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Nueva concepción del aprendizaje productivo reflexivo
New conception of reflective productive learning

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Resumen: En el presente trabajo se evalúan críticamente algunos tipos de aprendizaje referidos en la literatura pedagógica a partir del énfasis que hacen en un aprendizaje convencional en que se reproduce el conocimiento acumulado, lo que queda preestablecido en el currículo escolar. Los análisis se apoyaron en la revisión bibliográfica y el objetivo es definir aprendizaje productivo reflexivo. Se logró develar los rasgos distintivos de los diferentes tipos de aprendizaje y las posibilidades que estos ofrecen para estimular el aprendizaje productivo reflexivo.
Palabras clave: Aprendizaje, tipos de aprendizaje, actividad reproductiva, actividad intelectual productiva, actividad creadora, aprendizaje productivo reflexivo.

Abstract: Work some learning types referred in the pedagogic literature starting from the emphasis that make in a conventional learning in that reproduces the accumulated knowledge, what is preset in the school curriculum is evaluated presently critically. The analyses leaned on in the bibliographical revision and the objective is to define reflexive productive learning. It was possible to discover the distinctive features of the different learning types and the possibilities that these they offer to stimulate the reflexive productive learning.
Keywords: Learning, learning types, reproductive activity, productive intellectual activity, creative activity, reflexive productive learning

Introduction

Learning as the establishment of new temporal relationships between a being and its environment has been the object of various empirical studies, carried out on both animals and man.

The definitions of learning described in the pedagogical literature, regardless of the theory behind them, have two aspects in common:

- - First, they conceive learning as change that occurs in the learner.
- - Second, the school curriculum pre-sets a limit on the teaching content.

That pre-established limit makes school learning a learning that reproduces what has been accumulated by humanity.

In this sense, in the face of these problems, the present article analyzed the different definitions and types of learning in order to reveal their distinctive features and the possibilities that they offer to stimulate reflexive productive learning, with the aim of defining this last type of learning.

Development

The pedagogical literature refers to a vast list of the most common types of learning. Among them, receptive learning and repetitive learning have similarities, but have differential aspects. According to Jimena (2011) in receptive learning the learner only needs to understand the content to be able to reproduce it. For its part, the Inter-American University for Development (n.d.) states that in the repetitive one, the learner memorizes content without understanding it or relating it to his previous knowledge, so he does not find meaning in the content. As a common aspect, in both types of learning nothing new is discovered.

In the case of observational learning, as expressed by Arriaga Ramirez et al (2006) "(...) the learner observes the behavior of another person, called a model, and reproduces it" (p. 3).

Nevertheless, this type of learning in natural conditions and in correspondence with the investigative spirit, the cognitive interests and the level of creativity of the cognitive subject or subjects, can propitiate dynamic interaction around an object with the consequent association that this generates with what is already known and with the experiences of the actors of the process.

However, as defined by the previous authors, in group-class conditions, in observational learning, the learner is presented with learning situations so that he or she can reveal the knowledge that is pre-established in the curriculum, in such a way that the learner does not

discover anything new. He only perceives with his sensory organs what is captured in the teaching content and which he should not exceed.

In the case of significant learning, according to the Universidad Interamericana para el Desarrollo (n.d.) the learner relates his or her previous knowledge to new knowledge, thus giving it coherence with respect to their cognitive structures. It should be noted that this knowledge is new to the learner, but has been introduced by another (s).

According to Suárez Portelles, González y Leyva (n.d.) the learning developer guarantees in which he learns the active and creative appropriation of the culture, propitiating the development of his constant self-perfection, of his autonomy and self-determination, in intimate connection with the necessary processes of socialization, commitment and social responsibility. Unlike the significant one, in the developmental learning it is emphasized in the transit from current development levels to levels of next or potential development.

It is emphasized that this transit is stimulated by learning situations through which knowledge accumulated by humanity is recreated, which is new to the learner but was introduced by others in previous moments and which is pre-established in the curriculum and is reflected in the teaching content.

According to Barrón (n.d.) in learning by discovery, the learner does not receive the contents passively; he discovers the concepts and their relationships and reorders them to adapt them to his cognitive scheme.

In this type of learning it is suffered of the same limitations that the developing learning. However, it is emphasized that in both, the teacher has possibilities to stimulate, through the interaction of the learner with the object of knowledge, not only the transit to levels of potential development, but also the transit from an initial moment of assimilation of accumulated and systematized knowledge by humanity in a certain science or area of knowledge, to a qualitatively superior moment characterized by the introduction or discovery of new, unpublished, original knowledge that enriches the theoretical body of that science or area of knowledge.

Following Gómez (2013) and Escalante (2008), through inquiry learning prepares the subject to face problems with a critical spirit. They emphasize that through this learning the individual is involved with a problem and from this perspective, must provide solutions. However, this is a teaching methodology through which the student has to find solutions to a problem situation from an investigation process, but this problematic situation must respect what is captured in the teaching content and its objective is focused on preparing the learner to face problems with a critical spirit and to perform adequately in cooperative work. It only provides the learner with dynamic scenarios for the search for solutions that are unknown to him, but which have been introduced and systematized beforehand.

Like learning by discovery, learning by inquiry presents possibilities for stimulating the transition from an initial moment of assimilation of accumulated knowledge by humanity, to a qualitatively higher moment of introduction or discovery of new, unpublished, original knowledge.

Something similar occurs with Problem-Based Learning (PBL) and formative learning. In the first one the problem is presented to the learner, the learning needs are identified, the necessary information is sought and finally the problem is returned. (Universidad Politécnica de Madrid, 2008). In the second one, in cooperation with the teacher and the group in designed situations of the teaching-learning process, the one who learns transforms reality and transforms himself, being responsible for that process and its result. (Bermudez, 2001).

It is emphasized that the problems presented must respect what the curriculum preestablishes and its objective is focused on achieving changes in the learner, changes that are new to him and allow him to move to a level of potential development, but which are planned and anticipated. In these types of learning, the learner is also provided with dynamic scenarios of searching for necessary information that are unknown to him, but that the teacher has previously planned for him to discover and with his appropriate guidance facilitates.

Finally, through the different types of learning described, and others referred to in the scientific literature, the learner assimilates objects of knowledge that have in fact been introduced by another (s); assimilates the system of written language, but this system is already elaborated; assimilates the elementary arithmetic operations, but these operations are already defined; assimilates the concept of historical time, but this concept is part of the existing cultural baggage; assimilates the norms of social relationship, but these norms are those that normally regulate the relations between people.

So during school learning, the different teaching tasks, learning situations, and problems that students encounter allow them to uncover something that may be new to them, but is not unfamiliar. Therefore, in dynamic educational environments or not, active or not, participative or not, cooperative or not, etc, the learner reproduces knowledge, since he or she incorporates what is new for him or her, but was introduced and systematized before.

Finally, at all levels of education, emphasis is placed on conventional learning in which the knowledge accumulated by humanity is reproduced. However, in all scenarios and discourses there is a call for a productive-creative intellectual activity in the school, for the active and creative appropriation of culture, etc.

In this sense, is the productive-creative intellectual activity susceptible to be developed in educational scenarios? Or is it the mission of institutions specially prepared for the production of new knowledge that enriches science? Or is it only possible in areas of professional-productive performance?

On the other hand, is the active appropriation of culture synonymous with productive-creative intellectual activity? Under what conditions is the active and simultaneously creative appropriation of culture possible?

From our vision, the potential of classes in almost all educational systems can be used to stimulate the creative activity of students. Very few classes take advantage of these potentialities to stimulate productive-reflective intellectual activity. In many cases the conscious, dynamic and active action of the one who learns about the object of knowledge is confused with the productive-reflective intellectual activity.

In this sense, in dynamic and active classes in which the teacher facilitates and stimulates the leading role of the learner on the object of learning, personal growth is encouraged, the transition to levels of potential development. But if this growth does not translate into the transition from an initial moment of assimilation of accumulated and systematized knowledge by humanity, to a qualitatively superior moment in which a new, unpublished, original knowledge is discovered or introduced, which then enriches the theoretical body of that science or area of knowledge, then we are not in the presence of a productive-reflective intellectual activity. We are only in the presence of a dynamic, active and reflexive intellectual activity, but not a productive one.

It is highlighted on the one hand, that scientific findings age rapidly. On the other hand, we have that the content transmitted to the student is a finding that may have been overcome in some region of the planet. In this regard, a teacher can create an active environment of exchange and critical reflection between him/her and those who learn about a knowledge object, in the same way that he/she treats in a class a certain content that appears in the curriculum. In this active environment of exchange and critical reflection, the teacher can make explicit some epistemological gaps, philosophical holes, or fissures that are consubstantial to this object of knowledge, with the intention of generating investigative curiosity and interests in which he or she learns by revealing, searching, investigating and/or finding a plausible solution that conveniently satisfies these problematic situations.

Thus, this active environment becomes a scenario of mutual learning in which the autonomy and initiative of the learner is accepted and encouraged; raw materials and primary sources are used in conjunction with physical, interactive and manipulable materials; a subject is judged and given an opinion with solid, convincing and profound arguments; answers are constantly sought to problems derived from the solution of other previous problems in specific areas of knowledge around that subject; inquiry is challenged by asking questions to those who learn, and between those who learn and those who teach, that require novel answers; and that stimulate the development of the intellect.

Therefore, in an educational scenario with these characteristics, the object of knowledge is susceptible to being surpassed, or at least, the curiosity and interest to surpass it is

encouraged among those who learn, with the introduction of new, original and unpublished categories and knowledge that go on to enrich the theoretical body of a science or area of knowledge.

This can also happen when critical reflection is encouraged in accordance with the demands imposed by the context, circumstances and concrete historical-social conditions; or when dynamic interaction is encouraged around this object with the consequent association that this generates with what is already known and with the experiences of the actors in the teaching-learning process.

Taking into account all of the above, in those educational scenarios that foster critical reflection, dynamic and active interaction, and the association of ideas around the fissures, gaps or philosophical voids inherent to a given object of knowledge, the transition from an initial moment of assimilation of accumulated and systematized knowledge by humanity in a given science or area of knowledge, to a qualitatively superior moment that is characterized by the discovery or introduction of new, unpublished, and original knowledge that enriches the theoretical body of that science or area of knowledge, can be stimulated.

This transit is stimulated in the class and can be made concrete inside or outside of it and is what the authors of this article call productive reflexive learning.

It is important to emphasize that the reflexive productive learning is a process, because in it, the subject is modified and grows when passing from that initial moment of assimilation of the knowledge that has been accumulated by the humanity, to another qualitatively superior one. This last one is characterized by the introduction of the new knowledge, unpublished, original that happens to enrich the theoretical body of a science or area of knowledge.

That is to say, in the process of reflexive productive learning another process is generated, parallel and at the same time: the process of creation. Therefore, in the reflective productive learning the processes of assimilation of the accumulated knowledge around an object of study and the processes of creation of new qualities, categories, synapses around that object are given jointly.

But, the new quality is superior to the one that already existed, it enriches the theoretical body of a certain science or area of knowledge, and makes the one who learns more autonomous, capable and independent, it makes him grow. This is one aspect that differentiates productive reflective learning from any other approach to learning. It is not enough that the subject changes. It is necessary that that change implies a new level of self-regulation and creative behavioral regulation that allows a more effective, dynamic and enterprising interaction with the object of study. That is to say, the reflexive productive learning leads to a personal growth and it is translated in the creation, innovation, construction of new synapses, new categories, new knowledge around the assimilated object of study.

In reflective productive learning, the creation of the new is contextualized, that is, it is directly related to the object of study that in each area of knowledge is posed to the learner. In this way, in higher education institutions, for example, the introduction of new knowledge and categories goes beyond the limits of the curriculum. This allows the learner to prepare for future working life in a competent manner. Thus, he or she achieves professional success, developmental management, emotional well-being, mental health, and of course, professional and personal fulfillment, contributing in turn to scientific-technical, social, and occupational development.

The approach of the reflexive productive learning starts from the dialectic materialistic conception of the world, the man and his development and from the cultural historical theory as psychological foundation of the relation between education and psychic development, as physiological basis of learning, as understanding of the processes of learning and human development and as methodological support for its investigation and application in practice.

Reflective productive learning is defined as a personalized and conscious process of appropriation and enrichment of the social historical experience that occurs in cooperation with the teacher and the group in designed situations of the teaching-learning process, in which the learner transforms reality and transforms himself, being responsible for that process and its result.

Conclusions

In many educational scenarios, the conscious, dynamic and active action of the one who learns about the object of knowledge is confused with the productive-reflective intellectual activity.

The stimulation of the investigative curiosity and interests of those who learn about some epistemological gap, philosophical hole or fissure inherent to an object of knowledge, contributes to the discovery of new knowledge.

The discovery or introduction of a new knowledge favors productive reflexive learning.

The transition from an initial moment of assimilation of accumulated and systematized knowledge by humanity in a given science or area of knowledge, to a qualitatively superior moment characterized by the discovery or introduction of a new, unpublished, original knowledge that goes on to enrich the theoretical body of that science or area of knowledge is defined as reflective productive learning.

Productive reflective learning is stimulated in the classroom and can take place in or out of the classroom.

The reflexive productive learning is a process, because in it, the subject is modified and grows when passing from the initial moment of assimilation of the systematized knowledge, to another qualitatively superior one of introduction of a new, unpublished or original knowledge.

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