

# MENDIVE

REVISTA DE EDUCACIÓN

*Translated from the original in Spanish*

## Trajectories and didactic-pedagogical experience of postgraduate teachers

### Trayectorias y experiencia didáctico-pedagógica de docentes en el posgrado

### Trajelórias e experiênciã didático-pedagógica de professores na pós-graduação

Elba Milagros Mairena Molina<sup>1</sup>,  
Dulce María Cabrera Hernández<sup>1</sup>

<sup>1</sup> Benemérita Universidad Autónoma de Puebla, México. ORCID:  
<http://orcid.org/0000-0001-5529-0568>,  
<http://orcid.org/0000-0002-2364-578X>.  
E-mail: [milito1108@icloud.com](mailto:milito1108@icloud.com),  
[dulce.cabrera@correo.buap.mx](mailto:dulce.cabrera@correo.buap.mx)

**Recibido:** March 2<sup>nd</sup> 2020.

**Aceptado:** May 30<sup>th</sup> 2020.

#### ABSTRACT

University teaching has been marked by the teaching of disciplines, and there are few works that refer to the pedagogical training that teachers receive. In this sense, experience is a category that allows us to know how postgraduate teachers develop didactic skills and pedagogical praxis. The main objective of the research work was to describe this didactic-pedagogical experience in teachers with wide professional careers at that level of studies; from the hermeneutic interpretive paradigm, the biographical narrative method was used, the techniques for obtaining information

were interviews and participant registration cards. As a result, it was possible to establish a retrospective look at the events that academics have lived through and a reconstruction of their careers was made, highlighting the role that experience has in becoming a postgraduate teacher.

**Keywords:** teacher update; university teaching; postgraduate studies; educational experience; vocational training.

#### RESUMEN

La docencia universitaria ha estado marcada por la enseñanza de las disciplinas, y existen pocos trabajos que hagan referencia a la formación pedagógica que reciben los profesores. En este sentido, la experiencia es una categoría que nos permite conocer cómo los docentes de posgrado desarrollan habilidades didácticas y praxis pedagógicas. El trabajo de investigación tuvo como objetivo principal describir esa experiencia didáctico-pedagógica en docentes con amplia trayectoria profesional en ese nivel de estudios. Desde el paradigma interpretativo hermenéutico se utilizó el método narrativo biográfico, las técnicas de obtención de información fueron: entrevistas y fichas de registro de los participantes. Como resultado se logró establecer una mirada retrospectiva de los eventos que han vivido los académicos y se hizo una reconstrucción de sus trayectorias, resaltando el papel que tiene la experiencia para convertirse en docente de posgrado.

**Palabras clave:** actualización docente; docencia universitaria; estudios de posgrado; experiencia educativa; formación profesional.

#### RESUMO

O ensino universitário tem sido marcado pelo ensino de disciplinas, e são poucos

os trabalhos que se referem à formação pedagógica que os professores recebem. Neste sentido, a experiência é uma categoria que nos permite saber como os professores pós-graduados desenvolvem as competências didáticas e a práxis pedagógica. O principal objectivo do trabalho de investigação foi descrever esta experiência didático-pedagógica em professores com vasta experiência profissional a este nível de estudos. A partir do paradigma interpretativo hermenêutico, foi utilizado o método narrativo biográfico e as técnicas utilizadas para obter informações foram: entrevistas e fichas de inscrição dos participantes. Como resultado, foi possível estabelecer uma visão retrospectiva dos acontecimentos que os académicos viveram e foi feita uma reconstrução das suas trajetórias, realçando o papel que a experiência tem na formação de um professor pós-graduado.

**Palavras-chave:** Atualização de professores; Ensino universitário; Estudos de pós-graduação; Experiência educacional; Formação profissional.

## INTRODUCTION

In Higher Education there are training programs for teachers, which relate to habilitation and vocational training in a particular discipline or field of study, and in some cases it is considered as a terminal option. Teaching disciplines have been directly linked to practice professional and teaching in classrooms, at different levels and educational institutions, and differs from the areas of research, aimed at generating knowledge. In the Padron National Quality Graduate (PNPC) in México post graduate programs can be identify (specialties, master`s and doctoral degrees) that favor the

development of specific teaching , whose area of emphasis is the teaching of disciplines.

It is important to know about the relevance of pedagogical training of teachers graduate with degrees from different origins to the educational field and, at the time of face teaching in postgraduate programs dedicated to research, create various strategies to strengthen their praxis. In these circumstances: What didactic-pedagogic experiences postgraduate teachers have?, How didactic-pedagogic experience in those teachers who have extensive academic career, which have a different degree from the pedagogical area and are also working in doctoral programs oriented research is built?, What activities are they doing to strengthen their practice in a research oriented to the graduate program?

In this sense, the objective of this research is to describe the didactic-pedagogical experience of postgraduate teachers from biographical narratives, with the aim of revealing how they passed from their original degrees - other than the educational field - towards teaching in the program Doctoral Research and Educative Innovation.

The review of the literature on teacher training became evident that there are discussions regarding to its practical purposes and characteristics. Due to this, Fernandez (2015) signaled that, in the Mexican reality, the training teaching can be carried out in the practice itself, it is to say, the experience can help teachers to acquire and improve the knowledge of the initial training. From this perspective, teacher training would be considered as a process of development and structuring of the person that is carried out under the double effect of internal moderation and possibilities of learning, reunions and experiences. When talking about the training of teachers and

their practical purposes, Barron (2015) exalt to three models of training: the - production process model mediational model and ecological model of the classroom analysis. In the first, the teacher is conceived as a technical applicator of knowledge and reproducer of knowledge in the search for efficiency. This conducts model conceives the teacher as stimuli designer and environment players of the content, to achieve observable, measurable and quantifiable learning by the student. The second model considers the meanings and interactions that occur in the classroom affect the broader social processes. And the third, tries to explain the relationships established between the cognitive and social demands made by the school, the behaviors and the learning generated in it. The teacher's task is to promote disciplinary learning, cognitive and social skills from the school environment.

If it is considered that education must be inclusive, teacher training also must be done from a holistic view. Zabalza and Lodeiro (2019) reiterated that the fundamental commitment of the teachers are students, even above their discipline and their professional work, it must primarily be based on doing everything in their reach to facilitate intellectual access of its students to the contents and professional practices of the discipline it explains; for this reason, at present reference is made to the double scientific competence, as connoisseurs of the scientific field they teach and the pedagogical competence committed to the training and learning of students.

Alonso, Zabalza and Zabalza (2018) illuminates a gray area of university education in Spain, because they mention that this space has little professional identity. Although teachers are defined as university professors, they have not been really ready to be; identity is more linked to the scientific knowledge to

which each teacher belongs. In Mexico, the reality is not very different, postgraduate teachers have been trained in different degrees from the pedagogical area and are teaching classes (Fernandez, 2015). In this regard, an important aspect is what happened to these graduate teachers to reach the classrooms. Goggi and Kolodny (2009) states that in a study at the University of Buenos Aires that many of the teachers working in Higher Education had no intention of being university professors, and often this role is a reality from an invitation of a professor to join as a teaching assistant. Therefore, it should be borne in mind that many times pedagogical training was not necessary to serve as a teacher at a university and this also constitutes a reality for Mexican teachers. To this, it should be added that teachers recently incorporated into higher education usually reproduce the patterns learned in their experience as students and have few opportunities to deconstruct these models.

This is why university teacher training is characterized more by disciplinary training than by pedagogical training, because from previously learned models the most important thing is the disciplinary content to be able to teach; this has provided a secondary value to the pedagogical domain and the result obtained is that university teachers have been trained in practice. In consequence, the possibility for university professors to recognize components that interact in a situation of education depends, in part, that those elements were been presented during training (Vezub and Garabito, 2017). In this regard, four models of teacher training that prevail in the practice of the university professor were identified, these are described below:

- Teacher-centered training, where it can be understood that the final

objective of this model is to improve the practices of each teacher from an individual perspective. The focus of the process is the teacher and teaching.

- Training centered on content. This model is, essentially, the transmission of knowledge. The leading figure continues to be the teacher as the possessor of knowledge. Its function is to transmit contents considered valid and valuable for students.
- The training focused on the student. It is focused on learning; it has as its central axis the real learning of the students and fixes its attention so that the teacher masters teaching strategies. In this case the important thing is the student, not the teacher.
- The training focused on the experience. This model is focused on self - training and observation. Dialogue and reflection shared are fundamental elements not only as object of the training but as techniques through which practice teaching is carried out.

The categories of training described allude to aspects identified in university teaching, but it is not surprising that traditional models of teaching still prevail. It is desirable a teaching centered in the student - . This is why university teaching should aspire to develop several roles, which are described by Ramsden (2007): "He is expected to be an excellent teacher, to design resources and apply adequate teaching methods to meet the requirements of a heterogeneous student population, who knows how to deal with large groups of students" (pp. 4).

At the same time Ramsden (2007) adds that teachers must know how to use information and communication

technologies, deal with administrative demands, and inspire their students with low levels of tolerance to frustration, in addition to doing research. Independently of the level where they work teachers must diagnose the context of work, make decisions, take action and assess the appropriateness of the actions to lead them in a proper sense (Zabalza and Lodeiro, 2019). Being more competent in their trade is achieved through knowledge and experience, ours and that of others, analyzing what has been done and contrasting with other practices.

Another factor that has been present in studies on teaching practice has been vocation. Santiago and Fonseca (2016) states that teaching requires a strong vocation understood as enthusiasm, motivation to work is done and commitment to the profession. These elements invite teachers to be innovative, know how to teach, be concerned about their students and be a good professional. However, it is pertinent to add that this condition does not depend solely on the individual disposition of the teacher.

Davini (2016) signal to which learners require, of those who teach them, to show them, show them, transfer experience, orient and guide decisions for action. Teaching shares with learning in practice one feature: it does not require fixed models, but modelers to influence from their interventions, inserted in the reality of teaching itself. In that case, colleagues and students also contribute to these learning processes and can become a significant help in improving praxis. Also there are other sources of learning that help to improve the practice of teachers as the test and the error, self - assessment of the same practice, feedback provided by students and observing experienced teachers.

Regarding the factors that may affect the practice of graduate teachers, Ruíz and Aguilar (2017) spoke about the five professional roles of teachers:

- The expert of the discipline
- The teacher and tutor of its students
- The researcher
- The professional in its area (parallel to its activity as a teacher)
- The manager in one of the areas.

Furthermore, these same authors mention that sometimes the primary identification of the university teacher is linked to their discipline, leaving the teaching job in second place.

Moreover, the study of the professions of Freidson (2001) suggests that professionals must meet a series of conditions that qualify and differentiate of other workers; Among them: having a high level of training, being integrated into an organizational structure of the profession, being socially recognized as people who know something special, maintaining a commitment to ongoing training and having high autonomy to exercise professional activity.

University teachers are required to comply with all these conditions. However, there are uncertainties with respect to how teachers manage to fulfill graduate, especially when their knowledge is deep in a particular discipline; this is not necessarily translated, into a teaching praxis of excellence to express its commitment to lifelong learning. Zabalza and Lodeiro (2019) identified the differences between an expert in the discipline and an expert in teaching. Even when the matter is the same, the praxis is different. In that sense, it's interesting to know how graduate teachers achieved to be professional and perform their educational work. In consequence,

it has worked in collaboration with teachers of the PhD program in Research and Innovation Education (Diie) of the Faculty of Arts at the Autonomous University of Puebla (BUAP).

## MATERIALS AND METHODS

The research followed a hermeneutic interpretive paradigm, because the didactic-pedagogical experiences of postgraduate teachers were described, through the interpretation of the meanings of their practice (Manen, 2003). It is through the stories that a reconstruction of the professional trajectory of the subjects was obtained, all this as part of a training process to improve teaching practice.

The biographical- narrative method was used for the construction retrospective of experiences by teachers graduate, since its formation degree until today. The narrative, in this case, was useful because, as Coffey and Atkinson (2003) mention, social actors organize their lives and experiences through stories and, in doing so, find meaning in them. This way of chronicling a life as part of it, usually begins from the point of "how it all started" or "how I got to where I am today" (p. 81). Interest or the value and meaning that teachers attribute to their career, where the temporal and biographical dimension occupies a central position with respect to professional careers; for that reason the study was based or in the interpretation of the evidence. In this sense, to investigate the experience by means of this method was to accompany it, interrogate it, revealing potential meanings and meanings.

Period of information collection involved two years: 2018 and 2019. The predominant techniques were the description and narration of the experiences, to collect and tell stories, until reaching the experience (Larrosa & Skliar, 2009). Through the stories meanings the subjects give to life were rescued. It was worked with passages of the narrative structure expressed by the teacher in his professional journey and teaching experience. A sequential order of the lived experiences was established, in order to understand and explain the transformations in the subjects.

The units of analysis were selected intentionally, since the subjects had to be DIIE teachers who were willing to participate. Two instruments were used: a registration of teachers where professional graphics source data of teachers in the Diie (medicine, music, psychology, biology, manage companies and dentistry) and a hyphen of interview (see appendix), where the interviewer has all the flexibility to handle it, since it is he who manages the rhythm, structure and content (Martinez & Benitez, 2016).

From the data collected, the following identification codes of the six selected teachers were constructed to maintain their anonymity:

- Subject S2IM, studied Degree in Public Administration, Master in Social sciences and Doctor in Education. He currently has 16 years of experience as a postgraduate teacher.
- Subject S3IH, studied Bachelor of Medicine, Master and Doctor in Education. His graduate teaching experience is, at least, 40 years.
- Subject S4IM, studied a Bachelor's in Odontology, Mastery and Doctor in Education. Teaching in the field has an experience of, at least 30 years in graduate school.

- Subject S5IH has Bachelor in Musical Education, Master and Doctor in Education; He has more than 35 years of experience in postgraduate studies.
- Subject S6IH, has a bachelor in Biology, mastery in Education and Doctor in Biology sciences. He has 30 years of graduate experience.
- Subject S7IM, studied a degree in psychology, Master in Education and Doctor in Pedagogy; has, at least, 25 years of experience in teaching graduate.

The narrative analysis interviews was used (Coffey and Atkinson, 2003), which is to interpret the evidence and analyze biographical narratives to understand how they have developed their careers and teaching-learning experience. Firstly, the didactic-pedagogical experience was recovered as an *a priori* category that includes the facts related to the educational act; through it, it was possible to know the preconceptions of the teachers and the development of their strategies regarding teaching in the postgraduate course. In the following section the results are shown from two main aspects: retrospective view and reconstructions from this.

## RESULTS

In this research they were recovered didactic-pedagogic experiences of the graduate teachers. From the narratives their career paths were rebuilt, considering that talking about the experience it is important to differentiate it from the experience. Authors as Manen (2003) suggest that the experience is a way of learning through the reflection of events that have already occurred, and if

the experience is not instructive, then we talk about experience.

Then the results of the interviews are presented, where the main objective of the researchers was to stimulate the memory of the informants to continue the thread in his narration and know events, people and important places that may influence in his experience. It started with simple questions to promote the confidence of the teachers interviewed and an attempt was made to establish a climate of interest, trust, familiarity, motivation and guarantee of identification so that the interviewee returns, in exchange, personal information in the form of a description or interpretation of what he has lived.

From the analysis of the teacher's testimonies, the category didactic-Pedagogic experience was rescued, which simultaneously is composed of two subcategories, as part of the chronological reconstruction process of the testimonies. In the first one, retrospective view, it is evident what the subject lived before teaching and the reconstruction from the present; it evokes how the teacher recognizes his experiences in the present. Thus rescuing their past experiences as an essential part of the process of training and knowing now to signify the teaching work performed.

### **Retrospective look at the career path of postgraduate scholars**

At the outset of the interview it was asked to know if they ever thought of teaching, and, from there, it began the reconstruction of trajectories and didactic -pedagogic experiences.

#### *Being a teacher considered as a professional alternative*

One of the first findings in the interviews was that teachers (S2IM,

S3IH, S4IM, S5IH, S6IH, S7IM) did not consider teaching as a career choice when they were in their pre grade studies and it was not their primary goals when they started their respective careers, even their expectations were very different. For example, the S6IH teacher, with an initial training in biology, said the following: "When I studied the career, my idea was not to be a teacher, my idea was to be a researcher, (...) we have not realized the importance of teaching even in the same professional practice, or at least in the disciplinary careers ... if you are biologist, philosopher, physicist, psychologist, you're going to teach " (personal communication, S6IH, December 4, 2018).

It can be noted on the testimony of the subject the importance of teaching within the disciplinary practices and in this reflection recognizes its value. Paradoxically, it is stated that in undergraduate he had no expectations about teaching and now, he recognizes that, from the beginning of the career, this was a highly probable option.

#### *Insertion teaching: what marked the way to follow?*

Incursion to teaching is important to know how they got the subject of research to this profession. The results of the analysis revealed that the invitation was the main reason. There were circumstances that led to such decisions, for example the subject S3IH, with undergraduate and exercise of medicine, was invited as a teacher and decided to change the office for the classroom:

I incursion in teaching, I get an invitation from a friend ... that if I was not interested in entering to be taught at the National Polytechnic Institute (IPN) ... [is] there where I really start , where I started my teaching career, I worked 18 years at the IPN and being there they

invited me to the Autonomous University of Tlaxcala, and when they invited me I was from the IPN the head of the analysis and curriculum design department of the biological medical area, and then, I received an invitation from the Autonomous University of Tlaxcala to coordinate the creation of the Medicine career, so I ask for permission, I am going to work in Tlaxcala and design the career (Personal communication, S3IH, October 25, 2018).

The invitation, in this case, motivated the subject to opt for teaching. During the interview the academic, in addition, states that initially combined medical practice with practice teaching, devoted part-time to his office and part-time college, but he ultimately decided to devote full time to teaching, because he liked teaching and also by the demands involved. It led him to continue their training in education, He got mastery and doctorate in education. Respondents also expressed that and in his first experiences in classrooms classes there were obstacles and difficulties that lacked educational knowledge, which the motivated them to seek alternative solutions to this problem.

*Preconception about teaching. I thought that being a teacher was...!*

When the subjects enter teaching, they mentioned not knowing how to perform this work. In the reconstruction of these early experiences teachers expressed that, for them, their main function was the transmission of knowledge. For example, the subject SI6H, when he began his work, still pursuing his studies of degree in Biology manifested this: "I thought it was simply transmit knowledge" (personal communication, S6IH 4 December of 2018). This is what the teacher continues saying after sharing his only interest was the subject and his first experience was disastrous. Similarly the subject S4IM

shared his idea, with initial formation of surgeon - dentist: "The perception that we have is generally to transmit knowledge and nothing else, is the transmission of knowledge, but we have no real idea of what all other actions mean" (Personal communication, S4IM, November 26, 2018).

In the speech of both subjects was evident the conception of teaching that had teachers at the beginning of their professional work, an idea focused on the content and teacher, in this case they did not have the student as a central element in the process of teaching - learning. The testimonial reconstruction reveals that before teaching, they considered it as a mere transmission of knowledge, with an emphasis on teaching centered on the teacher and the content. So far, the retrospective gaze has revealed the meanings that academic teaching practice had when starting their educational work. They have made it clear that within their plans teaching was alien to their future life projects and that the invitation is a common denominator for the subjects to start their teaching work; In addition, preconceptions about teaching that they have in the same period of time have been known.

It is worth noting that the reconstruction of past events are important because they are part of a process of deconstruction of knowledge that until then were correct, but that eventually were changed as part of the training process given to through experience. This is why after delving into these past events, the subjects evoked their present and how their teaching work is carried out today, and it is what is explained later.

*Reconstructions from the present. How it is recognized now*

Evocations of teachers about their preconceptions about teaching left bare that these ideas have been transformed

gradually. In this regard, the reflections on the experiences allowed arriving to the restructuring that scholars have done through their experience. For this it is necessary to focus on their practice as teachers now.

#### *Vocation as an influential element in educational work*

It has been mentioned that in the narrative analysis it is important to highlight the chronology of the events; therefore, the conception that teachers currently have about their activities at DIIE is significant. At the time of this research all claims to have vocation for his work: "If the aim is that sense of taste and passion for the work you do, then yes, I have vocation" (personal communication, S7IM, November 27<sup>th</sup>, 2018). The teacher, whose initial training is in psychology, said she was not going to be teaching during his studies of pre grade, but she feels that passion for what he does, and he likes the current practice of teaching.

In addition, the teachers interviewed Added that the like for what you do affects the effectiveness of the practice they express that "the vocation is an important element to exert anything in life but love what you do what you do wrong, it is clear and forceful" (Personal communication, S6IH, December 4<sup>th</sup>, 2018). Here, the perspective of the teacher in the incidence of vocation at work and work effectiveness was reflected. In another sense, although teachers expressed that vocation for them is what motivates them and generates passionate like for teaching, did not admit that it emerged before exercising; this is consistent with previous approaches that were not conceived being teachers, but in the exercise they have cultivated vocation.

#### *Search for non-school pedagogical knowledge*

Among the findings it emphasizes that the non- school training is an important element in the experience of training because it was the strategy teachers implemented to improve their praxis, among them are: the self - study, collaboration among peers, and valuations of the students, research, reflection on the errors and reprimands. As an example, the S2IM testimony is introduced: "I also believe a lot in teacher training, I am self-taught, I make materials, I go to libraries, bookstores, I search and for my part I study issues that have to do with this teach... I think it's like I've been complementing this part of not having studied for teacher and dedicate to teaching... I self-prepare" (Personal communication, S2IM, October 30<sup>th</sup>, 2018).

For the teacher, these were options for improvement to exercise the educational work; according to the testimonies analyzed, teachers were able to build pedagogical knowledge necessary for the teaching. Collaboration also corresponds to a type of non-school training, which is understood as the contributions that another person can make in pedagogical topics that contribute to improving the exercise. This was mentioned by teachers S3IH, S4IM, S5IH and S7IM. Informant S5IH said:

How to improve teaching practice has led me to investigate (...) it is necessary to ask for help, find additional documents, in short, theories are important (...) the partner who is nearby can also be a guide, a leader , an example , and it can transmit things that you don't know then for me at that moment when in retrospect I want to analyze I think I always learned from others , I always learned from everyone and that creative need was the impulse,

it was the motivator for me because I kept going by following an example, of course my teachers were fundamental ... I could learn from others and I can say that we all really learn from everyone ... and rely on other collaborators in case we do not know the subject, here it would be good to recognize as far as I do not know the subject to seek help with experts and so if I don't really master the subject, you know that, I go to another colleague, I have this problem and see how we can help it, sometimes it is to clarify ideas (Personal communication, S5IH, November 26<sup>th</sup>, 2018).

Collaboration between classmates also emerged from the narrative as a type of training and is understood as an exchange of experiences that can help the development of teaching practice, but which at the same time requires an external agent to help with the training process, including teachers and coworkers. Research is another rationale stated in the testimony; remember that this praxis is one of the efforts exerted by the teaching graduate and academic described it as an element that has led to the feedback of their practice. S4IM said:

In all areas, in all disciplines one has to be constantly feeding back the knowledge, during the same research we have done it has served to feed back the teaching practice and through these investigations, the management of the rubric, of the portfolio, things that I had no idea because obviously both in the master and in the doctorate do not give us that type of content, some things I did get to know, not at the depth that I later had to read, study ... It was as I acquired knowledge and expanding knowledge within the same investigations or networks in which it has been doing research and that obviously involves getting to read more things and study concepts that one did not know ... with the same students (Personal

communication, S4IM, November 26<sup>th</sup>, 2018).

The student assessment, or evaluation of the course that the students will mention or as other training of influence, because all subjects asserts that the views of their students has carried to modulate their pedagogical act in the classroom class, this that teachers express acquire a true sense when teaching is based in the model centered in the student, because the center of the process of teaching - learning is the student. A testimony is cited as an example:

I believe that the same practice that I have been doing and the experiences that have helped me is precisely perhaps the opinion of the students themselves, both when they criticize me, and when I see them that they were able to develop what they had to do ... In a certain part it can be the evaluation through the students, but also sometimes it is the own experience, to be able to better understand some concepts and topics that I had no idea before, I believe (Personal communication, S4IM, November 26<sup>th</sup>, 2018)

Teacher S4IM said that the educational processes can occur through processes of evaluation of the students, and this is a way through which its teachers evaluate his practice. The mistake is another type of training mentioned (S3IH, S5IH, S6IH and S7IM), which leads teachers to seek other forms of education or adapt teaching models according to the needs as they arise. It is through the mistakes that are made in the classroom that there is a training aspect, because these mistakes lead to prepare you to improve practice. "First, when designing a course, you design it so enthusiastically, when it's new and all that and you learn from mistakes and you're adjusting, and the truth and the fifth time you take the course and the adjustments you make are

minimal" (Personal communication, S6IH, December 4<sup>th</sup>, 2018).

Mistakes were also mentioned by the subjects as an element that allowed improvement its praxis. The teachers state that this experience is an element contributing to the improvement.

#### *Current conception of teaching*

The current perception of the subjects around teaching allowed knowing the element of change as a product of transformations that occur in the experience. In this regard, S6IH said to have undergone a radical paradigm shift that occurred through the years, and all the experience gained in the classroom: "Yes there was a very radical change to have a behaviorist, positivist idea of the science to be a radical constructivist" (Personal communication, S6IH, December 4<sup>th</sup>, 2018). He said he have learned through Piaget which, at the same he is a biologist of initial training and for him there was nothing easier than to have learned through another biologist, by reading their books related to constructivist theory.

S5IH also mentioned: "Now I realize, for example, that we can learn in all areas of our lives, that is, the teacher is a leader, he is a guide" (Personal communication, S5IH, November 26<sup>th</sup>, 2018).

In the approaches of the teachers of the graduate it is reflected a current concept of teaching centered in the student and teacher who, in this case, becomes a mediator, a guide that helps to promote learning processes of students. So far it is evident that teachers had the conceptual change around teaching, going from a traditional conception of transmission-reception to an idea of teaching centered in the student.

## **DISCUSSION**

The study of the experience of teachers of the Diie carried out a reconstruction of the events in the past and how it influenced his teaching insertion, which has correspondence with the points made by Alonso *et al.* (2018), who say that teachers are first defined by the discipline they teach and later as university professors, because the subjects agree with the idea that the teacher work was not a professional aspiration, because their stage of students was marked by scientific knowledge that dominates in their discipline and they were not trained for teaching. It should be noted that none of the interviewees, before starting teaching, were prepared in pedagogical topics and, for this reason, they did not have command of the basic knowledge for the development of a class; some of them come to develop it through teaching models they had experienced.

They also agree that they came to the profession through invitation, this is the main reason why today they teach in graduate school, in all cases the invitation not only came from a teacher, also from friends or someone else (Goggi and Kolodny, 2009). This data confirms that there is no experience without the appearance of someone who is involved in the lives of people (Larrosa and Skliar, 2009).

What has been described so far refers to the fact that teachers have been trained through experience that is why the subjects of the study have built their training on the basis of their own practice. Manen (2003) agrees with this approach when he says that the theory by itself does not control the praxis. Theory can only advance after the praxis has been made. The experience constitutes a form of learning, through the reflection of events that have already occurred. This leads

us to think that the events that occurred at the origin of teaching led to the reconstruction of the mental schemes of teachers to carry out the practice.

Following up on the above, teaching preconception is relevant because it is the concept with which they begin their practice; it became clear that the academic had ideas regarding the transmission of knowledge. The testimonies alluded to the transmission of content, but it is inferred that these teaching schemes were linked to the lack of preparation and pedagogical experience of the first years. The important thing here is to know and be clear if the experience produced a conceptual change and it became clear that the concept of teaching that have been currently changed from centered in teacher and content to one centered in the student.

The accounts of the teachers allowed having a vision of the past and present of scholars currently working in a graduate oriented to research, DIIE. The results obtained allowed to establish the didactic-pedagogic experience that teachers have and their relationship with other aspects of its work. The teachers stated that vocation is a determining factor in his praxis, and there is a close relation between vocation and teacher performance, and it is found in the narrative of the subjects (Santiago and Fonseca, 2016). In all cases they mentioned having a vocation for what they do and for teachers, this has favored their work.

According to the testimonies, the vocation has contributed to the development of their work and although the university teachers identify more with their disciplinary knowledge at the DIIE, the teaching and research work has contributed to their training. In accordance with Ruiz and Aguilar (2017), the subjects identify with their knowledge of this discipline and as

researchers, it is why teachers of the DIIE say investigative work contributes to their formation and as a result the improvement of their praxis because their work is intimately linked to the educational field.

On the other hand, when teachers explain how they prepared to practice teaching, they express that they achieved it in a self-taught, collaborative way, student evaluation, investigation and error, and attention calls. Thus we can say that the experiences are significant for teachers when they represent an apprenticeship, a collective knowledge or a new human condition. The testimonies analyzed show that the didactic-pedagogical experience of postgraduate teachers at the DIIE has been carried out through school and non-school routes. Although the subjects reflect on their expectations about teaching practice from their stage as undergraduate students until reaching the current moment when they work as teachers at the doctoral level, there are still spaces to explore based on their narratives

This research shows that, through practice, teachers have developed a vocation and passion for their work. Even if they had not received adequate training, experiences and experiences in undergraduate, experiences led them to seek various training resources to reconfigure their conceptions of teaching in graduate school. Teachers have shown that through praxis knowledge can emerge that helps them to develop and improve the profession. This over the years and experience allowed to become a professional as Fernandez (2015) says.

Generally, the work led to the reconstruction of pedagogical educational experience of academic graduate, which showed that the practice can lead to the construction of I knowledge. The main activities through which teachers have formed and

that simultaneously performed for teaching praxis were identify. The results showed that within the training of teachers there is still a lot to explore in topics related to experience, there is a way to go and aspects that must be explored.

### Acknowledgments

This article is part of the products of the thesis "Training and teaching experience in the postgraduate course of the Benemérita Autónoma University de Puebla (BUAP)", of the Doctorate in Educational Research and Innovation, belonging to the Faculty of Philosophy and Letters of the BUAP, financed by CONACY.

### BIBLIOGRAPHIC REFERENCES

- Alonso, F., Zabalza, M. & Zabalza, M. (2018). *¿Hemos cambiado? La perspectiva de los profesores eméritos sobre el cambio educativo en la universidad*. *Educatio Siglo XXI*, 36(2), 255-276.
- Barrón, C. (2015). *Concepciones epistemológicas y práctica docente*. *Revista de docencia universitaria*, 13(1), 35-56.
- Coffey, A. & Atkinson, P. (2003). *Encontrar el sentido a los datos cualitativos. Estrategias complementarias de Investigación*. Colombia: Editorial Universidad de Antioquia.
- Davini, M. (2016). *La formación en la práctica docente*. Argentina. Paidós.
- Fernández, J. (2015). *Tendencias en la formación profesional*. México. BUAP.
- Freidson, E. (2001). *La teoría de las profesiones. Estado del arte*. *Perfiles Educativos*, 23(93), 28-43.
- Goggi, N. & Kolodny, M. (2009). *La formación universitaria en las diferentes áreas y profesiones: Formación docente para la enseñanza universitaria. Una experiencia en la carrera docente de la Facultad de Derecho de la Universidad de Buenos Aires*. *Revista sobre Enseñanza del Derecho*, 14(7), 109-117.
- Larrosa, J. & Skliar, C. (2009). *Experiencia y alteridad en educación*. Homo Sapiens Ediciones.
- Manen, M. (2003). *Investigación educativa y experiencia vivida*. Edición Idea Books.
- Martínez, H. & Benítez, L. (2016). *Metodología de la Investigación social I*. CENGAGE Learning.
- Ramsden, P. (2007). *Learning to teach in higher education*. Routledge Falmer.
- Ruíz, M. & Aguilar, R. (2017). *Competencias del profesor universitario: Elaboración y validación de un cuestionario de autoevaluación*. *Revista Iberoamericana de Educación Superior*, 8(21), 37-65.
- Santiago, R. & Fonseca, C. (2016). *Ser un buen profesor. Una mirada desde dentro*. *Edetania*, 50, 191-208.
- Vezub, L. & Garabito, M. (2017). *Los profesores frente a la*

*nueva/vieja escuela secundaria argentina*. Revista Electrónica de Investigación Educativa, 19(1), 124-140.

Zabalza, M. & Lodeiro, L. (2019). *El desafío de evaluar por competencias en la universidad. Reflexiones y experiencias prácticas*. Revista Electrónica de Investigación Educativa, 12(2), 29-47.

## Appendix

### Appendix 1- Interview script

Interview script aimed at teachers working on the Doctorate in Educational Research and Innovation at the Benemérita Universidad Autónoma de Puebla. Lead or learn about the Training and Teaching Experience in the Postgraduate Program of the Benemérita Universidad Autónoma de Puebla". The purpose of the interview was to know the path that has had the subjects to reach teaching, and at the same time describing travel work; likewise which is the perspective of the subjects revealed about teaching before being teacher and his current vision.

1. How did you become a graduate teacher? Did you ever think you would be a graduate teacher?

2. What conception did you have regarding postgraduate teaching before being a teacher?

3. Now that you are in postgraduate teaching, how do you see it?

4. Do you believe that a vocation is an important element in the postgraduate teaching?

5. In addition to the domain of disciplinary knowledge, what other elements do you consider necessary for postgraduate teaching?

6. How have you managed to know and apply the pedagogical knowledge in your classes?

7. How does your teaching practice feed back into and out of the classroom?

8. Do you consider that your teaching practice has generated transformations in the educational processes throughout your teaching practice?

9. From your experience, what is the pedagogical knowledge that you consider valuable as a graduate teacher?

10. What type of pedagogical training for postgraduate teachers is required?

11. What is your daily motivation to do your job as a graduate teacher?

12. What particular experiences do you consider have made you improve as a graduate teacher?

13. What has been your greatest achievement in your years as a graduate teacher?

14. What do you consider to be his successes and failures in his years of teaching postgraduate work?

### Conflict of interest:

Authors declare not to have any conflict of interest.

### Authors' Contribution:

Authors participated in the writing process of this article and in the analysis of documents.



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Copyright (c) Elba Milagros Mairena Molina, Dulce María Cabrera Hernández