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Pedagogical strategy for initial research training of speech therapist teachers

Estrategia pedagógica para la formación inicial investigativa de maestros logopedas

Estratégia Pedagógica para a Formação Investigativa Inicial de Professores Fonoaudiólogos

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ABSTRACT

Given the essence of his mission, the speech therapist teacher is a researcher of communication and language processes in the school and community context. For this reason, it requires quality research training from undergraduate for successful professional performance. The purpose of the article is to socialize among researchers on the subject and teachers of Higher Education a pedagogical strategy for the initial research training of students of the Degree in Speech Therapy Education. Among the theoretical methods, the analytical-synthetic, the inductive-deductive and the system approach were used; as empirical methods the documentary analysis, the analysis of the products of the activity, the survey of students and teachers, and scientific observation. In addition, descriptive statistics and percentage analysis were used to process the data obtained with the application of the instruments during the diagnostic stage. The research carried out revealed as more significant results the identification of the problems, which in the dimensions of research training design in the career, pedagogical group and students, limited the initial research training of speech therapists at the University of Sancti Spíritus José Martí Pérez. Based on the theoretical analyzes carried out and the results of the diagnosis, a pedagogical strategy described in the diagnostic, strategic planning, implementation and evaluation stages is proposed. The pedagogical strategy contains actions and operations, which contribute to a systemic, systematic, contextualized, personalized, mediated and initial motivated investigative training of speech therapists. The proposal is susceptible to adaptation for other pedagogical careers.

Keywords: Higher Education; pedagogical strategy; research training; speech therapist; teacher; undergraduate.

RESUMEN

Dada la esencia de su misión, el maestro logopeda es un investigador de los procesos de la comunicación y el lenguaje en el contexto escolar y comunitario; por ello, requiere una formación investigativa de calidad desde el pregrado para un desempeño profesional exitoso. El artículo tiene como propósito socializar entre investigadores del tema y docentes de la Educación Superior una estrategia pedagógica para la formación inicial investigativa de estudiantes de la Licenciatura en Educación Logopedia. Se emplearon entre los métodos teóricos: el analítico-sintético, el inductivo-deductivo y el enfoque de sistema; como métodos empíricos: el análisis documental, el análisis de los productos de la actividad, la encuesta a estudiantes y profesores, y la observación científica. Además, se usó la estadística descriptiva y el análisis porcentual para el procesamiento de los datos obtenidos con la aplicación de los instrumentos durante la etapa de diagnóstico. La pesquisa realizada develó como resultados más significativos la identificación de las problemáticas, que en las dimensiones diseño de la formación investigativa en la carrera, colectivo pedagógico y estudiantes, limitaban la formación inicial investigativa de maestros logopedas en la Universidad de Sancti Spíritus "José Martí Pérez". A partir de análisis teóricos efectuados y de los resultados del diagnóstico, se propone una estrategia pedagógica descrita en las etapas: diagnóstico, planeación estratégica, implementación y evaluación. La estrategia pedagógica contiene acciones y operaciones que contribuyen a una formación inicial investigativa sistémica, sistemática, contextualizada, personalizada, mediada y motivada de maestros logopedas. La propuesta es susceptible de adecuación para otras carreras pedagógicas.

Palabras clave: Educación Superior; estrategia pedagógica; formación investigativa; logopeda; maestro; pregrado.

RESUMO

Dada a essência de sua missão, o professor fonoaudiólogo é um pesquisador dos processos de comunicação e linguagem no contexto escolar e comunitário; portanto, requer formação em pesquisa de qualidade desde a graduação para o desempenho profissional bem-sucedido. O objetivo do artigo é socializar entre pesquisadores do tema e professores do Ensino Superior uma estratégia pedagógica para a formação investigativa inicial de alunos do Curso de Licenciatura em Fonoaudiologia. Dentre os métodos teóricos utilizados estão: o analítico-sintético, o indutivo-dedutivo e o sistema de abordagem; como métodos empíricos: análise documental, análise dos produtos da atividade, levantamento de alunos e professores e observação científica. Além disso, utilizou-se estatística descritiva e análise percentual para processar os dados obtidos com a aplicação dos instrumentos durante a etapa diagnóstica. A pesquisa realizada revelou como resultados mais significativos a identificação dos problemas, que nas dimensões do desenho da formação investigativa na carreira, grupo pedagógico e alunos, limitaram a formação investigativa inicial dos professores fonoaudiólogos da Universidade de Sancti Spíritus " José Martí Pérez". Com base nas análises teóricas realizadas e nos resultados do diagnóstico, propõe-se uma estratégia pedagógica, descrita nas etapas: diagnóstico, planejamento estratégico, implementação e avaliação. A estratégia pedagógica contém ações e operações que contribuem para uma formação inicial investigativa sistêmica, sistemática, contextualizada, personalizada, mediada e motivada de professores fonoaudiólogos. A proposta é suscetível de adaptação para outras carreiras pedagógicas.

Palavras-chave: Ensino Superior; estratégia pedagógica; formação investigativa; terapeuta da fala; professora; estudante universitário.

INTRODUCTION

The development of today's societies is increasingly based on knowledge, since the increase in productivity, competitiveness and income are perceived as a result of the creation, production and application of knowledge. Knowledge societies require research universities that include among their essential missions the production, transmission of knowledge and training of new researchers, both undergraduate and postgraduate (Rojas & Aguirre, 2015) .

These reflections apply to teacher training. The complexities of the process of formation of the personality of the learner increase the demands on teachers. Its functions are expanded and social aspirations are focused, both on the training of the student and work with the environment. There are three basic functions that are recognized to the teacher: teaching-methodological, guidance and research. The latter is of crucial importance, since it allows the teacher to critically reflect on the development of the rest of the functions and the search for solutions to problems of their reality through science, research and innovation.

The teacher must be a student of the science that he teaches and of the sciences of education in general; In addition, it must contribute to the development of these sciences, to the extent of its possibilities. Universities must forge in students of pedagogical careers knowledge, skills and investigative attitudes from undergraduate so that, once graduated, they can successfully develop the tasks of the investigative function.

Undergraduate research training is transversal to the curriculum; that is, it is not the responsibility of a single discipline. All the disciplines of the career study plan contribute to the formation of scientific-investigative knowledge, skills and attitudes. In the words of Márquez *et al.* (2017) "The teacher in his

initial training must lay the foundations for an inquiring and reflective attitude about his practice, as well as to obtain the essential investigative skills within the same curriculum" (p. 77).

Different authors have contributed to the subject. Their studies allowed us to arrive at the essential elements for a definition of initial research training:

- It is a continuous process that articulates undergraduate and extends to later stages of professional training (Alfonso-Morejón, 2015).
- It prepares the future professional to perform a research function (Chirino, 2012; Guerrero, 2007 ; Núñez-López *et al.*, 2018).
- It is directed by the pedagogical group in the teaching-learning process, interrelating different levels of systematicity from the career, the year, the discipline, the subject (Chirino, 2012; Guerrero, 2007; Parés *et al.*, 2018; Nunez Lopez *et al.*, 2018).
- It needs the student's link with the real contexts of action for the solution of professional problems (Guerrero, 2007; Alfonso-Morejón, 2015; Machado, 2017; Parés *et al.*, 2018; Núñez-López *et al.*, 2018; Domínguez & Rojas, 2018).
- It favors the appropriation and development of knowledge, skills, capacities and values of scientific-research activity (Chirino, 2012; Guerrero, 2007; Nunez Lopez *et al.*, 2018)
- Its degree of development is revealed when students appropriate modes of action (Nunez Lopez *et al.*, 2018).
- It enables the interpretation, foundation and creative transformation of reality (Chirino, 2012; Guerrero, 2007; Alfonso-Morejón, 2015; Machado, 2017; Pares *et al.*, 2018; Dominguez &

Rojas, 2018; Núñez-López *et al.*, 2018).

It is convenient to note that the authors propose different denominations, such as: research training, scientific-research training and initial research training, to generally refer to the process of appropriation and development of knowledge, skills and attitudes of educational research, which allow the undergraduate student to solve problems detected in their educational reality.

Within the wide range of pedagogical careers, in the Degree in Speech Therapy Education, initial investigative training acquires special relevance. This fact is based on the fact that the investigative function of the speech therapist teacher subsumes and crystallizes the rest of the functions. Part of the fact that the ability to investigate constitutes one of the professional skills, along with diagnosing, directing and communicating. The essence of the methodological teaching function of the speech therapist teacher is the investigation of the communication and language of children, adolescents, young people and adults, both in the educational center and in the communities. The function of guidance to the family, teachers and community agents that the speech therapist performs is based on the study of the subjects themselves, their needs and interests, so that they support the work of stimulating communication and language, as well as prevention, correction and compensation of its alterations.

Taking into consideration the analyzes of different authors about the initial investigative training and the particularities of the training model of the speech therapist teacher, it is defined that the initial investigative training of the student of the Degree in Speech Therapy Education is:

...a dialectical, mediated and differentiated process of appropriation of contents of Educational Research Methodology, Speech Therapy and other educational sciences, which allow the undergraduate student to seek creative solutions to professional problems related to stimulation, prevention, correction and compensation for communication and language disorders, as well as guidance for teachers, families and community agents, during their work practice.

The initial training in the current moments of the training of the speech therapist teacher is inserted in the Study Plan E, which although with few years of implementation shows a group of achievements proven in practice. They can be highlighted: the disciplinary approach with an articulating axis of the Integrating Main Discipline Labor and Investigative Training (DPIFLI); the flexibility of the curriculum, with the integration of basic, own, optional and elective subjects; as well as the recognition of an initial formation based on the conjugation of the substantive processes of the university. "This translates into the ability to solve professional problems under a holistic and interdisciplinary approach, as well as a more accurate vision of the problems and characteristics of Early Childhood Education in Cuba" (González & Llanes, 2018, p. 58).

Although the investigative training in the undergraduate career shows improvements from this new conception of the study plan, which establishes ways for training from the different disciplines of the curriculum and its extension to extracurricular activities, in the educational reality difficulties persist that indicate a gap between social aspirations and the quality of initial research training.

The analysis of coursework and diplomas, of reports from the Main Integrative Discipline of Investigative Labor Training (DPIFLI), observations of the teaching-learning process, interviews with students and the pedagogical group of the Degree in Speech Therapy Education at the University of Sancti Spíritus "José Martí Pérez", allow us to verify essential contradictions that occur between: educational theory and practice, between the need to train the student in, for and through research, so that they can dominate the investigative process, assume attitudes favorable to use of the scientific method to solve the problems of their future profession, acquire and develop general and specific investigative skills, and the reality of their investigative training.

Due to the above, this article has as its main objective: to socialize among the community of researchers and pedagogues a pedagogical strategy for the initial investigative training of students of the Degree in Speech Therapy Education.

MATERIALS AND METHODS

Regarding the methodology, a dialectical materialist approach was assumed, which gives rise to an alternative flexible and contextualized solution, susceptible to scientific verification. Analysis and synthesis were used as theoretical methods in determining the characteristics of the initial investigative training in the Degree in Speech Therapy Education, to find regularities in the diagnosis of the real state of training; as well as to determine the stages and actions of the pedagogical strategy and the relationships established between them. Induction and deduction methods were also used, which made it possible to analyze and process the information obtained, both theoretical and empirical, for the assessment of the real situation of the problem and the elaboration of the strategy. The system approach made it possible to relate the needs detected in the

diagnosis and the design of the pedagogical strategy; In addition, to establish the relationships of coordination, subordination and dependency between the stages and actions.

Among the empirical methods, the analysis of documents was used, which was applied in the review of the normative documents of the career and the ministerial resolutions that address the process of professional training, also in the analysis of the academic records of the students and reports. balance of the DPIFLI and the career group, with the purpose of verifying the state of the main indicators for the diagnosis. Observations were made to acts of defense of course work and diploma; analysis of the products of the activity, since the quality of the reports of the investigative work of the students and of applied integrative exercises was verified; In addition, questionnaires were applied to students, tutors and teachers.

With the intention of processing and analyzing the information collected in the diagnosis, descriptive statistics were used, by using the frequency distribution of the values obtained in each indicator. The percentage analysis of the data obtained was applied.

The population was made up of 43 students of the daytime course, fourth and fifth years of the Bachelor of Speech Therapy Education degree at the University of Sancti Spíritus "José Martí Pérez". A sample of 19 students, representative of 44.2% of the population, was selected by simple random sampling.

The same procedure was used to select a sample of tutors and courts of acts of defense of the investigative work, made up of 22 professors from the pedagogical group of the career, selected from a population of 36 professors, which represents 61.1%.

RESULTS

The consistent application of the aforementioned methods allowed an assessment of the initial investigative training in the Degree in Speech Therapy Education, in three specific dimensions: design of the initial investigative training in the career, pedagogical group and students. The main results are expressed below (Márquez *et al.*, 2018).

Design of the initial investigative training in the career

The design of the initial investigative training in the career fully reached a mid-level evaluation. The requirement to incorporate basic subjects to the Study Plan E in the sixth and seventh semesters is highlighted, which allow the continuity of training in the contents of Educational Research Methodology. Also, the need to assess the distribution of work practice hours assigned to the different disciplines of the curriculum that facilitate interdisciplinarity. The levels of integration and systematicity in the career, discipline and year groups for research training are limited. Tutoring is properly organized, tutors are assigned at the university and at the labor entity, who accompany the students throughout the degree; The ways to establish the link between both tutors for the design, organization, execution and control of said training are not explicitly defined. Table 1 summarizes, succinctly, the results of the evaluation obtained by the indicators of the design dimension of initial research training.

Table 1- Evaluation by indicators of the design of the initial research training

Indicators	Evaluation
Curricular and extracurricular design	Medium level
Tutoring Implementation	High level
Integration of methodological levels	Medium level

University-employment relationship	Medium level
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Pedagogical collective

The pedagogical group of the career got a high-level comprehensive evaluation. The scientific and teaching quality of the professors and tutors of the university career is highlighted, as well as the prestige and experience of the tutors in the labor entity. An imbalance can be seen regarding the mastery of content: most of the university tutors have a better command of Research Methodology than of the Speech Therapy specialty, the reverse occurring with respect to tutors in the labor entity. In both cases they show an attitude in favor of professional improvement. Teacher-student relationships are frequent, respectful and cordial. Table 2 shows the results of the evaluation obtained by the indicators of the collective pedagogical dimension.

Table 2- Evaluation by indicators of the collective pedagogical dimension

Indicators	Evaluation
Preparation in contents of educational research	High level
Preparation in speech therapy research content	Medium level
Teacher-student relationship	High level

Student

The student dimension obtained a medium level comprehensive evaluation. The indicator referring to the mastery of the knowledge of the Educational Research Methodology, speech therapy science and other related sciences, achieved better results; while the training of general skills, educational research and speech therapy research, as well as the development of personal qualities only medium level. Of the skills, those that express a better development are those of the specialty and, to a lesser extent, general skills and educational research. The career student has

a limited interest in initial research training; Although he is organized and tolerant, he manifests himself very dependent on the guidance of the tutor. The levels of flexibility in the direction of their investigative work, as well as the creativity and originality of the solution proposal, are not what it was expected. Table 3 shows the results of the evaluation obtained by the indicators of the Student dimension.

Table 3- Evaluation obtained by the indicators of the Student dimension

Indicators	Evaluation
Knowledge of Educational Research Methodology, Speech Therapy and other related sciences	High level
Training of general skills, Educational Research and speech therapy research	Medium level
Development of personal qualities	Medium level

After determining the real state of the process of initial investigative training of the students of the Degree in Speech Therapy Education at the University of Sancti Spíritus "José Martí Pérez", the pedagogical strategy was designed.

The proposed pedagogical strategy is based on the characteristics of initial investigative training, which in the opinion of the authors of the article are: systemic, systematic, interdisciplinary, personalized (contextualized, motivated and mediated).

Stage I. Diagnosis

The strategy is based on the results of the diagnosis of the state of the initial investigative training of the students of the career. For the diagnosis, the criteria of the professors in the central headquarters, tutors of the labor entity and the self-evaluation of the students of the career, based on surveys, are considered. The results of the instruments are triangulated in

order to detect the common criteria that show the limitations and potentialities.

Stage II. strategic planning

Based on the results of the diagnosis and to achieve the proposed general objective, the following algorithm is followed in the planning stage:

- To determine the tendencies and peculiarities of the initial investigative formation in the students;
- Hierarchize, so that it reflects in order of priority, those that are most representative and significant of the diagnosed population and that can be soluble according to the pedagogical potentialities of the group, the conditions, means, resources and other possibilities; that is, to consider the strengths, weaknesses, opportunities and needs

At this stage it is decided to divide the actions towards the spheres: academic, labor, research and extension, determining actions, both for the student group and for the pedagogical group, based on the work of the year group and the actions of the rest of the methodological levels.

The proposed system of actions is described below:

Action No. 1. Characterization of the state of the initial investigative training of the students of the career

Objective: to characterize the state of the initial investigative training of the students of the Degree in Speech Therapy Education.

Responsible: pedagogical group and student of the year.

The operations to execute for the development of the action are:

- Analysis of the documents of the pedagogical delivery process of the year (for the second, third and fourth year), which includes the individual characterization of each student, in order to obtain a reference to the state of the initial investigative training (results of integrative exercises, participation in events, participation in student scientific groups, line of research, attitudes and motivations towards research, etc.).
- Design and application of a survey to teachers about the particularities of the initial research training process of students (first to fourth year).
- Design and application of a survey to students about the particularities of the process of their initial research training (first to fourth year).
- Comparison of the information obtained from the application of the instruments.
- Elaboration of the characterization of the students on the results of the initial investigative training, determining potentialities and educational needs in a particular and differentiated way, as well as the priorities of the pedagogical work for each case.
- Socialization of the characterization in the pedagogical and student group of the year.
- Inclusion, in the individual and brigade strategy, of specific actions for the initial investigative training of students, in a differentiated way, according to academic year, respecting the leading role of the student himself in determining his commitments.

Action No. 2. Curriculum analysis for the initial investigative training of the students of the career

Objective: to determine by disciplines the contribution to the initial research training, as well as the basic interdisciplinary relationships.

Responsible: career group, disciplines, subjects and year.

The operations to execute for the development of the action are:

- Analysis of the study plan, determination of the need to modify own subjects or electives related to initial research training (coordinator of the career group, main professors of the discipline groups and main professors of the year).
- Design of the contribution of each discipline to the initial research training of students per academic year and preparation of specific actions (main professors of the groups of disciplines and professors).
- Establishment of interdisciplinary relationships according to the academic year, which are reflected in the work practice guide for the initial research training of students (collective academic year).
- Elaboration and application of integrating exercises, at least once a year, where the evaluation of investigative skills is considered (collective of the year and main professor of the DPIFLI group).
- Orientation, follow-up and evaluation in a systematic way to the development of reference, extracurricular, course and diploma works, as appropriate in the academic year (collective of the year and main professor of the DPIFLI group).

Action No. 3. Coordination of actions between the tutors of the university and the labor entity

Objective: to integrate the system of educational influences between the tutors of the university and the labor entity, as a guarantee of the necessary unity.

Responsible: career group, year group and DPIFLI.

The operations to execute for the development of the action are:

- Selection of prestigious labor entities and speech therapists-tutors, to carry out the labor practice and the research work (main professor of the DPIFLI group and of the year group).
- Selection of professors-tutors and student-tutors of the university to accompany the student during their initial research training. (main teacher of the DPIFLI group and of the year group).
- Preparation of the pedagogical group of the year so that they contribute to the initial investigative training (collective of the year, DPIFLI group).
- Elaboration of the system of joint activities, with delimitation of responsibilities and modes of collaboration between the tutors of the university and the labor entity (group of the year).
- Control monitoring of the effectiveness of the system of activities developed by the group of the year for initial research training, personalizing each student (group of the year).
- Reelaboration of the system of activities designed for the initial investigative training of the students of the career according to academic year, based on the results obtained from the monthly evaluation (collective year).

- Joint participation of the tutors of the university and the labor entity during the presentation, by the students, of the results of their investigative work (collective of the year).
- Stimulation of the tutors with the best results in their work (career group, DPIFLI and year group).

Action No. 4. Participation of students in student scientific groups and research projects

Objective: to guarantee the participation of all the students of the career as members of research projects or members of student scientific groups, according to their diagnosis.

Responsible: head of research project, career group, DPIFLI group and year group.

The operations to execute for the development of the action are:

- Coordination meeting, with the purpose of setting the research lines and their leaders, composition and main tasks of the student scientific groups of the career, based on the diagnosis (head of the research project, coordinator of the career group, main professor of the DPIFLI group, main teachers of the year groups).
- Socialization of the goals of the student scientific groups with professor-tutors, student-tutors and students, delimiting individual commitments in the group's tasks and deadlines (DPIFLI's main professor and group's main professor of the year).
- Monthly meeting of the members of the student scientific group with their scientific leader, for the planning, organization and control of the assigned tasks within the established deadlines (scientific leader).

- Assessment of the work of the student scientific group and redesign of the tasks, through systematic control, for an adjustment to the diagnosis and a better attention to the individual educational needs of the students (scientific leader of the group, head of the research project, main professor of the DPIFLI group and main teachers of the year groups).
- Preparation and socialization of reports on the fundamental results of the student scientific groups in the career (scientific leader of the group, head of the research project, main professor of the DPIFLI group).

Action No. 5. Participation in extension activities for initial research training

Objective: to guarantee the participation of all the students of the career, according to their diagnosis and academic year, in the designed extension activities that contribute to the initial research training.

Responsible: career group, DPIFLI group and year group.

The operations to execute for the development of the action are:

- Determination of the extension activities that contribute to the initial investigative training of the students with their calendar for the school year (head teacher of the DPIFLI group).
- Determination of the student members of the extensionist project or speech therapy cabinet and the investigative actions to be carried out in the fulfillment of their functions (head of the extensionist project, main professors of the group of the year).
- Determination of the student members of honorary chairs and the investigative actions to be carried out

in the fulfillment of their functions (head of honorary chair, main professors of the year groups).

- Approval, by the career group, of the extension activities that contribute to the initial research training of students, proposed by the DPIFLI group, the members of extension projects and honorary chairs, so that they are integrated into a single system (Principal teacher of DPIFLI group, career group).
- Socialization of the calendar and the requirements for the development of extension activities (scientific events, festivals, competitions, community activities, etc.) on the website of the career and the murals (coordinator of the career group).
- Execution and control of the development of extension activities that contribute to the initial investigative training of students of the career according to academic year (group of career and year).
- Preparation and socialization of the report on the results of extension activities and their contribution to the initial research training of the students (coordinator of the career group, main professor of the DPIFLI group and main professor of the year group).

Stage III. Instrumentation

For the implementation of the pedagogical strategy that is proposed, the correct functioning of the different methodological levels must be ensured, discipline and year group, for the design, execution and control of the initial investigative training of the students of the career, under an integrated system of influences. The basic core of initial research training is developed in the year group, but it is necessary to have a more general vision of the continuity of training throughout the career, as well as the integration of certain actions that include the pedagogical group and student of several

years of the career, so the actions of each year or discipline cannot be considered separately, but rather coordinated with the others.

The first two months of the beginning of the school year, which can be extended until the first fortnight of the third month, are dedicated to the planning of the initial investigative training at the different methodological levels and its socialization, for which the differentiated diagnosis of each student, as well as their opinions and suggestions in this regard.

The subsequent six months are used in the execution of the different actions conceived for the initial investigative training of the students; In the two months that correspond to the final moment of the course, the reports of the different methodological levels and others involved (honorary chairs and extension projects of the career) in the fulfillment of the actions and their repercussion in the initial investigative training are elaborated and socialized. For the preparation of the reports, the opinion of the pedagogical and student collective is considered, as well as the evidence of this training contained in the monthly evaluations, the integrating exercises, the participation in events, publications and others that are considered necessary.

Although there is a final evaluation of the actions carried out, each methodological level must guarantee the follow-up and control of the effectiveness of the actions in a systematic way, in order to make the appropriate adjustments and update the diagnosis.

Stage IV. Evaluation

The evaluation is instituted as a systemic and systematic process, where the results of the application of specific actions allow assessing the effectiveness and efficiency of the strategy as a whole, with respect to the

fulfillment of the general objective. This evaluation process makes it easy to introduce and control transformations in the proposal in a timely manner.

Action No. 1 is evaluated from the quality of the individual characterization of the students of the career, based on the results of the initial investigative training, which enables the year group to direct the process in an objective and personalized way. The guide for writing the characterization of those trained is adapted based on the initial investigative training of Alfonso-Morejón (2015); The following aspects are considered: attitude of the students before the initial research training (research topic, research work previously carried out, participation in research projects, in student scientific events, recognitions); mastery of the knowledge of the Educational Research Methodology, of Educational Sciences as the foundations of educational research and of the Speech Therapy discipline; development of investigative skills and professional skills of the teacher-speech therapist; development of values (humanism, responsibility, solidarity, honesty, industriousness) and qualities (objectivity, perseverance, creativity, flexibility, organization and independence).

To evaluate action No. 2, the method of documentary analysis is used, through the study of the methodological documents of preparation of the disciplines and subjects, as well as the minutes of the discipline and year groups. In them, the planning, organization and control of the initial investigative training is verified, the determination of the contents and ways for the establishment of interdisciplinary relationships, as well as the training of investigative and professional skills of Speech Therapy.

Action No. 3 proposes for the evaluation the use of the survey to members of the year group, in order to verify the results of the

coordination actions between the work of the professor-tutor of the university and of the labor entity for the initial investigative training of the students.

In the case of actions No. 4, referring to the work of student scientific groups, and action No. 5, on participation in extension activities, their evaluation starts from the study of the organizational documents of the academic year, the brigade strategy, as well as the reports on the results of the initial investigative training issued at the end of the course by the pedagogical groups. Observation of meetings of scientific groups and activities of the extension project is also suggested.

Although the pedagogical strategy for the initial investigative training that is proposed is developed for the Degree in Speech Therapy Education, since the particularities of said career and its diagnosis are treated, it is perfectly applicable to other pedagogical careers. To contextualize the proposed pedagogical strategy to other scenarios, it is necessary to carry out a diagnosis and adjust it based on the aspirations expressed in the professional model, with respect to the investigative function of the graduate. These factors imply for the pedagogical group of the career the adjustment of the actions of each stage according to the context.

DISCUSSION

Pedagogical strategies have been widely used in the training of professionals, due to their versatility, since they are open and flexible systems that allow the introduction of changes for a better adjustment to the diagnosis.

It coincides with Barrios & Diez (2018) in that there are common elements to the definition of pedagogical strategy: theoretical-practical conception; projection of the direction of the

pedagogical process; allows the transformation of the system, subsystem, institution or educational levels to achieve the proposed goal; they condition the establishment of actions that enable changes in the organizational, didactic, material, methodological and educational dimensions.

For the present investigation, a pedagogical strategy is proposed for the initial investigative training, which allows determining actions in a logical order for their implementation, at the same time that these actions maintain close connections and dependencies on each other.

The initial investigative training in the Degree in Speech Therapy Education requires that each methodological level carry out the planning, organization, execution and evaluation of the process in an integrated manner. The realization of contests, festivals, student forum, Martí workshop, among other extracurricular activities; the designation of labor entities for labor practices; the assignment of guardians; curricular analyses; the determination of requirements for investigative work in its different modalities; the formation of courts; the methodological preparation of the tutors and teachers, require a joint action between all levels, although it is finally revealed in the academic year.

This pedagogical strategy is impossible to materialize in an isolated academic year; It is designed to cover the entire pedagogical process of the career in a transversal way, integrating the different organizational levels of the methodological work. In this case, it is conceived that each methodological level fulfills a specific and important function so that the training process as a whole is developed with quality.

In general, this article demonstrates the need and relevance of the initial investigative training of the speech therapist teacher, a definition for this term is exposed and its

coherent and integrated treatment is specified through the training process from the first year of the career. In relation to this idea, a pedagogical strategy is proposed as a way for initial research training, which considers the results of the theoretical-referential framework, the distinctive characteristics that appear in the professional model and the results of the diagnosis made in the career. Degree in Speech Therapy Education at the University of Sancti Spíritus "José Martí Pérez".

The strategy proposed in this article supports that the initial investigative training requires a close relationship between the investigative function of the professional model, the training of investigative skills and professional skills, which must be directed intentionally by the career group, discipline and year. For this purpose, it is essential to integrate the work of the participants, both in the university and in the labor entity, through the organization, execution and control of joint actions for initial research training.

The analysis of strategies for investigative training, provided by the authors Abello & Baeza (2007); Herrera, Fernandez & Horta (2012); Betancur, Cárdenas, Mancera & Sánchez (2015); Núñez-López *et al.* (2018); Fornaris & Huepp(2019); showed that: the university-work entity relationship is prioritized, the determination of investigative skills is based on the demands of the professional model, but the close relationship between the formation of professional skills and investigative skills is not considered.

However, it is essential that the formation of investigative skills as a gradual process is structured taking into account the formation of professional skills. For example, for the students of the Degree in Speech Therapy Education, until the ability to diagnose communication and language disorders begins to be formed, it is not possible for the students to carry out, in an effective way, the

formation of the diagnostic investigative ability.

The pedagogical strategy for the initial investigative training that is presented is structured in four stages: diagnosis, planning, instrumentation and evaluation; each one contains a system of actions and operations that facilitate its execution. These investigative results allow the improvement of the initial investigative training in the Degree in Speech Therapy Education in Cuban universities; In addition, its application can be extended to other pedagogical careers making the pertinent adjustments according to diagnosis.

The research revealed in this article recommends that studies continue towards: the role of the year group in initial research training and differentiated attention to students with high academic achievement for their initial research training.

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