
Professional Development Program for the Guide Teacher: Training of the Agricultural Medium Technician

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Abstract: The transformation of the Cuban social economic model has caused major changes in all sectors of society, for which reason it has been necessary to carry out transformations in Technical and Professional Education aimed at training competent mid-level professionals. This article presents the result obtained from an investigation that addresses the professional improvement of the teacher guide of the agricultural polytechnic school to provide a solution to the cognitive needs that are currently presented in the training of the agricultural medium technician in the context of the agricultural polytechnic school-labor entity. The objective: To propose a Professional Development Program that contributes to the transformation of the professional development of the guide teacher for the training of the Middle Technician in the current training context. The dialectical-materialist method is adopted and the qualitative methodological path is assumed. The main results focus on the content of the professional development of the guide teacher, where their functions are specified, the appropriate procedure to fulfill their role in the current circumstances of training of the agricultural medium technician and the Professional Development Program. The developed Program constituted a novel contribution for pedagogical practice given its adaptability to satisfy other fields of professional improvement of the teacher in the Cuban education system.

Keywords: Professional Development, Professional Development Program, Guide Teacher, Middle Technician Training, Polytechnic School-labor Entity Context

1. Introduction

The training of middle technicians and qualified workers has constituted, for Technical and Professional Education, one of the most important tasks for what this workforce represents for the development of the country. Abreu [1].

In relation to the above Mena [2] he believes that the labor entities of production and services are beginning to emerge as pedagogical scenarios with equal responsibilities as the polytechnic school in the training of middle-level professionals, consequently, the training of the agricultural medium technician takes place to the same extent, both in the agricultural polytechnic school and in the labor entity.

Currently, the fundamental context where the training of

the agricultural medium technician occurs is constituted by the integration of the agricultural polytechnic school and the labor entity, which is made up of different forms of production and agricultural services represented by State Companies, Credit Cooperatives and Services, Agricultural Production Cooperatives, Basic Units of Cooperative Production, Independent Farmers, Urban Farms, Base Business Units and other Agricultural Services Units.

The human resources belonging to these forms generate educational influences with different impacts on the agricultural medium technician training. The complexity of the new training context requires the intervention of the sciences, corresponding to the Pedagogical Sciences, particularly the Pedagogy of Technical and Professional Education, as a branch of General Pedagogy, Chávez

Rodríguez, [3], whose objective Study is the process of continuing technical and professional education of the competent worker.

The training of the agricultural medium technician requires developing it from the integration of the educational influences generated and emitted by all the human resources involved in this training, for which it is essential that the guide teacher possesses the knowledge, skills and aptitudes necessary to coordinate and organize these educational influences and thus facilitate the fulfillment of their functions.

The foregoing indicates that work should be done in that direction, specifying the elements that should make up the content of the professional improvement of the teacher guides that allows the updating and renewal of knowledge for a successful exercise of their profession and the adequate development of their role in the current training context.

The process of professional improvement of the teacher in the different levels of Education has been approached by different authors, being the subsystem of Technical and Professional Education the one that presents less incidence in this direction, among them: Fernández Barrios, M. [4]; Santos Baranda, Y. [5]; López Collazo, Z. Z. [6] who have contributed investigative works oriented to the subject. Those contributed by Cabrera Montalvo, G. M. [7]; Rodríguez Seijo, I. [8] and Morales González, M. [9].

In the investigation about the object of study, the professional improvement plans conceived in the Agricultural Department of the then University of Pedagogical Sciences "Félix Varela Morales" and the methodological work strategies designed in the Technical Teaching Departments of the Agricultural Polytechnic Institutes of Villa Clara.

All the interventions referring to the professional improvement of the professors who work in the polytechnic schools have contributed, from different angles, positions and realities, with theoretical, methodological and practical contributions that served as a guiding guide for this work.

In the process of searching for references on the object of study of this research, the "Compendium of postgraduate works for Technical and Professional Education" by the authors Abreu Regueiro and Cuevas Casas [10] and the work of the researcher Osniel Rodríguez Gato [11]. "The teacher guide of Technical and Professional Education: traits and functions that characterize their management", which was an important source for the analyzes that were carried out on the functions that guide teachers must fulfill in the context of the agricultural polytechnic school-labor entity.

In the search carried out, no works were found that referred to the professional improvement of the guide teacher of the agricultural specialty for the training of the Middle Technician in the context of the agricultural polytechnic school-labor entity.

The accumulated experience of this author for more than 49 years in the agricultural sector allows him to consider that there are still shortcomings in the professional improvement of the guide teacher that prevent him from developing his role as coordinator and organizer of the educational

influences that influence the training of the technician halfagropecuario as required by current circumstances.

Among the shortcomings detected are the following.

Future middle technicians do not always have the necessary preparation for their job placement once they have completed their specialty studies.

Poor application of the knowledge acquired in the different situations that occur in their work context.

Inadequate forms of behavior during the development of agricultural work.

Limited recognition by future middle technicians of the participation that the agricultural community has in the development of activities related to their profession and the contribution that the agricultural labor entity makes to their training as a future worker.

Insufficient knowledge on the part of future middle technicians of the tasks and occupations related to the profession.

Future middle technicians do not conceive of the study of the specialty as preparation for their working life.

From the previous evaluations, several problems are observed that affect the quality of the results in the training of the Middle Technician in Technical and Professional Education that lead to the implementation of professional improvement actions for the guide teacher.

The foregoing leads to identifying the elements that characterize the present problematic situation:

Insufficient level of pedagogical preparation of the teacher guides for the coordination and organization of the educational influences that affect the training of the agricultural medium technician and to get involved in the process with the integration of all the influencing factors in this training.

The activities of the guide teacher respond to traditional classroom conditions.

Insufficient integration between those involved in the training of the agricultural technician, which causes inconsistencies in the educational influences that affect this training.

Limited knowledge of the guide teacher on the potentialities of the family and work entity contexts for the development of the training of the agricultural medium technician.

Inadequate use of the comprehensive diagnosis to determine the needs, weaknesses and potential of those involved in the training of the agricultural technician.

Insufficient professional improvement of the guide teacher for the training of the agricultural medium technician in the context of the agricultural polytechnic school-labor entity.

To eliminate the reality described and reach the desired state of professional improvement of the guide teacher for the training of the agricultural medium technician in the current context, the following is proposed:

Scientific problem: How to contribute to the professional improvement of the guide teacher for the training of the Middle Technician in the context of the agricultural polytechnic school-labor entity? As objective: Propose a

Professional Development Program that contributes to the transformation of the professional development of the guide teacher for the training of the Middle Technician in the context of the polytechnic agricultural school-labor entity.

2. Methodology

For the investigation of the current professional improvement of the guide teacher, specific methods were selected, based on the dialectical materialist method and following the qualitative methodological path, Lorences González, J. [12] and Guelmes Valdéz, E. L. and [13], contributed to the essential knowledge for their intervention and to achieve their transformation in correspondence with the prevailing economic and social demands. The following methods were applied:

Theoretical level methods:

- 1) Analytical-synthetic
- 2) Inductive-deductive
- 3) Historical-logical
- 4) System approach
- 5) Transit from the abstract to the concrete

Empirical level methods and techniques:

- 1) Document analysis
- 2) Participant observation
- 3) Self-administered questionnaires, Hernández Sampier, R. [14]
- 4) Expert judgment.
- 5) The survey
- 6) The methodological and data triangulation
- 7) Open qualitative interview
- 8) Key informant

Statistical and mathematical methods: Frequency tables, Percent tables, Bar graphs, Frequency graphs, Software PROCESA_CE Crespo [15], Delphy method, Fuzzy Logic Algorithm, Percentage analysis,

We work with a sample made up of 11 teacher guides from the former Polytechnic Agricultural Institute of Villa Clara.

For the diagnosis of the current state, the following empirical methods were used:

1. Document analysis.
2. Questionnaires for key informants.
3. Qualitative interview open to managers.

Obtaining the information obtained, on the current state of the professional improvement of the guide teacher and its subsequent analysis and interpretation, was grouped according to the criteria set out below:

2.1. Indirect Data Collection

In order to indirectly obtain the information, the social scenario where this formation occurs from the transformations of the Cuban social economic model was taken into account.

The following empirical methods were used:

2.1.1. Document Analysis

Used with the aim of verifying the current state of

improvement presented by the guide teacher under study. The verification was made through the actions projected, executed and recorded in different documents that constitute a memory of what happened. For this, we worked with ten groups of documents in correspondence with the logical path that must be followed to explain the current state of professional improvement presented by the teacher guides of interest in the research.

Document groups

2.1.2. Acts of the Claustrophobic

In these, what happened in those meetings is reflected. The claustrophobic

are meetings that are held monthly with all the teachers of the student group, whose content responds to the education of the middle technicians in training, the difficulties they face in the group and in each of its members. They are led by the guide teacher and although it is the right time to carry out the coordination and organization of the educational influences emitted by the teachers that affect that training, no the corresponding coordination and organization actions appear in the minutes.

2.1.3. Minutes of Meetings with the Teacher Guides

It is the meeting for the coordination of educational influences that is essential for the organization and cooperative work of all those involved in the training of the agricultural and livestock technician. In it, what happened in the meetings held is noted. All the teacher guides of the agricultural polytechnic school participate. They are led by the Deputy Director of Educational Work. It is the stage where the difficulties presented by the guide teacher for the performance of his role in the training of the middle technicians of his group arise. In this meeting, the socialization of experiences should be developed and the cooperation between all the participants should be demonstrated to arrive at possible solutions of the difficulties present in the educational context; matter not observed in the revised minutes.

2.1.4. Minutes of Meetings with Families

They are carried out periodically with the families of the future middle technicians of the group, led by the guide teacher. In this space, the guide teacher must develop his functions of coordinator and organizer of educational influences for the establishment of cooperation for the training of future middle technicians. These minutes include in writing the essential aspects that occurred in the exchange; however not in todasaparece el análisis de las dificultades y logros, no se intercambian experiencias entre familias y el colectivo docente del grupo, entre otros aspectos de interés.

2.1.5. Minutes of the School Council

The School Councils are made up of representatives of all the educators who generate and emit educational influences on the middle technicians in training. The information presented in this document focuses on requests for help in solving problems at the school, generally of a material

nature. In the revised ones, no reference is made to the importance of the labor entity as a source of the agricultural culture that future agricultural technicians must incorporate into their personality.

In these documents, the agreements established with the labor entity lack objectivity, since they are elaborated with a formal character and are not updated in correspondence with the social economic changes that are happening in Cuba, as an event that causes the transformation of the context of formation of the agricultural medium technician today.

2.1.6. Minutes of the Board of Directors

In the minutes of the Council, no actions were found related to the fulfillment of the professional improvement of the guide teacher regarding the training of each Middle Technician of the group in the new training context.

Problem bank

In this document most of the problems that hinder the educational work of the school are exposed, where the teacher guides of all the groups must be the main protagonists. The problems are systematized by the Deputy Director of Education of the school. In this, the possible solutions to the educational problems present by the methodological way are reflected. The analyzed document contained the following questions:

- 1) How to specify concrete actions for the mobilization of families and incorporate them into the educational work of the center?
- 2) How to achieve better results in the comprehensive training of our future agricultural workers?

In the analysis and reflection of the content of the document, it could be inferred that the center's cloister has not conceived the planning of actions to establish ways that lead to working cooperatively with educational contexts and achieve satisfactory results in the training of middle technicians, seen in the absence of the question: How to achieve cooperation between the educational contexts where the training of the future technical agricultural environment takes place?, an absence that reflects the decontextualized conception of the training process of the Middle Technician.

The foregoing leads to infer the cause of the theoretical, methodological and practical insufficiencies that the professional improvement of the guide teacher has to develop his role in the training of the agricultural medium technician today.

2.1.7. Educational Project

The revised document recognizes the need for the influence of the family and other contexts for educational work; in it the following work directions are considered:

- 1) Strengthening of the School and Family Councils.
- 2) Orientation and preparation of families to efficiently carry out their educational function.

In the analysis carried out, the insufficiencies present in the professional improvement of the guide teacher are evident, seen in two aspects:

1. To consider, independently, the educational influences of the indicated contexts.

2. The non-inclusion of future middle technicians, as essential participants for their training.
3. The non-inclusion of the labor entity context in the educational project.

The aspects considered constitute indicators that demonstrate that in educational practice the integrated and cooperative nature that interactions between human resources present in the contexts that generate and emit educational influences on technical middle technicians in training is ignored.

2.1.8. Study Plans

With the aim of analyzing the content they received during their initial training to develop their functions with the future middle technicians, the study plans through which the professors who have been given have gone through in the Universities of Pedagogical Sciences were reviewed and analyzed assigned the role of guide teacher up to the present time. The objectives and contents of the programs of the subjects of the pedagogical-psychological cycle were also analyzed. In the analysis, it was found that the contents prepared the teacher for their performance in traditional contexts and circumstances.

Another fact evidenced in the conception of the study plans allowed us to observe the progress made in the search for greater preparation of teachers. However, given the complexity and importance of the labor entity in the training process of the Middle Technician, and the need to integrate with the school in achieving its educational objectives, the reference made to these aspects in the knowledge system planned in the programs taught.

This limitation in the objectives and contents of the programs of disciplines and subjects, derived from the study plans through which the teachers have passed, may be the cause of the insufficient initial preparation presented by the guide teachers of the agricultural polytechnic schools in the present, as well as the insufficiencies in professional improvement, problems that are currently manifested in the training of agricultural technicians.

2.1.9. Plans for Improvement

To verify the intentionality of the professional improvement offered to the professors of the agricultural specialty in Villa Clara province, a review and analysis of the plans conceived in the Department of Agricultural Education of the former University of Pedagogical Sciences "Félix Varela Morales". In the improvement plans sampled, the following was found:

- 1) They conceive the overcoming both in courses, as in diplomas, with different duration times.
- 2) Issues related to the environmental dimension are addressed in the training of teachers, and in the curriculum of the training of middle technicians of agricultural specialties.
- 3) Information and communication technologies are used in the direction of the teaching-learning process.
- 4) The functions of the tutor and the adjunct professor at the Agricultural Polytechnic Institute as a micro-

university are addressed. In the 2011-2012 school period, four courses were developed aimed at updating the teachers who teach technical subjects in the territory on Animal Husbandry, Rural Industry, Forestry and Agricultural Education.

In the review and analysis of this document, it was observed that in the attention given to updating the knowledge system, the required attention is not given to the professional improvement of the teacher guides to develop their role in the training of medium technicians.

2.1.10. Methodological Strategies

In this document the following information was obtained:

In the methodological strategies of the teaching departments of the Polytechnic Agricultural Institutes of the Villa Clara province, no actions have been planned aimed at improving the guide teacher for the development of his functions as an essential figure in the training of the agricultural technician.

Regularities evidenced in the indirect obtaining of information.

In the review and analysis of the documentation, the following regularities were determined:

1. The guide teacher does not take advantage of the moment of interactions with human resources present in educational contexts to fulfill his role as coordinator and organizer of educational influences based on the training of the Middle Technician.
2. They do not intend the cooperation between the mediators in the training of the Middle Technician.
3. They do not refer to the labor entity as one of the fundamental scenarios for the training of the Middle Technician.
4. They do not consider families as important mediators in the training of the Middle Technician.
5. In the improvement plans designed in the Agricultural Education Departments of the former Villa Clara Pedagogical University, the professional improvement of the guide teacher is not intended as the main figure in the training of the agricultural technician.
6. There are no evidence of improvement strategies aimed at the guide teacher in the technical-teaching departments of the agricultural polytechnic schools of Villa Clara province.

Once the indirect information on the status of professional improvement presented by the guide teacher was obtained, the process was directed to obtain information with key informants and managers of the agricultural polytechnic school through self-administered questionnaires and the open qualitative interview.

2.2. Direct Data Collection

To directly obtain information on the current state of the professional improvement of the teacher guide object of study for the development of his role in the training of the agricultural medium technician from the transformations of the Cuban social economic model, the following

techniques were used:

Self-administered questionnaire applied to key informants to obtain the information of interest:

It was found that these are graduates of the Bachelor of Education in Pedagogical Universities, who performed management tasks and functions and, all have more than 10 years of experience in teaching and in management positions in intermediate level educational centers.

The information provided was as follows:

The teacher guides do not have enough professional improvement to fulfill their role in the training of future middle technicians in the new training context, as they have not received the professional improvement necessary to carry out this important mission in the current one context of economic and social transformations.

The information obtained was similar in all cases, which is why it constitutes a regularity.

It is concluded that the current state of professional improvement of the teacher guides is insufficient to carry out their role in the training of the Middle Technician in the context of the polytechnic school-labor entity.

3. Qualitative Interview Open to Managers

It was applied to department heads and the Deputy Director for Educational Work with the aim of deepening the management that is carried out in terms of professional improvement of the teacher guide oriented to the training of the agricultural medium technician. In the interview, ideas and opinions were exchanged with department heads, in which it was found how distant they considered the professional improvement of the teacher guides for the successful performance of their role.

The interviewees think that the improvement of the guide teacher concerns only the management of the Deputy Director for Educational Work of the school, while their focus on issues related to the didactics of the different subjects.

In the course of the interview with the Assistant Director for Educational Work, it was observed that the actions that are carried out to contribute to the professional improvement of the teacher guides for the performance of their role in the training of the Middle Technician is currently insufficient to assume the coordination and organization of the educational influences that affect this training.

The actions were limited to the determination of topics for them to develop in the school, according to the bank of problems, they also consider that the teacher guides should only self-overcome in the topics that have to be taught with the required quality and depth.

The contents of the programmed topics were not related to the transformations that occurred in the context of the training of the Middle Technician.

Summary of the information obtained indirectly and directly on the status of professional improvement of the

teacher guide of the agricultural polytechnic school for the training of the agricultural medium technician in the new training context.

The information obtained indirectly and directly on the status of professional improvement of the teacher guides shows that they present difficulties to fulfill the assigned role, from the transformations that have occurred in the Cuban economic and social model. The current context, formed by the integration of the agricultural polytechnic school with the labor entity, gives a complexity to the training process of the Middle Technician for which the guide teacher, a fundamental figure in this training, does not have the professional improvement in correspondence with the current ones circumstances.

This problem present in the professional improvement of the guide teacher for the training of the medium technician in the context of the agricultural polytechnic school-labor entity, constitutes the basis for the elaboration of a Professional Development Program that contributes to the transformation of the required professional improvement.

The information obtained in the diagnosis carried out is closely related to the criteria endorsed by the observations made to the teacher guides who carry out their functions in the polytechnic schools and by those issued by employers on the modes of action of the agricultural technicians in the entity labor.

4. Professional Development Program for the Teacher Guides of the Agricultural Polytechnic Schools

Salmerón [16] specifies the definition of the Improvement Program as: "... The set of systematic and planned improvement actions to be developed by different means, aimed at satisfying the preparation needs, in a given context, whose fundamental objective it is given in the solution of the problem of educational practice through the transformation of the research object".

The aforementioned author states that the Program for professional improvement presents characteristics that allow it to exhibit an integrating property and a better understanding, in a systematic way. In this regard, the following are indicated.

4.1. Features

- 1) Objective character
- 2) Conception with a systemic approach
- 3) Flexible character
- 4) Adoption of a specific typology
- 5) Eminently practical character
- 6) In relation to the research object

In this research, due to the complexity of the agricultural polytechnic school-labor entity context, the author includes another characteristic of the proposed Professional Development Program:

Adaptable nature: The adaptability of the Program allows

it to be used in other fields of professional development of teachers.

Characteristics that individually and systemically contribute to the transformation of the object of study in correspondence with the context where the training of the agricultural medium technician is currently taking place.

4.2. Structural Components of the Program

In preparing the Professional Development Program, it is considered appropriate to specify its structural components, which are represented through the following interdependent areas through their objectives and contents.

Area I. Diagnosis of professional improvement needs.

The objective of this component is to determine the professional improvement needs of the guide teacher in the development of his educational practice for the professional training of mid-level agricultural technician.

For the application of the diagnosis, a non-probabilistic sample belonging to a population of 36 teacher guides who performed their functions in 11 agricultural polytechnic schools located in 10 municipalities of the Villa Clara province was used.

It is of the discretionary or intentional type based on criteria determined by the author based on the interests of this research:

Criteria:

Because they are teacher guides of the agricultural polytechnic school with the most experience in the training of agricultural technicians in the Villa Clara province.

Because they are teachers in a provincial school where all agricultural specialties converge.

For being teachers with an experience in teaching for a period of more than 10 years.

That there was a willingness in teachers to participate in the entire development of the research process.

Area II. Determination of the objectives, contents, methods, means, organizational forms of improvement and their evaluations. This component has the objective of planning the organizational forms of professional improvement, the organization of its contents and how they will be evaluated. The planned actions are in correspondence with the needs presented by the guide teacher in his professional improvement for the training of the agricultural medium technician in the new training context.

Area III: Execution of each organizational form of professional improvement.

The objective of this Area is to elaborate the methodological guidelines for the execution of professional improvement actions, to determine the requirements for the execution of each form and the results obtained in each one of them.

Area IV: Evaluation of the Professional Development Program.

In this Area the conception assumed for the evaluation is exposed, the dimensions, methods, their execution and the dissemination of the results are specified.

Qualitative research procedures are used to carry out the evaluation, interpreting the evaluative criteria issued by

different sources and using the triangulation of the information to verify the agreement or not between them and thus determine the relevance and validity of the proposed scientific result.

The evaluative criteria are located in two dimensions, according to their origin and time, an external one that covers the information obtained before the execution of the organizational forms of improvement and an internal one that covers the information obtained after the execution. The dimensions conceived are set out below:

I. External dimension.

This dimension is made up of the criteria issued by the experts and by non-participating teachers in professional improvement.

II. Internal dimension

This dimension is made up of the results obtained from the evaluations made by the guide teachers included in the sample, the participant observation of the activities carried out by them in the different training scenarios and by the criteria issued by teachers who were passed and did not perform, as teacher guides.

5. Results

The content of the professional improvement of the guide teacher, where their functions and the appropriate procedure for the fulfillment of their role are specified in the current circumstances of training of the agricultural medium technician.

The Professional Development Program and its adaptability to satisfy other fields of professional development of the guide teacher based on the adequate fulfillment of their role.

6. Discussion

The process of professional improvement of the teacher in the different levels of Education has been approached by different authors, being the subsystem of Technical and Professional Education the one that presents less incidence in this direction, among them: Fernández Barrios, M. (2015) [4]; Santos Baranda, Y. (2010) [5]; López Collazo, Z. Z, (2018) [6] who have contributed investigative works oriented to the subject. Those contributed by Cabrera Montalvo, G. M. (2017) [7]; Rodríguez Seijo, I. (2012) [8] and Morales González, M. (2010) [9].

The aforementioned authors have made important contributions to the professional improvement of the polytechnic school teachers in general, but they have not referred to the professional improvement of the guide teacher of these schools.

In addition, the professional improvement plans offered to professors of the agricultural specialty in the Department of Agricultural Education of the former University of Pedagogical Sciences "Félix Varela Morales" were reviewed. In the improvement plans sampled, the following could be verified:

1. They conceive the overcoming both in courses, as in diplomas, with different duration times,
2. Issues related to the environmental dimension are addressed in the training of teachers, and in the curriculum of the training of middle technicians of agricultural specialties,
3. Information and communication technologies are used in the direction of the teaching-learning process.
4. The functions of the tutor and the adjunct professor are contemplated in the Agricultural Polytechnic Institute as a micro-university.
5. In the 2011-2012 school period, four courses were given aimed at updating the teachers who teach technical subjects in the territory on Zootechnics, Rural Industry, Forestry and Agricultural Education.

In the review and analysis of this document it was appreciated that the attention given to updating the knowledge system in correspondence with the changes that have occurred in the study plans and programs is part of the transformations in Technical and Professional Education, caused by those that occurred in the Cuban social economic model, but not in the attention given to the professional improvement of the teacher guides to develop their role in the training of middle technicians, professional improvement that must be in tune with the transformations in that education subsystem for being the effect of the same cause.

In the methodological strategies of the teaching departments of the Polytechnic Agricultural Institutes of the Villa Clara province, no actions have been planned aimed at improving the guide teacher for the development of their functions in the training of the agricultural technician.

All the interventions referring to the professional improvement of the professors who work in the polytechnic schools have contributed, from different angles, positions and realities, with theoretical, methodological and practical contributions that served as a guiding guide for this work.

However, in the searches carried out, no works were found that referred to the professional improvement of the guide teacher of the agricultural specialty for the training of the average technician in the context of the agricultural polytechnic school-labor entity.

7. Conclusions

The professional improvement of the teacher guides of the agricultural polytechnic school is a complete system and capable of adapting to the diversity of situations that may arise derived from the changes inherent to Cuban economic and social development.

The analysis of the scientific problem and the determination of the theoretical and methodological foundations resulted from a reflection on the importance of the educational influences where the training of the mid-level agricultural medium technician occurs, generated by the human resources of the agricultural polytechnic school-labor entity context.

The current state of improvement of the guide teacher is

inadequate for the fulfillment of his role in the professional training of the studied context.

The Professional Development Program, is composed of interdependent areas through its objectives and contents, contributes to the transformation of the professional development of the guide teacher, directed towards a desired state that allows him to fulfill the assigned role in the training of the Middle Technician in the agricultural polytechnic school.

The experts consider that the proposed Program is valid, relevant, very adequate and It responds to the professional improvement of the guide teacher for the professional training of the mid-level agricultural medium technician in the current context of training.

The execution of the professional improvement led to his transformation to the desired state.

References

- [1] Abreu Regueiro, R. L. (s / f). Some systems of principles related to technical and professional education. Compilation in digital format.
- [2] Mena Lorenzo, J. A (2013) Methodology for the operation of the company as part of the process of Technical and Professional Education. Experiences, 2013 international pedagogy pre-event course. Havana.
- [3] Chávez Rodríguez J, Suárez Lorenzo and Permuy González, L. D. (2005) Necessary approach to General Pedagogy. (pp. 37 and 59). Ed. People and Education. Havana.
- [4] Fernández Barrios M (2015). Postgraduate Education in Professors of Technical and Professional Education. Monographs.com. <http://www.monografias.com/trabajos105/educaciónposgrado-profesores-educacion-tecnica-y-profesional/educaciónposgradoprofesores-educacion-Técnica-y-Profesional.shtml>
- [5] Santos Baranda, J. (2010). The permanent training of the teacher of Technical and Professional Education: the overcoming, the methodological work and the scientific activity as main components. Postgraduate work compendium for Technical and Professional Education. Second part. Havana city.
- [6] LópezCollazo, Z. Z, (2018). Theoretical approaches about professional improvement, a look at the technical areas. Reference Center for Advanced Education, Technological University of Havana José Antonio Echeverría.
- [7] Cabrera Montalvo, G. M. (2017). The professional improvement of the teacher of the agricultural specialty in the pedagogical professional orientation. [Thesis in option to the scientific degree of doctor in pedagogical sciences. Central University "Marta Abreu" of Las Villas].
- [8] Rodríguez Seijo, I. (2012). The preparation of the teacher of the agricultural specialty to direct the development of skills basic professionals of the middle technicians in agronomy from an agroecological and sustainable conception. [Thesis as an option to the scientific degree of Doctor of Pedagogical Sciences UCP "Félix Varela Morales". Agricultural Department. Villa Clara].
- [9] Morales González, M. (2010). The professional improvement of the tutor for the development of scientific activity at the Villa Clara Polytechnic School. [Thesis as an option to the scientific degree of Doctor of Pedagogical Sciences. UCP "Félix Varela Morales", Department of Agriculture. Villa Clara].
- [10] Abreu Regueiro, R. L. and Cuevas Casas, C. M. (2012). Compendium of graduate work for Technical and Professional Education. (p. 8) Ed. People and Education. Havana.
- [11] Rodríguez Gato, O. (2017). "The guiding teacher of Technical and Professional Education: features and functions that characterize their management", (pp. 159-172). ISSN. 1815-7696 RNPS 2057 - MENDIVE Vol. 15 No. 2 (April-June) Available at: <http://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/1062>
- [12] Lorences González, J. (2008). Philosophical, pedagogical and epistemological foundations of the dialectical-materialist conception of pedagogical research. Result of Research Project. Santa Clara: Félix Varela University of Pedagogical Sciences.
- [13] Guelmes Valdéz, E. L. and Carballo Barco, M. (2017). Current reflections on the methodological path in pedagogical research. University and Society, 9 (2), 209-299. Retrieved from <http://rus.ucf.edu.cu/index.php/rus>
- [14] Hernández Sampier, R. (2003: 297). Research methodology 2. Ed. Félix Varela. Havana.
- [15] Crespo Borges, T. (2013). (MOLODI_CE_1: A model based on fuzzy logic for the processing of expert criteria in pedagogical research.
- [16] Salmerón Reyes, E. and Quintana Castillo, O. (2012). Scientific results in research: the program as a scientific result (p. 23). Digital material from the Félix Valera Pedagogical University of Villa Clara. Cuba.