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Cognitive regulation of independent knowledge management in the training of the educational psychologist

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Abstract--The article presents the results of the research in which a didactic model for the independent management of knowledge with a professional approach is elaborated as a theoretical contribution. The didactic model contains the representation of the essential characteristics of the process aimed at activating learning towards independent knowledge management, with a dynamic character, based on dialectic relations of coordination and subordination among the subsystems and components that integrate it. It has a systemic nature that integrates the subsystems: Procedural cognitive conditioning, Cognitive logical reconstruction, and Cognitive regulation, from whose relations, dynamized by the research method of reflexive cooperation, and the resulting quality is the professional relevance of this process. In the logic followed for its elaboration, the relationship between the components of the teaching-learning process (objective, content, form, method, evaluation) is systematized in the first place, as an expression of its dynamics; in addition to the unity of the instructive, educational, developmental; the theory-practice link, the unity of the cognitive and affective, as well as the requirements for a developmental teaching-learning process.

Keywords---model, didactic, management, knowledge, professional, relevance.

Introduction

Currently, the training of the new generation of professionals is a challenge for universities, as presented in the Professional Model of the Bachelor's Degree in Education. Pedagogy-Psychology; these energize the formation of the labor resources that the country requires in a competent manner; consequently, the mission of this career is to train workers suitable for a labor world in continuous change, which requires periodically recycling, reconverting or updating the professional competencies demanded by the economic and social development of the country related to pedagogical and psychological training. In this sense, it is based on a didactic model coherent with the independent management of knowledge with a professional approach, which responds to the request of Cuban Higher Education, in the context of the transformations taking place in the country in the educational sector, based on the guidelines of the party's policy and the objectives of Agenda 2030 in education, in the sense that the student is an active participant in the achievement of professional and social objectives.

For its elaboration, the conceptions of Marxist-Leninist Philosophy are assumed; its categories: essence-phenomenon, the general, the particular and the singular, content-form, cause-effect, activity and the relationship between the concrete and the abstract. The materialistic-dialectical conception of knowledge is also assumed, which makes it possible to establish the relationships between the teaching-learning process of the discipline Physiological and Psychological Foundations of Education (FFPE), as well as education for life and profession, as an expression of the school-society relationship in a process that allows individual appropriation of social contents and social objectification of individual contents.

The postulates of the historical-cultural approach, proposed by Vigotsky (1988), are also assumed, as well as the contributions of his followers, whose conceptions have been taken up by different Cuban authors. In this sense, the following are considered: the education-teaching-development relationship, the significance of the social plane for the individual's learning by emphasizing the role of culture in individual development, specifically in: the genetic law of development, the concept of the zone of proximal development, and the social situation of development.

The criteria for the activation of the teaching-learning process, which emphasizes its dynamization, are also taken into account. By assigning the student the active role, he/she is considered the subject and not the object of the process; mobilizing the teacher, the motivational, volitional, intellectual, moral, and physical forces of the students, to achieve the specific objectives of teaching and education. In this way, the adequate orientation for learning has a notable influence, considering the student as the protagonist, so that the motivation he/she possesses exerts a positive influence on the process of his/her formation as a professional (González *et al.*, 2022).

The dialectical relationship between the components of the teaching-learning process is considered, emphasizing the importance of the categories: didactic resources, teaching methods, and learning tasks, as well as the didactic principles proposed by different authors. Among these, the following are essentially considered: the theory-practice unity, the unity of the cognitive and the affective, the unity between the social and the individual, as well as those defined for the teaching of psycho-pedagogical contents and the methodological procedures that materialize them.

It is significant to highlight the role of the teaching tasks as a cell of the process, which the teacher must select according to the objectives, and adapt and modify based on the particularities of the students' diagnosis (Arranz et al., 2022). In this way, the knowledge of the specific strategies of each task and the control over it is highlighted, considering, as previously expressed, the motivational processes (Salazar and Cáceres, 2022). The model emphasizes the cognitive conditioning processes, the logical-cognitive reconstruction, and the cognitive regulation of independent knowledge management with a professional approach and deepens the arguments of cognitive regulation as a process that enables feedback through continuous reflections and evaluations given within this process (Salazar and Cáceres, 2022).

Development

The didactic model of independent knowledge management with a professional approach is defined as the representation of the essential characteristics of the process aimed at activating learning towards independent knowledge management, based on the proposed objectives with a dynamic character, given the dialectic relationships of coordination and subordination between the subsystems and components that integrate it.

The conceptual delimitation of independent knowledge management is based on the fact that it is not defined in this way in the scientific literature consulted. The latter is defined as a psych-didactic process oriented to the autonomous and self-regulated performance of the student to plan, implement, control, and evaluate the actions and conditions that allow him/her to obtain knowledge efficiently, through creative professional practices, oriented toward problem-solving, leadership development and the capacity to innovate and investigate; applying the theoretical and practical elements corresponding to his/her professional performance modes.

For this research, the didactic model will be understood as the representation made of the research object to solve the research problem, as an instrument to optimize the process, which takes into account the place of the teacher, the students, and the school group, in dialectical interaction with the other didactic components of the teaching-learning process of the FFPE discipline, as a necessary condition to favor the learning of the content as a result of the independent management of knowledge, which in turn arouses the student's protagonism in their formative and professional activities.

The didactic model of independent knowledge management with a professional approach is a model whose nature is systemic, as evidenced by the structural-functional interrelation established between the subsystems of Cognitive-process conditioning, Logical-cognitive reconstruction, and Cognitive regulation, which in their dynamics make possible the relevance and effectiveness of the process.

The proposed model has the following characteristics: it is based on the result of the systematization of the conceptions that constitute the epistemological basis for the study of the object and the considerations derived from its diagnosis; it is intended to explain, from its specificities, the independent management of knowledge with a professional approach and is conceived from the logic and dynamics of the relationships between teaching methods, didactic resources, and learning tasks that occur in the process.

In relation to the above, the particularities of the teaching-learning process of the discipline are taken into account, in the course of the historical evolution of the Bachelor's degree in education. Pedagogy-Psychology. The model has a didactic content in that it characterizes the relationship between the components of the teaching-learning process through the didactic-methodological treatment of the content of the FFPE discipline in the curriculum, concerning the independent management of knowledge. It also provides an integral vision of the process based on the functions and relationships between its subsystems and constituent components.

The model is built based on the results of research related to the teaching-learning process in general and in particular of pedagogical careers and Pedagogy-Psychology, among which authors such as: Vivero (2013), Tiá (2014), Sánchez (2014), Calzado(2015), Manchón (2015), Rojas (2015), Ramírez (2016), Torres (2016), Torres (2016), Aldana (2017), Román(2019), Piñeiro (2019), Jerez (2020), Frutos (2021), Moncayo (2022), among others. The relationships between the subsystems and components that characterize the structure of the model reflect a new theoretical interpretation, as an epistemic manifestation that arises between these, and allows describing and explaining, based on the principle of gradual derivation, characteristic of any system, the relationships mentioned above.

In the relationships established among the components of the logical-cognitive reconstruction subsystem, the objective-content-organizational form relationship is privileged as a component of the teaching-learning process. In this way, a projection based on the described relationships enhances the transit through different levels of complexity and assimilation, focuses attention on the task and the structuring of the teaching-learning process towards the active search for knowledge by the students, taking into account the actions to be performed by them through the theory-practice link, and enables the transit from dependence to independence, based on the identification of needs, as requirements of a developmental teaching-learning process.

Cognitive-process conditioning, as it has a prognostic function, enables the achievement of greater independence in knowledge management by the student, as it is mediated in its execution by the use of different ways that enhance the protagonism in the execution process; in this way, the relationship with the

subsystem Logical-cognitive reconstruction is established, whose activating significance is the feature that typifies the orientation of teaching tasks of independent work that promote meaningfully and protagonist learning of students, both from the point of view of knowledge and experiential affective relationships, through regulatory reflection given in the context of professional performance, from the use of the research method of reflective cooperation.

The research method of reflective cooperation is considered a way to plan and structure the teaching-learning process of the discipline Physiological and Psychological Foundations of Education. From its implementation, the students' transit to a higher level of cognitive independence is favored, as the didactic procedures that conform to it, favor the development of the student's capacity to independently manage the knowledge of the theoretical and methodological aspects of the content of the subjects of the discipline(Miguel Medina Romero et al, 2021).

This is aimed at the student, with the teacher's guidance, to develop cognitive, motivational, and attitudinal skills to solve independent work teaching tasks focused on the professional model. This contemplates an analysis and reflection on its content and solution, in a given context of action, through the fulfillment of certain steps of the research process and the use of work and research methods of science in particular, through collaboration and cooperation.

Its fundamental purpose is that the student performs independent activities that contemplate innovation and research to obtain knowledge of a particular topic or content and as a way to solve problems of the profession, from the content of the discipline. It is aimed at complementing other methods and procedures used in the teaching-learning process of the subjects of the discipline, and according to its flexible character, it can be implemented in other disciplines of the curriculum of the career.

The procedures of the research method of reflective cooperation include actions to be carried out in the teaching-learning process, during the different organizational forms and typologies of classes, which promote the development of skills in students for the independent management of knowledge, so that they are able by themselves, to search, organize, create and use knowledge through the performance of independent teaching tasks, which contemplate the relationships with the content of the profession, according to the model of the professional.

In this sense, it is important to recognize the individual character of the independent management of knowledge, since in this process the student shows the development reached in his cognitive-intellectual and affective-emotional spheres, and it is through the professional training activity that intensive development of the young person's conception of the world takes place, which radiates its influence on all the other aspects of the personality structure.

In this way, the tasks must be formulated taking into account the motivation, the significance of learning given by its social value, personal expectations, and transcendence, to favor decision making, responsibility, and the active position of the student before learning and his professional practice.

Its value and novelty are justified by the need to innovate teaching methodologies to obtain superior results in the learning of the contents of the FFPE discipline of the Pedagogy-Psychology career, and it is based on the role of the teacher as designer and creator of the activities and sequences that integrate this process and tries to act as a guide for it, however, the student must be the one who acquires the maximum protagonism.

At all times, it will be ensured that the student's involvement is active, using the necessary resources, activities, and proposals. From its conception, the professional protagonism of the students of the career is favored, attending to the articulation of this with the capacity to develop their initiatives, to make decisions and self-determination in the obtaining of knowledge of the discipline and its application in the solution of independent teaching tasks.

The first step for its application is to carry out a correct analysis of aspects such as:

- In students: the development of the cognitive processes that are activated in learning, the prior knowledge they have of the theory of the subjects, the development of research skills, the development of communication skills, and group cooperation.
- In the teachers: the theoretical and methodological preparation achieved and the experience they have in teaching in the discipline.
- In the subjects: the possibilities of their implementation, according to their objectives and contents in each of the years, the establishment of objective-content-method-didactic resources relationships, evaluation, etc.

The proposed procedures are flexible and can be reorganized and reconceptualized according to the creativity of the teachers, the needs, interests, and motivations of the students, and the progress they make in the development of independent knowledge management skills.

According to the organization of the discipline, the method is feasible to apply from the first year of the course, in the subject of General Psychology, which will enable the approach of students to the particularities of the professional model, and the involvement of the contents of this subject in the solution of professional problems, so that in the treatment of the content the relations with the future professional performance should be established.

From this approach, the following are presented as didactic procedures that are part of the research method of reflective cooperation: preliminary inquiry, concretion of strategies, dissemination, transmission and transfer of results. This process is characterized by complying with the requirements of the developmental teaching-learning process, as it responds to a structuring of the process towards the active search for knowledge through reflective actions that stimulate thinking and independence, promote constant motivation towards the learning activity and towards the profession, develops forms of collective activity and communication achieving the interaction of the individual with the collective, making possible the attention to individual differences and the transition towards higher levels of

development based on the requirements of the professional's profile. In the relationships established between the components of this subsystem, the objective - content - organizational form - method relationship is privileged as a component of the teaching-learning process.

In the process, a dialectic relationship between the processes of execution and evaluation can be appreciated insofar as the latter fulfills functions inherent to the activation of learning by constantly provoking the evaluation of the results of the process in a general sense, as well as of each student in a particular way, for which it is necessary to use in the process of verification and feedback, teaching tasks of independent work derived from the use of the resources and methods used in the process of activation of learning.

In this way, Cognitive Regulation propitiates, based on self-knowledge, the analysis of the results derived from the independent acquisition of knowledge through continuous reflections and critical corrections that progressively favor personal and professional growth. This subsystem is integrated by the following components: Metacognitive reflection and cognitive self-regulation.

The Metacognitive Reflection component is the process that favors, based on metacognitive processes, the critical analysis and awareness of the cognitive processes that are developed for the independent acquisition of knowledge in terms of their efficiency, the development of learning tasks and the strategies to be deployed to improve performance from the personal and professional point of view. It has an evaluative function.

From this point of view, it is necessary to take into account the metacognitive structuring of the process of independent knowledge management with a professional approach, as it is a process aimed at the student discovering the procedures that facilitate and hinder the internalization-subjectivation of the content of the FFPE discipline, as a result of self-knowledge, self-concept and self-acceptance, based on the reflection on himself, his thoughts, emotions and behaviors, mediated by the guidance exercised by teachers and other students in terms of their professional protagonism.

It promotes reflection and analysis on the way they learn different subjects and contents and develops cognitive skills and strategies in students based on the achievement of the learning goals outlined in the content of the subjects of the discipline. This component favors the subjectivation of the content of the FFPE discipline through the awareness of the personal, social and professional meaning and the internalization of the "I", to favor the professional protagonism and reveal the self-valorizing possibilities of the student on the knowledge and control of their cognitive processes and products, concerning such content.

It is for this reason that it takes into account the knowledge of one's cognitive strengths and weaknesses, related to the tasks that are executed, knowledge of the degree of difficulty they represent, the level of information possessed to perform them, the development or not of the skills they require, as well as the strategies used to solve problems, to regulate behavior, to identify successes and errors, to interpret the information, to provide feedback on the behaviors assumed

and their correction.

Metacognitive reflection about independent knowledge management expresses the relationship between what the student wants to learn and what he/she must do. It enables students to become aware of the procedures for the solution of independent work teaching tasks, the means and ways by which they are carried out, and their products. In another order of analysis, any act of metacognitive reflection regulates the posing of problems with the performance of independent work teaching tasks, the search for their solution, and stimulates the posing of hypotheses about the causes of these problems, as well as the correction of their evaluation.

Reflection makes it possible for the student to be able to submit to the analysis of his actions regarding independent knowledge management and to pose hypotheses in an organized way, with a precise direction for the confrontation and solution of the different situations that in the personal, professional and social order are presented in this area, which is why the teacher in the orientation of the process of independent knowledge management with a professional approach, requires stimulating the conventional differentiated forms of reflection: intellectual reflection and personal reflection.

Consequently, teachers are required to develop students' metacognitive reflection on the content of the FFPE discipline, to promote a position of an observer, analyzer of professional experiences from the experiential, both individual and collective, data collection and detailed analysis before reaching a decision; in short, to assume a leading professional position from reflective thinking.

The process of metacognitive reflection on the content of the FFPE discipline is favored through a continuous spiral of reflection-action, which is supported by four moments: planning, action, observation, and reflection, based on professional situations. This process gives students the possibility to make amendments to the plan, if necessary, to start the execution again, until the transformation of their professional modes of action is achieved. In this way, a process of reflective practice takes place, in which the unity between professional practice and the process of personal construction that generates the independent management of knowledge is revealed.

From this perspective, it is required that independent knowledge management with a professional approach harmoniously integrates teaching-learning methods. These elements offer the possibility of responding to the current demands of self-management of knowledge, problematization, integration, and development, based on personal and professional growth. In this way, the following methods are significant: problem-solving exposition, partial research, the investigative method, and heuristic conversation; in this case, the investigative method of reflective cooperation.

To the extent that students can reflect on the results of their activity, they will be in a better position to evaluate and make corrections on their cognitive activity, actions that are inherent to cognitive regulation and self-regulation.

Cognitive self-regulation is the process that propitiates, based on the student's self-knowledge and continuous reflective processes, the evaluation, and correction of the processes he performs to obtain them, as well as of his knowledge, through skills and strategies that involve him personally from self-knowledge, self-assessment, and self-evaluation in the transition from dependence to independence, both in the personal and professional order.

Cognitive self-regulation based on the content of the FFPE discipline as a result of the independent management of knowledge with a professional approach is generated by two sources: the cognitive one on the referred content, which emanates from the encounter, from the interaction of students in professional practice and with themselves, with new questions that form a chain until reaching the answer, leading them and keeping them focused on the creation of alternatives to unravel the relationships that arise in the professional and personal spheres.

On the other hand, self-motivation and feelings of self-efficacy allow them to value and understand their capacities, organize and undertake the necessary actions to reach a certain degree of skill or ability in their formative activities, and continue deploying resources that lead to professional protagonism based on their expectations and intellectual reserves. The above elements require teachers to pay attention to the relationship that manifests itself in the process of independent knowledge management with a professional approach between the active character of the regulatory function, the unity of the conscious and unconscious levels, and the unity of the cognitive and affective levels.

Promoting the active character of the regulatory function enables students to self-direct independent knowledge management with a professional approach. The fact that independent knowledge management with a professional approach enables students to regulate their activity, taking into consideration not only external influences but also their personality qualities, makes the regulatory function be characterized as self-regulation and the determination of their life with this activity is expressed as self-determination.

In another order, the regulatory function in the independent management of knowledge with a professional approach occurs with the participation of the conscious and non-conscious in unity. Students are aware of the interactions that occur in the university context, to this same extent they are aware of themselves, of how the internal processes involved in this process occur. This allows them to consciously self-regulate their activity, and influence and transform the context of action, as well as their person. In this lies essentially the conscious character of students' self-regulation in the independent management of knowledge with a professional approach.

Cognitive self-regulation based on the content of the aforementioned discipline is manifested in various forms: in the reflections that the student makes of the conditions of the teaching process itself and the educational reality, which makes it possible to become aware of those aspects on which they should orient their activity to modify it in ways desired by them; in their reflections on their personality, their positive and negative qualities.

A distinctive aspect of the regulating and self-regulating function of the independent management of knowledge with a professional approach is the level reached by the unity of the affective and the cognitive, as an essential and basic principle, as it enables the development of self-control, self-learning, self-reflection, self-regulation, from the systematization of the contents of the FFPE discipline through the solution of different tasks.

The above analyses reveal the coordination relationships between the components of Metacognitive reflection and cognitive self-regulation on the content of the referred discipline in the independent management of knowledge with a professional approach, when considering the orientation towards the elements of self-knowledge, from self-knowledge, self-concept, and self-acceptance, as essential for the development of the ability to analyze and become aware of the independent activity from the planning, control, use of feedback and relevant evaluation of this process.

The regulation and self-regulation of the process of independent knowledge management with a professional approach is based on the establishment of result patterns, defined as the achievements and goals that have been structured as expectations for the student based on their references and that are delimited in the program and the methodological orientations of the subjects of the discipline, based on what is established in the Professional Model. In the establishment of patterns of results, both by the teacher and by the student, the relations objective - content - form - method - evaluation are present, given the content, both in its gnoseological and professional dimension, since it takes into account the professional being trained; the evaluation, as a component of the process, materializes the regulation of the process and in turn, the latter becomes a function of the evaluation.

The difference between the student's pattern of results and that of the teacher lies in the fact that the teacher starts from what is given to him/her in general from the subject program or his/her criteria on it, specified in the first subsystem. In any of the previous cases, the objectives and contents of the teacher have a general and encompassing character, while for the student the content is singular, it is what he interprets or what comes to him in the process and that he constructs concretely.

In both cases, the solution to the contradiction between objective and content is achieved through the pattern of results, both in terms of those established by the teacher and those established by the student. It is important to bear in mind that in the teaching-learning process of the subjects of the FFPE discipline, the establishment of patterns of results is not only referred to the learning results, but also to the development of skills to learn and to achieve the transition from dependence to independence as a characteristic of a developmental process. In this way, a close relationship is established between the processes of heteroassessment, co-assessment, and self-assessment.

Heteroassessment, seen in isolation, does not correspond to a participatory and non-directive evaluation model, so it should be carried out in close relation to co-evaluation, which focuses on the interaction between the subjects participating in

the process so that the pattern of results provided by the teacher in general and constructed by the student in singular terms is socialized. The dialectic between the external and the internal acquires a special significance in co-evaluation.

Although the external prevails, the internal evaluation has a greater significance when the pattern of results is questioned by each subject. Co-evaluation favors the elaboration of a pattern of results that is socialized by the group, constituting an intermediate, particular level between the general the categories with which the teacher works and the singular the objectives and contents of each student, in such a way that there is a dialectic between the general in which the teacher works, the particular of the pattern negotiated in the group and the singular of each student.

This group perspective in the process of regulation and self-regulation favors the participative character of the student in the learning process in the discipline through his forms of realization (individual and group) and his evaluation, in a particular way through the general process, in which the process of socialization is fundamental. As the objectives are expressed in terms of solutions to professional problems, to solve them, methods are required that encourage the active and non-directive participation of the student and through which they solve those identified with the professional problems, in this case, the investigative method of reflective cooperation has been referred to (Miguel Medina Romero, 2020).

Cognitive Regulation of learning synthesizes the results of the processes of procedural cognitive conditioning and cognitive reconstruction of independent knowledge management with a professional approach. Its efficacy, efficiency, effectiveness, and pertinence are determined, as elements that distinguish its value for the professional's training. Self-evaluation, besides being considered a quality, is also an objective that transcends the school environment, since it is the most genuine expression of the independence achieved as a quality of the personality and that is manifested in the different contexts in which the student develops, in this particular case, in the solution of professional situations.

Self-evaluation takes into account not only the student's evaluation of the results of the solution of the tasks but also the teacher's evaluation, from a critical point of view, of the form and results of this activity. The self-evaluation propitiates the passage to higher levels, in a successive way, of the heteroevaluation and the repetition of the processes of co-evaluation and self-evaluation. From this point of view, the unity between the processes of metacognitive reflection and self-regulation is enhanced, since an important aspect to achieve reflection is the fact that the teacher involves the student in a process of evaluative control of his actions for the independent management of knowledge. When the student learns to control and evaluate what he learns, he will be able to correct, and readjust the mistakes he makes, and regulate his activity to improve the quality of his results; his active, reflective, regulated performance is guaranteed in terms of his actions.

The relationships between these components emerge as a quality resulting from the component: the subjective involvement of the content of the FFPE discipline in the independent management of knowledge with a professional approach, which

expresses the students' ability to generate knowledge, skills, feelings, attitudes, and values associated with this process, from the application of methods that promote the conscious and interactive nature of the process and is manifested in the personal involvement, active, effective and strategic involvement of the students, in the development of the capacity to establish judgments, evaluations on their contents and processes, to know what they want to achieve, how they achieve it, when and in what concrete conditions the resources they have to achieve it are applied. This enables the planning, control, evaluation, and pertinent correction of the activities associated with independent knowledge management.

As a result of the processes of metacognitive reflection and cognitive self-regulation related to the content of the discipline, students will be able to assume responsible behaviors in the solution of problems related to the exercise of the profession, through the integration of processes of self-reflection, self-regulation, self-determination and self-education, which begin to develop from the subsystem Procedural cognitive conditioning.

When considering the model as a systemic totality, it is necessary to specify that its subsystems and components, which become subprocesses of the process being modeled, are characterized by dynamic relationships that stimulate the independent management of knowledge with a professional approach based on the students' protagonism to face professional problems. They show functional relationships of coordination and, at the same time, relative independence, which is expressed in hierarchical levels in each one at determined moments, starting from the specific objectives of the professional's Model, as well as functional relationships of subordination concerning the system as a whole, which demonstrates the recursiveness.

For the concretion of the scientific result of the research, the methodology is used, since its conception is considered essential for the prescription, indication, and standardization of the procedure in the field of teaching and learning, in this case, to guide the independent management of knowledge with the professional approach of the students of the Pedagogy - Psychology career, starting from the conception of independent work, through the subjects of the discipline Physiological and Psychological Foundations of Education (FFPE). The proposal is based on a sequence of phases and stages that allows for guiding the pedagogical practice in these subjects and can also be adjusted to any type of theoretical model.

For the preparation of the proposal, the characteristics of the FFPE discipline are taken into consideration, starting from its location in the study plan, its objectives, topics, and fundamental contents. These are taught from the first to the third year of the course. The discipline is preceded by Philosophical and Pedagogical Foundations of Education and is taught simultaneously with the disciplines of Didactics and Curriculum, Educational Guidance, and Methodology of Educational Research.

In the elaboration of the methodology, it is assumed that it allows the improvement of the methods to develop cognitive independence and solves the

contradiction between the level of knowledge acquired by the student and the possibilities of its application in the professional activity, in correspondence with the demands of the current pedagogical model of Higher Education. In its conception, it is aimed at the basic training level, emphasizing the FFPE discipline, from the stages devised concerning the didactic conception for the management of independent work and its contribution to the training of the professional of the aforementioned career (Widana et al., 2020).

Regarding the second level, the elements that characterize these subjects in terms of their objectives and contents are taken into account, related both to the level of cognitive independence and professional training, which in turn requires, among other aspects, a high level of independence both in the learning of theoretical aspects and in the solution of professional problems. The conceptual foundation of the methodology is based on the stages in which it is structured: projection, implementation, and evaluation of independent knowledge management with a professional approach.

Conclusions

The cognitive regulation of the independent management of knowledge in the formation of the psycho-pedagogue considers the character of the discipline Physiological and Psychological Foundations of Education in the process of formation of the professional of the Bachelor's degree in education Pedagogy - Psychology, from a developmental position. The activation of the teaching-learning process is a necessary condition to achieve the cognitive regulation of the independent management of knowledge with a professional approach, based on the relationship established between the interactive nature of the process, the developmental nature, and the effectiveness of the training of professionals according to the objectives of the professional's model.

The cognitive regulation of the independent management of knowledge in the training of the educational psychologist facilitates that students can assume responsible behaviors in the solution of problems related to the exercise of the profession, through the integration of processes of self-reflection, self-regulation, self-determination, and self-education, as configurators of the behavioral regulation.

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