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RESEARCH ARTICLE

PEDAGOGICAL INTERVENTION FOCUSED ON SKILLS AS A COMPLEMENT TO TEACHER TRAINING IN EDUCATION SCIENCES

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ABSTRACT

This paper is an educational research's preview completed with the students from the Bachelor of Ciencias de la Educación (Bachelor of Science in Education, LCE) from Universidad Autónoma de Sinaloa (Autonomous University of Sinaloa, UAS). It uses the action-research method and a pedagogical intervention approach through teaching and learning strategies, which address the needs of training students in pedagogical skills as future teachers. This research tries to formalize the concern about the projection that students forge from the entrance to this educational program, about a professional profile that is not being completely fulfilled and how the change of said perspective evolves as the training process progresses. To achieve this, strategic teaching and learning activities were carried out from various didactic-pedagogical competences and systematization of results.

INTRODUCTION

Pedagogical training as an implicit area in various disciplines of vocational training, is currently a social and ethical commitment accepted by the broad community of HEIs (Higher Education Institutions) in our country. This commitment is greater in professional careers that are directly related to the field of pedagogical and teacher training, such as the case that we analyze in the Bachelor of Science in Education (LCE), at the Autonomous University of Sinaloa (UAS), which is not exempt from this commitment, but also aims to make teaching one of the main work fields for graduates of this professional profile. The professional profile of this educational program is broad and does not sufficiently emphasize pedagogical training as a professionalizing axis, for a job performance as a teacher. Pedagogical training is treated as another field of study from which we theorize, analyze, criticize and reflect as another area of study, which complies with the emphasis on educational research from the development of the curriculum and the management of educational processes.

Training in pedagogical competences for the Education Sciences professional: In attention to the evaluation policies established by the Committee for the Evaluation of Pedagogy and Education Programs,

A.C. (CEPPE) (Comité para la Evaluación de Programas de Pedagogía y Educación, A.C., CEPPE), which has granted national quality credit to our LCE educational program for the second time since 2009, high goals have been set in pedagogical training for a local and regional labor, a field that has never existed, at least not for our graduates. Less than 10% are placed in basic level teaching in the public and private systems together per each school generation with terminal efficiency. Claims established as: "(...) Training education professionals who help to realize the aspirations of an innovative academic practice, which components integrate teaching, research, dissemination and extension activities" (Face, 2013) ("(...) Formar a profesionales de la educación que coadyuven a concretizar las aspiraciones de una práctica académica innovadora, cuyos componentes integren las actividades de docencia, investigación, difusión y extensión" (Face, 2013)), are highly compromising in a social reality –like this federal entity– in which the supply of teaching positions for our graduates is far below the labor supply for many other professions. The curricular offer to train professionals in pedagogical competences is highly costly for society and necessarily leads to permanent observance of compliance with the curricular guidelines and their training guidelines, such as: "(...) teaching, educational innovation, evaluation and curriculum development, research and management in educational training processes" (Face, 2013) ("(...) docencia, innovación educativa, evaluación y desarrollo curricular, investigación y gestión en procesos de formación

educativa" (Face, 2013)) which places teaching as a professionalizing area, placing it within the main fields of professional performance. What is visible and, therefore, worrying about this training process, is the generation of a profile with incipient pedagogical qualities and competencies, which do not ensure standard performance in the field of teaching, which requires knowing and explaining the faults and discrepancies of the LCE's current curriculum in this area of vocational training.

In a profession in which teaching is the object of study and training at the same time, more aspects than in many other professions must be taken care of, even more so when the teacher training profile is not clearly defined, considering that: (...) Teaching (...) has its own logic and imposes its conditions (...) knowing how to teach implies possessing sufficient knowledge about logic and the conditions that affect its development (...) depends on the particular qualities of each teacher. Teaching is learned by teaching (Zabalza, 2003, 65). ((...) la enseñanza (...) posee su propia lógica e impone sus condiciones (...) saber enseñar implica poseer los conocimientos suficientes sobre la lógica y las condiciones que afectan a su desarrollo (...) depende de las particulares cualidades de cada docente. A enseñar se aprende enseñando (Zabalza, 2003, 65).). In careers such as the one in question (LCE), teacher training requires informal preparation, present in all teachers, consisting of: "Internalization of behaviors, attitudes, beliefs, strategies and models of teaching activity that are assimilated during the process" (Fernández, 2013, 51) ("interiorización de formas de conducta, actitudes, creencias, estrategias y modelos de actividad docente que se van asimilando durante el proceso" (Fernández, 2013, 51)) when the student is part of the teaching field, he/she will try to recover what is most valuable in his student life. In this way, the teacher must focus the teaching sequences in the organization that provides the contents in the most understandable way to the "active interlocutor", "the apprentice", so that he can: "Provide specific professional skills, essential for this to forge your future work" (Casas en González, 2010, 274). ("proveer unas competencias profesionales concretas, fundamentales para que este forje su futuro laboral" (Casas en González, 2010, 274).

An indisputable reflection regarding pedagogical training in higher education, understood as a continuous process that attends to different stages organized in their teaching practice, facilitate the initiation, training, and improvement of these teachers in the domain of didactic content of higher education with the purpose of influencing the quality of student training (Cáceres, 2003, 8-9; Fernández, 2013, 50). In this sense –formative– the focus of the training in pedagogical competences for the students in process becomes important, for what they represent in terms of integration of diverse capacities (knowledge, abilities, judgments, etc.) that are developed voluntarily from the interest own, but with the intervention of those who promote it on a cognitive level. According to Tejada (1999), the integration of capabilities such as: Knowledge, valuations and skills, among others, are only observed in performance and practice, in actions that allow their disclosure, as thinking actions supported by principles and criteria, product of training and experience, that is, knowledge equals to use the capacities not to possess them. An alternative treatment of the orientation that the formalization of pedagogical competences should take in higher study programs such as LCE seems to be through educational intervention projects supported by action research, in which teaching practice acquires the reflexive purpose from the perspective of educational change. Its objective is to improve training in practice, instead of generating knowledge, thus, the production and use of knowledge "it is subordinated to and conditioned by this fundamental objective" (Sandín, 2003, 33). The decision to "intervene" is governed by premises of a thinking order. An educational intervention from the teaching itself can only have the purpose of improving the thinking abilities of the students, at the required curricular levels, especially those that provide autonomous development and greater personal commitment to their professional training. Luckily, the pedagogical competences are classified into generic competences, such as: instrumental, interpersonal and systemic, which allow the various approaches that can be associated

with the different fields of action and performance to acquire a true professional teaching profile, as will be demonstrated below.

RESEARCH METHODS

The study consists of carrying out a pedagogical intervention with the subjects who are LCE second-year students. The intervention process contains a methodological contribution, through a structuring of the general action plan based on the John Elliott (1993) model, this model was adapted according to the needs that resulted from the diagnosis applied to the students and teachers from the educational program.

Adjustments were made to Elliott's (1993) model, using a three-cycle structure. In each cycle, an initial idea was enunciated. This idea described a situation that wanted to be improved. The implementation of the activities was reviewed, then a recognition of the failures was made, and the general idea was revised to correct or redesign the implementation activities and to continue with the new instruction or the next cycle. Intervention plan consisted of strategies' interrelations and pedagogical intervention's actions, the activities were organized in course-workshop sessions with the specific objective based on cognitive competence and the strategies that were implemented. The results (observed) were recorded for each activity (accomplished or not), afterwards analyzing and counting progress. A format was filled in a for each session. In the pedagogical intervention, the competencies were characterized in a set of generic and specific activities that define those learning strategies that are the most appropriate for the developing objectives of pedagogical competences for the professional profile of Educational Sciences. Each intervention lasted 1 hour for 4 days in one week, for the 3 weeks it was a total of 12 hours. Each week a few strategies and activities were worked on, as shown in Table 1.

Table 1. Number of weeks of the intervention in the learning orientation competences

| Weeks | No. strategies | | No. Activities |
|-------|----------------|----------|----------------|
| | New | Repeated | |
| 1 | 5 | 4 | 9 |
| 2 | 6 | 2 | 8 |
| 3 | 5 | 3 | 8 |
| Total | 16 | 9 | 25 |

Fuente: Own elaboration.

The learning orientation competencies consist of a programming of the interrelation of specific competence strategies with the activities to be carried out by the students. The pedagogical competences are classified into generic competences, such as: instrumental, interpersonal, and systemic. The specific competences are classified into various approaches that can be associated with the different fields of action and performance to acquire a professional teaching profile. An activity plan was developed for specific competencies such as "Achievement" in learning the instrumental competence; the "creativity" competition of generic systemic competition; the "teamwork" competition of interpersonal competition. The data obtained from the intervention was concentrated in a table that contains classification labels for: generic competence, specific competence, attributes of specific competence, indicators of specific competence: name of subject, semester, session number and hours' number. In the same table there is another section where strategies, student activities and format of the activity are recorded: individual, team, class, extra-class (homework); the time of the activity; the product of the activity and the indicator of specific competence, as shown in the Table 2. The table is a series of reinforcement strategies sample for the specific learning-oriented competence that contain activities for the students, format in which they work and indicators' fulfillment of the specific competence. This competence contains components of the attributes that are determined based on the nature of their application or generation that is associated with the actions that make the attributes feasible and the objectives or reason for the actions that comprise it, such as: mental schemas, openness to other schemes, understanding of the schemes, questioning and clarification

Table 2. Activities of the generic instrumental competences

| Competences Classification: Generic Instrumental | | | | | | | | |
|--|--|------------|------|-------|-------------|------|--|-----------|
| Specific competence: Learning orientation | | | | | | | | |
| Attributes of the specific competence: Mental schemes; openness to other schemes; understanding of the schemes; questioning and clarifying their doubts; regulation of the learning process; ability to adopt and adapt autonomously. | | | | | | | | |
| Indicators of specific competence: (A) Comparison of mental schemes; (B) Questioning and correcting their schemes; (C) Acceptance of criticism and correction from others; (D) Contrast in their previous ideas and schemes; (E) Assessment of the contrast of ideas for new learning. | | | | | | | | |
| Subject-matter: Knowledge, Science and Society | | | | | | | | |
| Session: Four | | | | | | | | |
| Semester: IV | | | | | | | | |
| Week: First | | | | | | | | |
| Reinforcement strategies in specific competence | Student activities | Format | | | | Time | Activity product | Indicador |
| | | Individual | Team | Class | Extra class | | | |
| Brainstorming | Read and elaborate the questions according to the text: "Knowledge, its meaning and purpose" and underline the answers. Share your findings with the class | X | | X | | 20' | Written questions according to the text | B |
| Conceptual map | Create a concept map that highlights: main ideas, concepts, new connections, relevant aspects and adding examples | X | | X | | 40' | Concept map with example in notebook | D |
| Conceptual map | Make a concept map on the board | | X | X | | 20' | Concept map with example on the blackboard | D |
| Concepts explanation | Discuss and interpret the implicated, hierarchically related and proportional concepts that interrelate with each other | | X | X | | 40' | Comments with the class and interpretations of the concepts, in the notebook | E |
| Brainstorming | Read and elaborate questions from the text "Thought as a product and reflection ..." and underline the answers | X | | X | | 40' | Written questions and underlined answers in text | B |
| Previous organizers | Make a double column synoptic chart that organizes the main ideas of the topics covered in class | X | | X | | 20' | Synoptic chart in notebook | A |
| Previous organizers | Make a double column synoptic chart on the board | | X | X | | 30' | Synoptic chart on the blackboard | A |
| Previous organizers | Discuss and interpret the double column synoptic chart | X | | X | | 30' | Comment and interpret in front of the class | D |
| Elaboration | Read and prepare questions from the text "Knowledge as an emerging reality", underline the answers and prepare a summary | X | | | X | | Text information organized and synthesized, in the notebook | E |

Fuente: Own elaboration.

of their doubts, regulation of the learning process, ability to adopt and adapt autonomously. The indicators of said competence are "clues or evidence of the degree of development in the domain of the competence in question" (Poblete, 2007, 52). All these indicators identified each one of the products obtained from the activities in class or extra class carried out by the students individually or in teams. The dynamics of the sessions contained activities for the student directly in class with a duration of approximately 20-40 minutes. An example of a session consisted of each student as a team reading a text, elaborating questions related to the text and underlining in the text the answers to the questions they elaborated, to continue to socialize the questions with their answers and share them with the class. The strategy that was applied in this activity was a whirlwind of ideas, this oversees "focusing on the generation of creative ideas and collective solutions in an environment (...)" (Díaz Barriga, 1997, 104). The following products were obtained for this activity: readings, written questions, underlined answers, and socialization in class. This product is related to an indicator (B) questioning and correction in its schemes of the specific competence of the learning orientation. In another session, lasting 60 minutes, was worked with elaboration strategies and concept map, students carried out the activities as a team starting by reading a text, underling the main ideas and preparing a summary. Then they developed 8 conceptual micro-maps to integrate them and obtain a conceptual macro-map and then share the comments with the team. The products were an organized written text also synthesized with main ideas from the underlined text, and a conceptual macro map. The indicator of the first product is related to the questioning and correction in its schemes as part of the specific competence, while the indicator of the conceptual macro-map belongs to the acceptance of criticism and corrections from others.

Once the strategies and activities were completed, the data was processed in tables. Each table representing an evaluation that was carried out in a week, in which the products of each activity were evaluated using a scale or rubrics that were related to the indicators and attributes of the learning orientation competence.

DISCUSIÓN

The learning orientation competencies group in the course-workshop with the LCE second-year students obtained the results of the intervention on:

- Compliance with the objective in cycle one of the general plan: to expand the elaboration of synoptic tables and concept maps in the learning contents.
- Participation of the students in obtaining new information through visual elaboration such as the elaboration of a synoptic table and conceptual maps of the learning contents.
- Self-regulation in students through elaboration strategies such as underlining, summarizing, reading in the learning content.

The results of cycle one as part of the intervention in the learning orientation competition serve to review and redesign activities that lead to the implementation of cycle two that is aimed at the group of creativity competencies, its objective is to promote the development of new ideas and actions as part of the teaching-learning activities.

CONCLUSION

In order to carry out the pedagogical intervention in the educational program, greater attention is required in the pedagogical competences that have to be inserted in the teaching field of work and it is

something that the intervention reveals the deficiencies of the educational program in terms of this pedagogical training, even when it presents an axis of theoretical training but of an analytical type on teaching and it has an axis of observation and superficial and too elementary intervention as part of the professional training process because the competences are not formed explicitly and dedicated, but only theoretical from its entrance to the educational program. It is worth doing this type of intervention because we realize the level of vocation that the student will develop for this professional and labor field at the same time. While the observable thing is that the student is afraid and distrustful of the field for all responsibilities implied from the professional point of view and part of the observable is also that the graduate alone looks for other sources of employment and occupational occupation that also reveals deficiencies in self-concept as a professional in the educational sciences in favor of educational intervention. It allows educational research in social and teaching action within the school environment, something that teachers should be taking advantage of all the time.

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