collaborative learning and Bloom's Taxonomy. In the collaborative learning part, some main characteristics that facilitate its application are presented. And in the presentation of Bloom's Taxonomy, it is treated about the importance that teachers must provide to students through three main objectives, classified from the domains: cognitive, affective and psychomotor, noting that every domain to be explored requires specific skills, due to their relevance, because together they make possible the concrete learning. And then this process is discussed in practice with the implementation of digital technologies in collaborative practice.

**Keywords:** Collaborative learning. Digital technologies. Bloom's Taxonomy.

## INTRODUCTION

Technological innovations are important for promoting an organizational learning environment as technological devices facilitate interaction and content sharing. In addition to this functional aspect, the use of technologies plays an important role in the acquisition and consolidation of content, which provides alignment with the organizational strategy. This study addresses the theme of the integration of collaborative practice with Bloom's Taxonomy in a perspective incorporating the implementation of digital

technologies in collaborative practice. The elaboration methodology of this academic production is constituted of a bibliographical research, carried out through studies of recent articles referring to the theme presented and discussed here. From the survey of bibliographic material, Readings were carried out in order to elect a theoretical framework that would provide a detailed view of the theme. The work brings a brief definition of collaborative learning and Bloom's Taxonomy. In the collaborative learning part, the main characteristics observed in its application are presented. And in the presentation of Bloom's Taxonomy, it is treated about the importance that educators must provide students with three main objectives, classified from the domains: cognitive, affective and psychomotor, noting that each domain requires specific skills, due to the relevance for each one, because together they enable learning in a concrete way. And then this process is discussed in practice with the implementation of digital technologies in collaborative practice.

## COLLABORATIVE LEARNING

Collaborative learning is a teaching strategy based on the interactivity of students, making them active in the construction of knowledge, with the objective of providing experience, cooperativism and engagement. Everyone studies in a group, seeking common goals, with the teacher accompanying them during the process. In this collaborative learning proposal, the school allows students to think and actively participate in the learning process, contributing to the development of their autonomy. Piaget and Vygotsky, through their theories, contributed to a new understanding of the knowledge construction cycle, in the interaction between the subject and the learning object.

Collaborative learning, due to its own characteristics, represents a theoretical

and methodological unfolding of these pedagogies and theories, providing a way of teaching and learning that goes beyond the traditional teaching paradigm. Due to the scientific and technological innovations of today's world, it presents itself as a differentiated approach so that learners can be able to handle the avalanche of information to which they are exposed, interpreting them and transforming them into socially relevant knowledge (TORRES;IRALA, 2005).

The applicability of this learning strategy encourages students to play a leading role in the learning process, developing important characteristics of autonomy, leadership, initiative, intellectual and socio-emotional capacities, essential for a critical citizen of the near future.

In addition to the aspects already mentioned, the interaction contributes to the maturation of the student, who learns to be responsible, to share activities with his colleagues, learning that enables him to make decisions, accept difficulties and seek new solutions according to the needs of the moment. Collaborative learning also has the following characteristics:

#### **A) WHOLE-CENTERED ENVIRONMENT**

Learning is shared among all participants, demystifying that only the teacher is the holder of knowledge. In this case, sharing benefits everyone involved.

#### **B) TEACHER IS A PROCESS GUIDE**

As the focus of this process is centered on the student, the teacher acts as an advisor, accompanying and directing the students, contributing to their development.

#### **C) PROACTIVE AND INVESTIGATIVE LEARNING**

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### **D) APPLICABILITY OF CONTENTS**

In the applicability of contents, the idea is to put theoretical knowledge into practice, verifying its relevance. We can apply collaborative learning in different ways in the school context, with the aim of bringing benefits to teaching and learning by collaborating for the development of teams. We will mention some of them below:

#### **1- GROUP ACTIVITIES**

Through collaboration, students produce knowledge, reach conclusions, under the supervision of the teacher. The teacher can invite students to dialogue about a specific topic. Exchange of information and experiences allow the construction of knowledge in a collaborative way, developing skills together.

#### **2- USE OF TECHNOLOGY**

Technologies are tools that enable the effectiveness of collaborative learning, being important to carry out group activities, with situations in which autonomy and cooperativism are stimulated. It is important that for this proposal, the school uses blogs, videos and other tools that allow students to put into practice what has been learned, producing materials in collaboration and with autonomy, always accompanied by the teacher.

### **BLOOM TAXONOMY**

to set goals of learning and planning in this identification, respecting a hierarchy of educational objectives. It is a classification of learning domains according to a list of

skills and processes involved in educational activities, previously establishing evaluative criteria. Bloom's Taxonomy is based on the premise that after a school activity, students acquire new knowledge and skills, achieving the main objective of the teaching and learning process.

For this purpose, he established hierarchical levels that the pedagogical work must stimulate so that the students pass, to identify how the learning will be achieved, that is, to reach superior objectives, first they need to understand the inferior ones. To put the planning into practice, it is necessary to consider the learning area, its specific objectives, evaluation instruments and activities to be carried out during the process in the cognitive domain. It is important to create a table defining educational objectives, highlighting the levels of the learning process, teaching and learning that students must achieve at each stage and actions required to achieve this.

Bloom's Taxonomy brings as a proposal to educators to provide three main objectives, classified from the domains: cognitive, affective and psychomotor, to students, giving due importance to each one, because together they make learning possible in a concrete way, however it is necessary to consider the hierarchy that allows the identification of the performance level of each one, based on the classification of educational objectives, from the simplest to the most complex. This helps the teacher in planning his work in order to meet the learning needs of each student, who must have concretely assimilated knowledge before moving on to the next level.

Thus, learning will be more effective, as students can only move to a higher level when they assimilate knowledge, consolidating their cognitive repertoire. This technique provides a structured roadmap to achieve educational objectives, optimizing the teaching and

learning process.

Classification groups are organized hierarchically, divided into subcategories, with the aim of gradually reaching levels, from lower to higher. These domains are categorized as follows:

### **1- COGNITIVE DOMAIN**

It involves the ability of students to make sense of the information they receive during classes and how to use it in practical life, so that the knowledge acquired is productive. The table that defines the educational objectives in the cognitive domain consists of six hierarchically defined levels, with specific actions to achieve each of them, as follows:

#### **LEVEL1: KNOWLEDGE**

At this level, the ability to recognize previously discussed information and content is worked on, such as facts, dates, words, among others.

#### **LEVEL2: UNDERSTANDING**

The ability to give meaning to content is worked on here, in order to interpret what was understood and use it in another context.

#### **LEVEL3: APPLICATION**

At the application level, the ability to use information, methods and content learned in new concrete situations is worked on, through the application of rules, methods, models, concepts, principles, laws and theories.

#### **LEVEL4: ANALYSIS**

At this level, the ability to subdivide the content into smaller parts is worked on to understand the final structure, through the identification of the parts, the relationship between them and the recognition of the organizational principles involved.

## **LEVEL 5: SYNTHESIS**

This is ability to combine isolated non-integrated parts to form a “whole”, establishing a relationship between them.

## **LEVEL6: EVALUATION**

Ability of judging the value of knowledge for a specific purpose, based on previously established criteria, which can be external (relevance) or internal (organization).

## **2- AFFECTIVE DOMAIN**

Affectivity is directly related to emotions, feelings and behaviors developed from the teaching and learning process, considering that we are no longer the same after learning something new.

## **3- PSYCHOMOTOR DOMAIN**

In the psychomotor field, physical skills help in the acquisition of new knowledge from body movements, manipulation of objects and bodily senses.

## **COLLABORATIVE PRACTICE AND OR SO OF TECHNOLOGIES**

The Maker Culture, a current trend, constitutes an important strategy for collaborative practice in which students can actively participate in class by developing new intellectual and socioemotional skills. About this pedagogical strategy perspective it is considered that:

[...] Cooperation oiles the machine for making things happen, sharing is able to make up for what we lack individually. [...] which applies particularly when dealing with people different from us; with them, cooperation becomes a great effort.

(SENNET, 2020, p.9).

Unlike the traditional model in which students become more passive, in the flipped class, the process is mutual and more dynamic

with a focus on the active participation of all involved. For this, one of the resources used is technology, making the method widely used in hybrid teaching. Therefore, the teacher prepares the material in advance with specific provocations so that everyone takes a critical view in accordance with the theme. They are questionnaires, problem solving, stimulus to reflection, among other activities. In this case of collaborative practices, we can cite the example of the flipped classroom model, capable of proposing innovative approaches that make learning much more engaging, practical and meaningful. Furthermore, The characteristics of this alternative method also provide more time and space to develop different skills: autonomy, problem-solving skills, critical thinking, collaboration and creativity. Within this proposal with the use of technologies, tools such as; the Google Class Room platform, computers, smartphones, digital games, among others.

For the development of work within the model of practicescollaborative, the planning and proposed activities need to contemplate the cognitive, affective and psychomotor domains, and their specific objectives must be in accordance with the hierarchical levels of Bloom's Taxonomy. They must stimulate the skills corresponding to each domain, as together they allow effective learning. Each new content must be structured and transmitted to the students according to each action necessary to achieve learning.

The educational objectives are defined based on the taxonomy to better meet the needs of their students, but for that, they must first be identified at what level they are, and it must be structured based on three questions to be answered:

“**What?**”: this question intends to bring the conceptual dimension of skills to be worked on, defining what the student is able to know to reach a certain level of learning.

“As?”: this question addresses the procedural dimension, which refers to the method that the teacher will use to transmit knowledge.

“For what?”: this question proposes a purpose to that knowledge, in order to articulate it with everyday situations, contextualizing them with other areas of knowledge or the curricular component itself.

## FINAL CONSIDERATIONS

Collaborative learning represents a way of learning by teaching and teaching by learning, since the members of a group will be constantly interacting and collaborating towards the same end, that is, providing a way of teaching and learning that overcomes the traditional

paradigm of teaching. Due to the scientific and technological innovations of today's world, collaborative learning presents itself as a differentiated approach for learners to be able to handle the avalanche of information to which they are exposed, interpreting it and transforming it into socially relevant knowledge. We see here, then, that technology can be an ally of the pedagogical work within a collaborative learning proposal with Bloom's Taxonomy as a potentializer of the teaching learning process. Therefore, the school must be prepared to insert new technologies in education in favor of the relationship between education and the social reality in which the student is inserted, as well as to adopt a collaborative approach.

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