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ARTÍCULOS DE REVISIÓN

Psychological knowledge and education practices: Tradition and present

Conocimiento psicológico y prácticas educativas: Tradición y actualidad

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Summary

This article is aimed to propose a main issue for the Psychology and Education: relationships between psychological knowledge and educational practices. These relationships have not been established without any problem, on the contrary, it has generated debates and controversies, which were expressed under certain ruptures between psychological theories and educational practices. Moreover, this article also presents the main psychoeducational traditions that generated these discussions and a set of current psychoeducational approaches that are aimed to reduce the gap between theoretical knowledge and practical skills for the training of future teachers and training teachers.

Key words: Psychology, education, controversies, training process.

Resumen

El objetivo de este artículo es plantear una cuestión central para la Psicología y la Educación: las relaciones entre los conocimientos psicológicos y las prácticas educativas. Estas articulaciones no se han producido de manera totalmente pacífica entre ambos campos, por el contrario, han generado debates y controversias que se expresaron bajo cierta desconexión entre teorías psicológicas y prácticas educativas. A la luz de este planteamiento, en este artículo se exponen las tradiciones psicoeducativas predominantes que orientaron estas discusiones y se presentan un conjunto de propuestas psicoeducativas actuales que se proponen reducir la brecha entre conocimientos entre teorías y prácticas para la formación de futuros docentes y la actualización de docentes en ejercicio.

Palabras clave: Psicología, educación, tensiones, procesos formativos.

Introduction

The theoretical-explicative analysis of educational practices can be addressed based on the knowledge from several scientific fields, among which the psychological knowledge stands out mainly by two reasons (Coll, 1987):

> (1) While it explains and understands the processes that underlie the human growth and development, it is pertinent to several educational levels which the curricular design and the specific intentions correspond to.
>
> (2) Since it has an impact, to a greater or lesser extent, on the four groups of main components of the curriculum: selection of objectives and contents, establishment of learning sequences fully favoring the significant and maximum assimilation of contents and the achievement of goals, decision-making process about the way of teaching and through the extensive and thorough evaluation of the required learnings.

Within this framework, the inputs derived from the psychological knowledge can provide an appropriate explicative reference framework to explain the decisions the professors must make during the design phase and the curricular development phase. However, a set of problems are set out about the relationships between the psychological knowledge and training practices of education: What problems are implicit in the selection of this knowledge?, What criteria must govern the selection of one or other inputs?, Can the multiplicity and variability of the teaching-learning situations be addressed by a single theory?, Do the knowledge given by the psychological research have the same level of relevance with respect to its application to educational practices? Do the selected theories must be considered as guides or references or as determining factors of the educational action? , etc.

These problems caused ruptures between educational theories and practices (Álvarez & Hevia, 2013; Pozo et al., 2010). In other words, numerous research works show that if professors are requested to inform about the development of their practical activity in class, a detailed and specific description is received. However, if the demand is aimed at knowing the theoretical-explicative bases of this practice, it is likely that the response shows certain disconnection between the theoretical knowledge and

educational practices (Coll, 2010; Sánchez, García, De Sixte, Castellano & Rosales, 2008; Vilanova, Mateos-Sanz & García, 2011).

Sánchez, García, De Sixte, Castellano and Rosales (2008) suggested that "there is no distance between prescription and description, but as many gaps as professors we can find" (p. 250). That is, a same prescription can be interpreted in different ways and different levels of utility among professors.

Rodríguez-Arocho (2007) contributes to the debate about the place of the psychological theory in education. In this regard, he said that not all the psychological theories are valid for education, some of them do not even propose the development-learning relationship as a topic.

The article presents a reflection, from a theoretical perspective, on the relationships among what is known, what is said and what is done in education. Despite it is a very relevant issue, studies about it have been barely performed in order to know the relationship established by professors between pedagogic theory and teaching practice (Álvarez Álvarez, 2012).

The aim of this work is to analyze the psychoeducational traditions that conceptualized different positions with respect to the relationship between educational theories and practices, as well as current approaches to reduce the existing distance between them. In this regard, which processes could favor a contextualized acquisition that allows the collaboration and integration between theory and practice? What is the input of the education reality problematization to generate a change? These questions allow the transformation of educational practices from reflection and vice versa, allow new ways to improve the learning processes and give new sense to schools. From the analysis of dominant psychoeducational traditions with respect to the topic, a set of new current approaches are systematized and they seek to exceed the limitations of the previous ones by promoting horizontal, didactic and dialogic relationships between knowledge and action.

Traditions about Theory-Practice Relationship.

Relationships between theory and practice has been established mainly from two great conceptions, with notable effects on the professional training and

development of professors, the scientific-technological approach and the hermeneutic-interpretative approach (Álvarez Álvarez, 2012).

The scientific-technological approach understands the educational practice as a technological process in search of attributes of the "efficient professor" (learning style, aptitudes, personality features, among others) that caused a better performance of students (Good, Biddle & Brophy, 1975). The professor limits to developing a normalized educational practice from outside, separated from his own initiative, and in certain assumptions based on a practical knowledge derived from or generated in school realities different or more distant from the reality to which is applied. The proposal of Brophy y Good (1986) can be placed in the scope of this approach, since they said that the key to improve the professor´s work is to focus on the development of the knowledge of the effective learning and convert it into algorithms the professors can learn and include in their previous learning planning.

Learning was based on the following principles: (1) existence of an ideal model clearly defined and previously established; (2) transmission of knowledge by the professor who observes and compares the learning adjustment to the pre-established model; (3) learning of the student in a passive/receptive manner as a faithful copy of the reality (Rosenshine & Stevens, 1986). In this way, the direct teaching was the most efficient learning mechanism, as well as the imitation and/or repetition of models were the privileged learning mechanism (Biddle & Anderson, 1989).

Thus, this model places the accumulated theoretical knowledge in a preferential position (Álvarez Álvarez, 2012). In other words, professors give a decisive importance to the educational methodology (technical when applying some certain methods to generate desired behavioral changes) and to its general effects. Its result can show two trends:

- Disregard the individual educational differences and needs.

- Homogenize teaching processes and learning processes resulting in the need for the student to be adapted to methods, objectives and general contents established by the educational system.

The hermeneutic-interpretive approach understands that knowledge comes from experience. The central argument of the learning proposal is based on producing sense interpretations to understand the educational phenomena through interactions and negotiations with students. (Clandinin & Connelly, 1987; Villarini-Jusino, 2007).

Narratives and stories are the learning strategies that professionals use frequently and in a flexible manner. The purpose is to make sense of experience and organize it into a body of practical knowledge. Teachers respect their own singularities and those of the students since both have to make a pedagogical interpretation of the texts considering their stories and vital experiences (McEwan & Egan, 1995).

The teachers´ vision derived mostly from this approach lies in preparing knowledge, accumulating experiences and improving their practice by means of action. In this regard, the educational practice is considered as a mainly artistic process. In this way, this model places the practical knowledge of the school in a preferential position (Álvarez Álvarez, 2012).

The controversy of the fact that if the teaching activity is a technological process or an artistic process resulted in a third approach, called dialectic approach, in order to understand the relationships between theories and practices. The distinctive characteristic of this approach is its capacity of integration and multi-direccionality between theories and practices. Theories and practices are equal and under openness and dynamism relationships to give rise to several possibilities between theories and practices.

This conception is based on an emancipatory interest based on the liberation of awareness of powers internalized through conceptions, attitudes and judgments (Villarini-Jusino, 2007). At the beginning, this approach viewed the professors as a rational subject who makes decisions, issues judgments, has beliefs and creates own routines of his professional development. These studies were interested in the way the professors act, perceive and perform their professional activity (Ruiz & Camps, 2007). Traditionally, one of the pioneers of this movement was Jackson (1968), who stated the need to understand the teacher thinking to understand the nature of the learning and teaching processes developed in class. In this way, it was

thought about the confluence of two areas which were incompatible until that moment: action and cognition. In this regard, thought was a cognitive mediator that guided the professor´s behavior.

Among his followers, Clark and Peterson (1990) grouped the thinking processes in three spheres: (1) planning process; (2) decision-making (thoughts during the didactic interaction); (3) theories and beliefs. Planning serves to meet immediate personal demands (reduce the uncertainty and the anxiety, provoke a sense of confidence and orientation), to adapt the means to learning goals and guide the teaching processes (Clark & Yinger, 1979). Planning is a rational decision-making process on routines that must be included in a performance plan of the professor.

Likewise, the nonexistence of a unique model of rational planning did not allow considering the unique thinking processes. According to Shavelson (1986), each learning act is the result of a decision, conscious or unconscious, made by a teacher according to a complete preparation of the available information, about students, assignments, class and school environment, and according to the particular way of interpreting the experience (theories and beliefs).

Regarding contemporary advances of this thinking, although it is continue to argue that learning activity must be interpreted as a conciliatory synthesis between theoretical-technological and practical-artistic knowledge, the direct conception between intention and action as well as the separate addressing of the thinking process spheres (judgments, decision-making and theories) are questioned. These approaches are aligned to the vision of the teachers as "reflexive professionals" (Cols, 2011; Pérez Gómez, 2010a; Pérez Gómez & Gimeno Sacristán, 1988; Schön, 1998), that is, professionals that reflects from the action become researchers of their own practice.

In this regard, the reflection supposed a global way to understand and respond to particular problems and situations, involving unavoidably the authors rather than a series of rational, structured and logical steps or procedures. Schön (1998) said that these decision-making processes in many occasions are not logical, are made spontaneously, thereby alluding to an implicit and intuitive knowledge developed through experience in several "undetermined areas of practice".

Articulating Theoretical Knowledge and Educational Practices: Current Proposals.

In search of alternative schemes and tools that help connecting theories and practices, different current proposal with constructivist roots have been developed. These proposals considers that reality in educational contexts and the facts occurred in them are not fixed nor are they a given, but respond to specific situations framed in particular circumstances as a result of different types of factors, such as relationships, interactions or purposes (Cubero, 2010). In this regard, it is necessary that the teacher knows and interpret them so that he can articulate his theoretical knowledge and educational practice.

Different authors proposed the articulation between theoretical knowledge and educational practice through repertoires (Schön, 1987), implicit theories (Pozo et al., 2010), personal knowledge of the teacher (Clandinin & Connelly, 1987) or practical artifacts (Clará & Mauri, 2009, 2010). Based on the last point, the "practical knowledge" construct was incorporated as an articulating connection that "allows practitioners to define, build specific situations of their practice" (p.133).

In any case, it is intended that teachers are capable of constructing/ using patterns, guides or schemes of action based on the knowledge they have in mind or the knowledge transmitted from several sources (Fernández-Rio & Méndez-Giménez, 2013). Within this framework, the following specific proposals were generated:

(a) Rebuild Practical Knowledge.

Practical theorization is the reflection of the teacher on their own way to act considering the educational memorable experiences and the most significant discussions of the educational research (Hagger & Hazel, 2006). It is a social activity, under an expert tutorial, that is gradually internalized by the learner to convert it into a meta-resource of reflection on the action (Argyris, 1993).

Pérez-Gómez (2010a) explains that in order to rebuild practical knowledge, it is necessary that the teachers recover and question the images, ideas and practices developed in their daily routine. In this way, these reconstructions of their own learning development in a specific context,

favors the problematization of implicit theories, beliefs, values and artifacts that make up his practice. Besides, they favor the development of systematic processes for generation and verification of action hypothesis on how to develop changes and valuable innovations (Elliot, 2004; Stenhouse, 1975).

On the other hand, it is necessary to consider that questioning own ideas and values can suppose a high emotional tension process (Pérez-Gómez, 2010b). For this reason, it is important the figure of the expert professor who follows up, supervises and monitors the development of this process (Feiman-Nemser, 2001).

(b) Prepare Self-Constructed Materials.

Self-constructed materials can be considered practical artifacts due to the following reasons: they are mediators in the activity system (bring together theoretical and practical aspects of knowledge), have ideal and material nature (have a holistic perspective and at the same time, they can be used in specific situations). In addition, the self-constructed materials are used according to the context and allow the student to integrate teachings modifying their knowledge schemes to produce a certain material through an interiorization-exteriorization process (Fernández-Rio & Méndez-Giménez, 2013).

Méndez-Giménez, Martínez-Maseda and Fernández-Río (2010), in a pilot study with Primary Education students, confirmed high level of interest, enjoyment and motivation in learning after developing a didactic unit using self-constructed materials.

Recently, the authors analyzed the beliefs in the use of these materials and their impact on future professors. On the one hand, very positive results were obtained regarding the use of these practical artifacts as methodological tools, strategy to work the interdisciplinarity, to educate values and as a support to evaluation (Méndez-Giménez & Fernández-Río, 2013). On the other hand, it was envisaged that the self-constructed materials allow involving the students in their own learning process, which helps them learning theoretical contents of the courses, and contributes to the practical learning of them (Fernández-Rio & Méndez-Giménez, 2013). In particular, Special Education students stand out the utility of this type of materials in the treatment of several students with special education needs.

In short, these first research works apparently state that the self-constructed materials contribute to reducing the gap between educational theory and practice in professor training and during the exercise of the professional activity. However, the authors said that these materials must be contextualized within the framework of an appropriate didactic proposal (bridges established between theoretical and practical knowledge, presentation, use, analysis, evaluation and reflection on self-constructed materials, among others).

(c) Bring the School Reality closer to Training Teachers

Álvarez and Hevia (2013) proposed the following lines of work to help the professor to face the challenge of bringing the school reality closer to training professors:

- Promote the maximum possible interrelation between the student practice period and the professor training, respecting the discipline nature.

- Establish bridges and activities that allow the student to know in depth the school system.

- Collaborate with different social agents that can show, in the college context, the practical dimension of the professor´s work related to the development of different disciplines.

- Be in contact with tasks prepared during practice and not only with the academic ones.

However, the theory-practice relationship is a very extensive, complex and controversial issue that cannot be addressed as "finished" and resolved during the training process of professors. It is possible to consider that the greatest challenges will arise during the subsequent professional development.

(d) Design Studies or Research Works.

The design studies or research works, originally called "design experiments", are a group of emerging methodological approaches in the study of learning and teaching processes in context. Most of these designs are conceptualized

as studies of cases aimed to support the learning of groups of students with knowledge of a particular contents. (Cobb, Confrey, diSessa, Lehrer & Schauble, 2003; Garello & Rinaudo, 2012; Garello, Rinaudo & Donolo, 2011; Kelly, 2003).

This perspective promotes the objectivity through the triangulation of numerous sources and types of data, as well as the reliability and validity through the iteration of continuous cycles of design, implementation, analysis and redesign of analyses, as well as the use or creation of measures and standardized instruments. The theoretical purpose is to identify and describe patterns in the student´s thinking and relate them to the means used to support and organize their development. (Rinaudo & Donolo, 2010).

Generally, a complete learning environment is designed with assignments, materials, tools, notational systems and other elements, including means to sequence and support learning, wherein professor and research participate actively in the research work. Since participation is considered as the product of the context in which is applied, closing the gaps between psychological theories, design of artifacts and educational practices in contexts established is considered a positive outcome.

Final Considerations

This work was aimed to review the relationships between the psychological knowledge and educational practices, especially, is intended to analyze the psychological knowledge as theoretical basis of training processes in education. Relationships between Psychology and Education have not been established without any problems, but debates and controversies between educational theories and practice have been arisen.

Traditionally, the intents aimed to find more connection between educational theories and practices have provoked to make several alternative approaches, some of them eclectic and the other ones with a strong dose of reductionism. In any case, adopting an explicative framework as a theoretical reference about the work of the professor in the classroom, is the basic condition that can guarantee a minimum coherence in the decisions daily and systematically made by the professor in the classroom, and these decisions will be radically different according to the reference adopted.

At present, scientific and school communities are helping to the development of constructive approaches that seek to explicitly reduce the existing levels of disconnection. The strategies replaced that have generated positive results were: reconstruction of practical knowledge, preparation of self-constructed materials, bringing the school reality closer to training teachers and design studies or research works.

"The place of the psychological theory in the educational practice and vice versa must be marked by a critical approach to the media, teaching us about psychology and education and by a continuous debate of our interpretations" (Rodríguez-Arocho, 2007, p.246-247). In this regard, it is suggested that multi-directional changes are proposed between theories and practices, suspending classic conceptions such as theory-practice or practice-theory pairing. This interplay enriches the set of teaching resources, supports the educational practice and contributes to generating mutual influence processes.

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