
Metodología de estimulación de la flexibilidad del pensamiento en estudiantes universitarios
Methodology of stimulation of the flexibility of thinking in academics students

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Resumen: El estudio aborda la temática relacionada con la estimulación de la flexibilidad del pensamiento. Se sistematizan los referentes teórico-metodológicos que desde el punto de vista psicológico, pedagógico y didáctico se relacionan con la investigación. El diagnóstico permitió caracterizar el estado actual de la estimulación de la flexibilidad del pensamiento en el proceso de enseñanza-aprendizaje. La metodología elaborada se sustenta en un modelo didáctico, que garantiza su estructuración y funcionalidad en función de la estimulación de la flexibilidad del pensamiento en los estudiantes de la carrera Pedagogía-Psicología.

Palabras clave: Estimulación; Flexibilidad; Pensamiento; Didáctica; Metodología.

Abstract: The study deals with the subject related to the stimulation of the flexibility of thinking. The historical background and theoretical-methodological that point of view psychological, pedagogic and didactic that supports the research. The diagnostic study allowed characterizing the state of the professors' preparation by the stimulation of the flexibility of thinking in the teaching-learning process. The methodology elaborated is nourish in a didactic model, that guarantees its structuring and functionality in the teaching-learning process in function of the stimulation of the flexibility of thinking in the students of the Pedagogy-Psychology major.

Keywords: Stimulation; Flexibility; Thinking; Didactic; Methodology

Introduction

The cognitive activity of man is determined by his historical and social nature, it allows him to know the world around him and to know himself, to the extent that man's thinking develops and transforms his social reality and thus transforms himself. The university demands the highest level in learning activities as an organized form of cognitive activity, conditioning the development of thought in the search for what is essentially new.

The present study is structured on the basis of the Dialectical Materialist and Historical conception, supported by the theory of knowledge. A relationship is established between educational activity and cognitive activity, giving rise to the development of the flexibility of thought that mediates the integral development of the personality and is expressed in the different contexts of professional performance as a result of a transformed educational practice.

From the psychological theories applied to education, the cultural historical approach of Lev S. Vigostky (1896-1934) and his followers is assumed as a theoretical-methodological postulate. In this sense, the role of teaching in development and the law of double formation is recognized. It also takes into account the important relationship between thought and language in the understanding of the flexibility of thought.

At a national level, representatives of the Pedagogical and Psychological Sciences have made declarations regarding the conceptual definition of the flexibility of thought, such as (González, 1985; Brito, 1987; Ballester, 1993; Mitjans, 1995; Córdoba, 1996; Labarrere, 1996; Morales, 2001 and Zaldívar, 2001) from their researches they have contributed to the development of a conceptual theoretical approach on the subject and from the methodological point of view the didactic proposals for its stimulation in the university context are insufficient.

In Guantanamo territory, the research of (Cardoza, 2008; Rodríguez, 2009 and Jiménez, 2013) is projected, basing its study on the development of the flexibility of thought from the teaching of physics and mathematics subjects in school children with special educational needs. The development of studies aimed at stimulating flexibility of thought from the teaching-learning process in university students, specifically in Pedagogical training, is insufficient.

In accordance with the demands of Curriculum E, the formation of the Bachelor of Pedagogy-Psychology requires a quality teaching-learning process that responds to social conditioning and a university education that stimulates flexible thinking, resolution and transformation of the problems present in the different areas of their professional performance.

There is a tendency in pedagogical training careers to strengthen the affective-motivational component of students, the motivation to study, the reaffirmation of professional interests, the formation of values, and in this way the didactic intentionality to stimulate the cognitive sphere in students is limited.

There are limitations in the teacher-methodological treatment for the effective direction of the cognitive activity. There are deficiencies in the development of teaching actions that promote didactic procedures to stimulate the flexibility of thought. The students project difficulties to establish an active search of knowledge from an analytical reflexive position, that mobilizes a reflexive learning style.

In this sense, it is proposed as an objective of the research to elaborate a methodology based on a didactic model for the stimulation of the flexibility of thought in the students of the Pedagogic Education-Psychology career.

Development

From the beginning of the Cuban pedagogical movement, Felix Varela's ideas stand out when he promotes the intention of stimulating his students' reasoning, he implements the bases of the explanatory method as a way of teaching, he projected his vision on the need of freeing thought and he breaks with the schemes of the professorial learning of that time.

For this reason, it corresponds to the professors of the present Cuban university to maintain Varela's legacy, in order to establish a continuity in the educational intention of stimulating thought in young university students. In this sense, it is necessary to systematize the historical antecedents of the stimulation of thought flexibility in the teaching-learning process of the Pedagogy-Psychology career.

From 1962, when the socialist revolution was proclaimed in Cuba, an educational concept started to be developed with the mission of providing literacy to the majority of the people who had a low level of education as a result of the neo-colonial era. Here we can highlight one of the first attempts to stimulate learning thanks to the educational reforms brought about by the revolutionary process.

In this stage, the development of a psychology linked to education arises due to the call of the Cuban revolutionary state to contribute to the formation of the new man in the construction of socialism. Education is aimed at promoting the economic, political and social development of the country in the new generations of students.

A dogmatism is initiated in the way that the different psychological and pedagogical theories are assumed, which had schematically inherited a Soviet psychology that was much more developed and was transmitted through the teaching-learning process in the different training centers of the Pedagogical careers.

The psycho-pedagogical conditions for teaching from a didactic orientation did not favor in the students the formation and execution of the rational operations of thought, they were not conceived as active subjects of their learning and the knowledge was focused with already elaborated generalizations. The teaching-learning process used, fundamentally, the reproductive teaching methods and, as a procedure, the formulation of questions to which the students responded without the need to make a sufficient intellectual effort.

The link with practical professional activity was very limited, which made it difficult to conceive tasks that would allow students to stimulate a reflexive thinking that would allow them to find solutions to their problems and the development of a critical, reflexive and creative learning that would allow them to build their own theoretical conception.

From the need to perfect the National System of Education and consequently, the current curricula and programs. Different training plans are implemented which were also called in a conventional way: Plan B (1983), Plan C (1987) and modified Plan C (1991). (Montoya, 2008, p. 19).

In addition, new subjects are introduced in the study programs of the Pedagogy-Psychology career, the programs present a great volume of theoretical information, predominance of the conferences as a form of organization of the teaching-learning process which limits the development of flexible thinking, and the teaching methods continue to be oriented towards a mechanistic memory and rigid thinking.

Since the 2009-2010 school year, the daytime curriculum has been subject to further modifications, passing through two editions of Plan C. Study Plan D responded to the social demands of the universalization program in Higher Education and maintained, as its predecessor, the broad profile pedagogical model, guaranteeing graduates of pedagogical careers an integral formation.

The intradisciplinary and interdisciplinary conception, in a general sense, only takes into account the integration of knowledge, that is, the need to integrate methods and procedures that lead to the achievement of a higher intellectual activity with greater quality of learning and therefore, the comprehensive development of students.

In the 2015-2016 academic year, with the implementation of Study Plan E, the formation of the Bachelor in Pedagogy-Psychology requires a quality teaching-learning process, which responds to social conditioning and a university education that stimulates flexible thinking, resolution and transformation of the problems present in the different areas of their professional performance.

Consistent with all of the above, the need to continue perfecting the teaching-learning process is recognized in order to stimulate flexibility of thought in the formation of the professional in the Pedagogy-Psychology career.

From a theoretical position, the researcher defines the stimulation of flexibility of thought as:

“the process in which the teacher, through his or her didactic performance, promotes from the learning activity the use of cognitive resources in the search for alternatives for the planning, execution and control of the cognitive activity and its result in the development of the students' personality" (Viel, 2018, p. 38).

It is necessary to interpret the teacher's didactic performance as the didactic act of the teacher who assumes as a starting point the realization of the integral diagnosis with the purpose of developing a teaching-learning process that allows stimulating the flexibility of the students' thinking.

In the process of diagnosis, it is necessary to carry out a process of determination and assessment of the students' cognitive and affective-motivational processes, based on the relationship between reality and potential, and to organize and develop the teaching-learning process in order to stimulate flexible thinking.

The intervention is conceived in the process of direction by the teacher of the cognitive activity, from actions that assure that the teaching is directed to the stimulation of the flexibility of the thought.

From this perspective, it was noted in the diagnosis made that the work on the psychopedagogical characterization of the student must continue to be perfected, based on knowing the particularities of his or her thinking, rational operations and learning styles that predominate in an individual and group manner.

In the intervention it is detected that during the intentional methodological treatment in the direction of the cognitive activity, there are deficiencies in the use of problematic methods and didactic procedures to stimulate the flexibility of thought.

During the classes it could be appreciated as a common behavior in the teachers, the way in which the capacity of reasoning is structured before the learning tasks that are formulated, there are difficulties in the derivation of actions and operations, the time offered is insufficient for the analysis and reflection, insufficient use of techniques directed to the personal elaboration and that motivate the slower students in the rational processes of thinking, as well as, in the construction of the knowledge and in the formation of a new skill.

The search for the meaning of the learning activity outside the context of the teaching-learning process is not stimulated, limiting in the students the reach of higher levels of awareness and control, from the meaning that scientific concepts acquire in their professional field of action.

There are developed learning tasks that do not contribute to a reflexive cognitive construction that stimulate the rational operations of the thought of analysis, synthesis, comparison, abstraction and generalization in function of a reflexive learning style. The

interdisciplinary integration must continue to be perfected from the search of alternatives in the solution of the professional problems that are conceived from the class.

The programs maintain a great quantity of contents and the development of practical classes, seminars, as well as actions in the labor and research component of the students inserted in the different teaching units and Base Labor Entities must continue to be perfected.

From the flexibility dimension of thought, it is evaluated as the cognitive quality of the student that mediates the cognitive, affective-motivational and behavioral processes and determines the integral development of the personality.

In the cognitive sphere, an adequate processing at the sensory and representative levels of cognitive activity is evaluated, which motivates a deepening of the conceptual level.

The students present a reproductive learning, with a low level of independence and the activities developed do not reveal flexible, complex and divergent thinking. In the specific techniques of evaluation of thought, among which the comparison of concepts stands out, difficulties were projected in the reflective analysis between abstract concepts and difficulties in the search for alternatives to establish differences and similarities in increasingly complex analogies. Judgments and conclusions are established with a deductive character.

During the execution of the logical problem solving technique, several levels of help are demanded in 70% of the cases, they are easily frustrated and leave the exercise without finding possible solutions. In the interpretation of fables, it is evaluated that there is an insufficient development of skills to argue, evaluate and base contents, ideas or experiences. In the study group it is perceived that there is a tendency towards rigidity in the development of the formal operations of analysis, synthesis, generalization and abstraction in order to reason on a theoretical level.

In the affective-motivational sphere 70% of the students have a poor affective bond with the content, which conditions a low level of involvement and cognitive disposition. 80% of the interviewees present professional interests and preferences towards other professions that do

not have a link with their model of the professional. Sixty percent of the students who present feelings of failure in the academic results that determined the selection of the profession are projected in the completion of sentences.

In the behavioral area they constantly show themselves to be negativistic, assume behaviors that are not conducive to an adequate adaptation process and are limited in their interpersonal relationships. In the Rotter Technique 90% project difficulties in the decision making process, this corroborates the basic limitations that are maintained from a dogmatic and not very flexible way of thinking in their relationships with others, in the link with the career and in their couple relationships. There are limitations in the oral and written language due to a low level of personal elaboration, difficulties in the capacity to transmit affection and share experiences.

Methodology for the stimulation of flexibility in the thinking of students in the Pedagogy-Psychology career

The methodology proposed has as its theoretical-methodological support the references that from the philosophical, psychological, pedagogical and didactic point of view, as well as the structuring of principles and essential components that determine its characteristics and allow its functioning.

From the gnoseological point of view, the methodology is based on the materialistic-dialectical philosophical conception of knowledge, and its elaboration was based on the historical background that supports it. The analysis of the problem was carried out, it was diagnosed in practice and then the proposal is evaluated.

In this sense, when developing a content linked to the educational reality, it is necessary to promote, from the research method, a didactic procedure that stimulates a flexible and independent thought in the students, transforming themselves and their environment and configuring an orientation of the active-transforming personality, taking into account the unity of the instructive, the educational and the developer in the formation of the professional, both principles reconceptualized by the researcher (Addine, 2002).

In this direction, we take a position before the conception of a developing teaching-learning process in search of stimulating the flexibility of thought, conceived by (Silvestre and

Zilberstein, 2000) From this viewpoint, the principle that demands is established as the structural functional nucleus of the didactic model: to stimulate the formation of concepts and the development of the logical processes of thought, as well as to reach the level of theoretical thought, in the measure that the appropriation of knowledge is produced and the capacity to solve problems is elevated.

Psychology also contributes with the position of Vigotski, Leontiev and Luria as the maximum representatives of The historical-social interpretation in the development of the superior psychological processes, determines the development of the intellect as a special form of regulation of the behavior in man as a social being. The development of thought takes place in a process of activity and communication where the subject internalizes by means of signs in an internal mental plane the objects and phenomena that happen from an external material plane.

On this basis, the structural and functional properties of the proposed methodology are integrated, where the conception of Nerelys de Armas (2005) is assumed "when he defines that the methodology is a systemic sequence of stages, which allow the achievement of certain objectives" (p.124). It also recommends developing the methodology taking into account the following essential components: general objective, rationale, conceptual apparatus that supports the methodology, stages and procedures that make up the methodological alternative, graphic representation, evaluation and recommendations for its implementation Valle (2012, p. 187).

General Objective

To develop a methodology to stimulate flexibility of thought in students in the teaching-learning process of the Pedagogy-Psychology career.

Graphic representation of the methodology



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Fig.2 Structure of the methodology

Evaluation of the methodology

Evaluation is a systematic process that starts from the application of the methodology, to the determination of the results. In this stage, the forms of evaluation applied in the different moments of the methodology are taken into account, starting from the identification of strengths and weaknesses that allow to make the necessary adjustments in the teaching-methodological work from the discipline and, in addition, it allows to obtain the necessary information to value the achievements in the stimulation of the flexibility of the students' thought in the teaching-learning process.

Recommendations for the implementation of the methodology

The space for the materialization of these recommendations is the collective of career discipline as an organ responsible for the methodological work of the disciplines and subjects in function of achieving a better direction of the cognitive activity for the stimulation of the flexibility of thought in the students.

It is important to start from the diagnosis with the purpose of determining the strengths and weaknesses of the teachers for the stimulation of the flexibility of thought in the teaching-learning process.

To promote learning tasks and techniques to stimulate a reflexive learning style in the classes, so that it can be incorporated to their daily didactic actions. To reflect about the requirements for the conception of learning tasks, harmoniously integrating the results of the diagnosis, the necessary levels of help and the objective of the class, according to the stimulation of the flexibility of the students' thinking.

To personalize the structural components of the methodology taking into account the characteristics of the model of the Pedagogy-Psychology professional, the objectives of the discipline and the particularities of the personal components of the teaching-learning process of the first year of the specialty. To enable teachers and students to express their level of satisfaction or dissatisfaction with the process of application of the methodology and its results.

Conclusions

The study of the historical background on the stimulation of the flexibility of thought in the teaching-learning process of the Pedagogy-Psychology career, allowed the identification of regularities from different theoretical-methodological tendencies that have been established in different moments and that evidence weaknesses in the treatment of this process in students.

The systematization of the theoretical references that support the study of the stimulation of flexibility of thought acquires a fundamentally psychological character and is centered in the framework of the cognitive sphere, taking this weakness as a starting point for the elaboration of the pedagogical, didactic and methodological foundations of the proposed methodology.

For the characterization of the current state of the stimulation of the flexibility of thought, a definition of the variable was offered, which allowed its operationalization in dimensions, sub-dimensions and indicators that allowed its study in the conditions of the teaching-

learning process, which revealed the existence of potentialities and insufficiencies in professors and students of the Pedagogy-Psychology career.

The proposed methodology provides the materialization of a didactic procedure for the stimulation of flexibility of thought in the teaching-learning process of students of the Pedagogy-Psychology career.

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