




Categories of study to consider when analyzing the teaching practice of university teachers

Categorías de estudio a considerar al analizar la práctica docente de los profesores universitarios

Categorias de estudo a considerar ao analisar a prática docente dos docentes universitários

Milgjan Martínez¹

Universidad de Málaga, Málaga – Málaga, España

 <https://orcid.org/0000-0002-5715-0320>
mdiximar@uma.es

DOI (Generic) : <https://doi.org/10.35622/j.rie.2022.04.003>
DOI (Document in English) : <https://doi.org/10.35622/j.rie.2022.04.003.en>
DOI (Documento en español) : <https://doi.org/10.35622/j.rie.2022.04.003.es>

Received: 19/03/2022 Accepted: 26/05/2022 Published: 08/06/2022

KEYWORDS

teaching epistemology,
didactic thinking,
teaching reflection,
didactic models, analysis
of teaching practice.

ABSTRACT. The improvement of teaching demands a constant analysis, reflection and criticism of the practices developed by teachers; in this sense, the objective of this article is to identify which categories should be considered when analyzing the teaching practice of university professors, as well as the aspects that are addressed from the literature when studying the processes of teaching reflection; for this, it is necessary to start from the basis of how people reach knowledge, our thinking structures, the ways in which we learn, how we reflect on our teaching practices, and the models that we create and consolidate to develop our practices. From this context, a review has been made of the approaches of different authors who, since the beginning of the 20th century, have formulated different theories regarding the beliefs, personal epistemology and didactic thinking of teachers, as well as their philosophy, approaches, didactic models and reflection processes, which influence, in one way or another, the practices they develop at the classroom level and, therefore, the way they guide their students. From our experience and based on the literature reviewed, we have identified that, when analyzing the teaching practices of university professors, some categories of thought should be considered, some intrinsic and others extrinsic, among them the beliefs about the didactic task and the context in which the professor develops, as well as his experiences, as indicated by the lifelong learning approach; likewise, the stages that professors go through to develop a reflective practice should be taken into account, starting with unconscious actions to the redefinition and reasoning of the problems.

PALABRAS CLAVE

epistemología docente,
pensamiento didáctico,
reflexión docente,
modelos didácticos,

RESUMEN. La mejora de la docencia demanda un constante análisis, reflexión y crítica de las propias prácticas desarrolladas por los profesores; en ese sentido, el objetivo de este artículo es identificar qué categorías deben considerarse al analizar la práctica docente del profesorado universitario, así como los aspectos que se abordan desde la literatura cuando se estudian los procesos de reflexión docente; para ello, es necesario partir de la base de cómo las personas alcanzamos el conocimiento, nuestras estructuras de pensamiento, las formas en que aprendemos,

¹ Professor II in the Department of Pedagogy of the National Autonomous University of Honduras. **Correspondence:** mdiximar@uma.es



análisis de la práctica docente.

cómo reflexionamos respecto a nuestras prácticas docentes, y los modelos que vamos creando y consolidando para desarrollar nuestras prácticas. Desde este contexto, se ha realizado una revisión de los planteamientos de distintos autores que, desde comienzos del siglo XX, han formulado diferentes teorías respecto a las creencias, epistemología personal y pensamiento didáctico de los docentes, así como sobre su filosofía, enfoques, modelos didácticos y procesos de reflexión, que influyen, de una u otra manera, en las prácticas que desarrollan a nivel de aula y, por ende, en la manera en cómo orientan a sus estudiantes. A partir de nuestra experiencia y en función de la literatura revisada, hemos identificado que, al analizar las prácticas docentes del profesorado universitario, deben considerarse algunas categorías de pensamiento, unas intrínsecas y otras extrínsecas, entre ellas las creencias sobre el quehacer didáctico y el contexto en el que se desenvuelve el profesor, así como sus experiencias, como indica el enfoque del aprendizaje a lo largo de la vida; asimismo, deben tomarse en cuenta las etapas que atraviesan los profesores para desarrollar una práctica reflexiva, comenzando por acciones inconscientes hasta la redefinición y razonamiento de los problemas.

PALAVRAS-CHAVE

epistemologia do professor, pensamento didáctico, reflexão do professor, modelos didácticos, análise da prática pedagógica.

RESUMO. A melhoria do ensino exige uma constante análise, reflexão e crítica das práticas desenvolvidas pelos professores; neste sentido, o objectivo deste artigo é identificar quais as categorias que devem ser consideradas na análise da prática pedagógica dos professores universitários, bem como os aspectos que são abordados a partir da literatura ao estudar os processos de reflexão pedagógica; para tal, é necessário partir da base de como as pessoas alcançam o conhecimento, as nossas estruturas de pensamento, as formas como aprendemos, como reflectimos sobre as nossas práticas pedagógicas, e os modelos que criamos e consolidamos para desenvolver as nossas práticas. Neste contexto, foi feita uma revisão das abordagens de diferentes autores que, desde o início do século XX, formularam diferentes teorias sobre as crenças, epistemologia pessoal e pensamento didáctico dos professores, bem como a sua filosofia, abordagens, modelos didácticos e processos de reflexão, que influenciam, de uma forma ou de outra, as práticas que desenvolvem na sala de aula e, portanto, a forma como guiam os seus alunos. A partir da nossa experiência e com base na literatura revista, identificámos que, ao analisar as práticas de ensino dos professores universitários, algumas categorias de pensamento devem ser consideradas, algumas intrínsecas e outras extrínsecas, incluindo crenças sobre a tarefa didáctica e o contexto em que o professor se desenvolve, bem como as suas experiências, como indicado pela abordagem da aprendizagem ao longo da vida; também, as fases pelas quais os professores passam para desenvolver uma prática reflexiva devem ser tidas em conta, começando pelas acções inconscientes até à redefinição e raciocínio dos problemas.

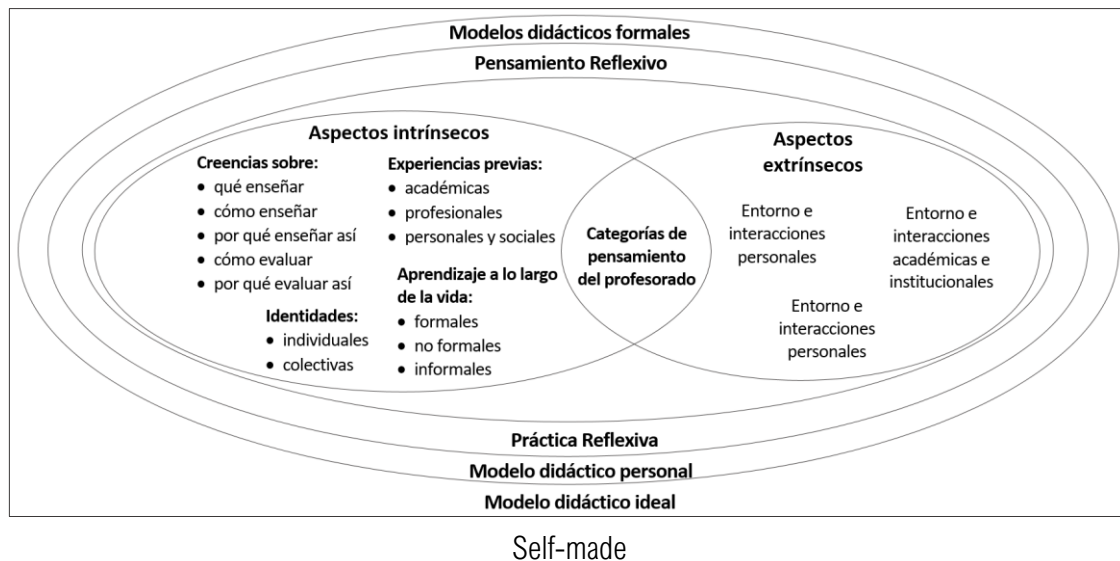
1. INTRODUCTION

Although teacher training affects how they develop their teaching practices, how reality and the environment are perceived is also highly relevant, which in turn is conditioned by the experiences we have gone through on a personal level, professional, labor, and academic; therefore, it is also necessary for teachers to be interested in critically reflecting on and analyzing their teaching practices, which if carried out objectively and conscientiously, will lead them to question and rethink many of their beliefs.

Since our experiences are made up of associations, concepts, values, feelings, conditioned responses, and other aspects that define the way they perceive the world (Mezirow, 1997), we must develop superior mental abilities that allow us to think critically and reflectively, to break the patterns, schemes, styles, models, approaches, and paradigms that make us exercise traditional teaching, focused on teaching, to transcend student-centered teaching.

As we will see later, the literature offers a consensus regarding certain aspects, intrinsic and extrinsic, worth considering when analyzing the teaching practices of university faculty, such as their beliefs, previous experiences, identities, learning obtained throughout life, and the environmental conditions in which they operate.

Figure 1. Aspects to consider when observing the teaching practices of university professors



2. METHOD

For the development of this theoretical review, different authors were consulted, both classic and contemporary, concerning the subject under study. In this line, reference is made to theories and research on thought, the nature of knowledge, learning, and reflection, developed by Piaget (1919, 1950), John Dewey (1933, 1989) and other classic authors (Lengrand, 1966, 1975; Perry, 1968; Kallen & Bengtsson, 1973; Dave, 1976; Cropley, 1980; Knapper & Cropley, 1985; Belenky et al., 1986; Faris, 1992; Hofer & Pintrich, 1997) as well as by other scholars. (Medina, 2000; Giménez, 2002; Schommer, 2004; Brownlee and Berthelsen, 2005; Pérez et al., 2009; Chrysostomou & Philippou, 2010; Gorodokin, 2017; Montanares & Junod, 2018; Salmento and Murtonen, 2018; Wisker, 2019; Barnes et al., 2020; Knapper, 2021).

Particularly on teaching practice, its analysis, and reflection, references are made to Gimeno (1989); Sparks-Langer & Colton (1991); Pérez Gómez and Gimeno (1992); Van Manen (1997); Mezirow (1981, 1997, 1998); Field and Restrepo (1999); Barnett (2001); Garcia et al. (2008); Lowenstein & Brill (2010); Barrett et al. (2011); Sunday (2011); Dunn and Musolino (2011); Pérez Gómez (2011) and Töman (2017).

In the same way, different authors were consulted regarding the didactic thinking of university professors and the approaches and models that they implement in their practices, such as Habermas (1984); Biggs (1987); Gargallo et al. (2007); Perrenoud (2007); Figueroa & Paez (2008); Valverde & López (2009); Gargallo López et al. (2010); Groccia (2012); Estevez et al., (2014); Hurtado et al. (2015); Rosales & Silvestre (2015); Yunga-Godoy et al. (2016); Garcia and Porlan (2018); Iqbal et al. (2019); Villalobos (2018); and Iqbal et al. (2019).

3. GROWTH

The personal epistemology of university professors and their link with teaching practices

Epistemology, as an area of philosophy related to the nature and justification of knowledge, presents a growing interest in the field of education, since it addresses how individuals reach knowledge and how certain premises affect the cognitive processes of thought and reasoning. (Hofer & Pintrich, 1997).

This is extremely important in the teaching profession, where we are constantly faced with a reality that is not always what we imagined, mainly in less developed countries, where not all students have the same ability to access resources, devices, and technologies that today they are of great importance to enhance how we access information, which allows us to contribute to the construction of knowledge. This idea is related to the extrinsic personal, academic, institutional, and sociocultural aspects to consider when analyzing the practice.

In this line, the study of reflective thought can be traced back to John Dewey in the 1930s, continuing with the approaches of Piaget who, since the 1950s, developed his theory of the development of the intellect, known as *genetic epistemology*; then, interest in this field of study has increased. An example of this is the research carried out by Perry (1968) with student volunteers at Radcliffe and Harvard College, in which three structures of patterns of development of thoughts and values were identified: the first and most basic is a simple dualistic structure of correctness. incorrect from which students adapt to diversity; the middle structure makes the transition to a generalized relativism, in which students confront the problem of identity through personal engagement in a relative world, and the last stage in the structure of these thought patterns is related to the development of the commitment.

In that order, and following the foundations already established in previous years by scholars of the subject, Belenky et al. (1986) investigated how people learn and develop their identity, recognizing five forms of learning: silence, subjective learning, received learning, procedural learning, and constructed learning (Table 1), which although it was studied particularly in the women, can be extrapolated in a general way.

Table 1. Five ways of learning for women

Way of learning	Characteristic
Silence	In silence, people feel callous and voiceless, subject to the whims of authority.
subjective learning	Truth and knowledge are conceived as personal and private and subjectively known or intuited.
learning received	People see themselves as capable of receiving and producing knowledge from external authorities, but they do not see themselves as capable of constructing or creating knowledge for themselves.
procedural learning	It is present where people invest in learning. Describes methods for obtaining and communicating knowledge. In turn, procedural learning can be classified into: Separate Knowledge (evaluates and judges the point of view of others) and Connected Knowledge (accepts and appreciates the point of view of others).
Constructed Learning	People see all knowledge as contextual; they experience themselves as creators of knowledge and value subjective and objective strategies of knowledge.

Source: Own elaboration based on Belenky et al. (1986)

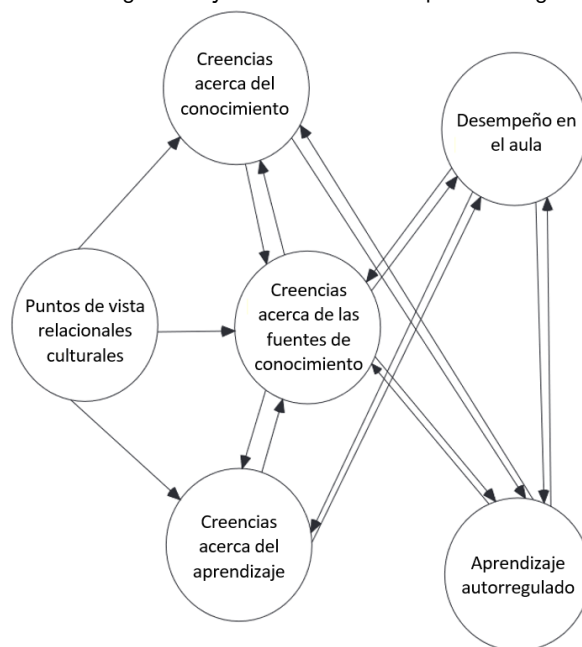
Particularly on the conformation of identity, as a construct with multiple edges, from a constructivist perspective it can be affirmed that it is related to a set of internalized cultural repertoires —representations, values, symbols—, from which social actors —individual or collective— delimit their borders and are distinguished from other actors in a given situation (Giménez, 2002). In this line, each individual develops, in addition to their individual identity, various collective identities, depending on their context, one of these being professional identities, which according to Medina (2000), are cemented by way of structured experiences and structuring of institutional networks for the exercise of knowledge.

From this context, it is extremely important to observe personal epistemology, teaching philosophy, and professional identity, mainly in teaching, where a series of complex processes that regulate how we conceive teaching and learning are combined. According to Pérez et al. (2009), for university learning to achieve efficacy and relevance in individuals, it must consider previous academic, professional, personal, and social experiences that affect the construction and reconstruction of their pragmatic knowledge, also based on their scientific knowledge and comprehensive knowledge.

In this sense, it is coherent to pay attention to the lifelong learning approach (Lengrand, 1966, 1975; Kallen & Bengtsson, 1973; Dave, 1976; Kallen, 1980; Cropley, 1980; Knapper & Cropley, 1985; Faris, 1992; Knapper, 2021, among others), from which it is stated that human beings are in constant formation, whether in a formal, non-formal or informal way, from the different events that we experience, which makes us perceive the world as we do. Along these lines, Schommer (2004), a student of the evolution of beliefs about how we achieve knowledge and how we learn, developed an integrated systemic model that considers culture, forms of knowledge, epistemological beliefs, self-regulation, and Performance. Figure 2 illustrates the interactions between the different elements of the model.



Figure 2. An integrated systemic model of epistemological beliefs



Schommer (2004)

According to the author, epistemological beliefs influence how teachers teach and how they modify, consciously or unconsciously, the epistemological beliefs of students; In that sense, making adjustments in teaching practices can be useful in helping not only low-achieving students achieve higher-level thinking, but also helping high-achieving students grow.

Understanding how teachers think about what to teach, how to teach, why to teach that way, how to evaluate, and why to evaluate in this way, is necessary for the analysis of teaching practices since this affects what they conceive as effectiveness; these beliefs and conceptions evolve as the professional career progresses: novices gradually absorb the initial shock of the complexities involved in the teaching profession; however, for this evolution to happen, the use of multiple domains of knowledge is necessary for the development of the complex tasks that this profession demands (Chrysostomou & Philippou, 2010; Barnes et al., 2020).

Advancing in the reflection regarding teaching practices represents an important transition from behavioral approaches to teaching to a constructivist approach, which elaborates and continuously builds, checking their personal theory of the world (Montanares & Junod, 2018). From this context, Brownlee and Berthelsen (2005) assert that personal epistemological beliefs understood as the perception of individuals about what knowledge is, how it is obtained and the degree of certainty they attribute to it, are structural factors that influence the quality of knowledge of teachers' actions.

These beliefs are less *sophisticated* at the beginning of the teaching career, given that the teacher must internalize his training, experiences, and previous experiences and decide, based on them, how to act. In general, new teachers choose to replicate the style with which they were trained in previous educational levels, unconsciously helping to consolidate practices that are not necessarily the best to enhance student learning.

These approaches are shared by Gorodokin (2017), who points out that the knowledge that guides teaching practices is the constitutive basis of a network of concepts, representations, certainties, and beliefs that found our projects and purposes of teaching intervention. According to this author, the personal epistemology of teachers directly affects how they interpret theories and produce knowledge, which has an impact on teaching practices.

Regarding the teachers' thinking, its structure, dimensions, and influence of training and professional experience in it, Pérez Gómez and Gimeno (1992) state that any attempt to investigate the teacher's pedagogical thinking should rely on a panoramic knowledge, on an X-ray of the characteristics of the group in its different stages of training and professional practice. However, this conception of teachers about how to carry out the teaching-learning process is affected by the accelerated and exponential increase in social stimuli which causes a change in our experiences and our conceptions (Pérez Gómez, 2011).

In the current information society in which we live, the means of access to it have expanded importantly, allowing people who live in remote places, but who have some degree of access to the Internet, to learn at their pace, according to their interests, and connect with people from different parts of the world, who can support them in their learning process. This confirms what the literature already indicates regarding the influence of the environment and personal, academic, institutional, and sociocultural interactions as extrinsic aspects that contribute to the thinking of university professors.

Particularly about the university environment, Wisker (2019) states that, for teachers to develop scientific thinking in their students, they must foster research skills at a high level, following four quadrants: the first, related to intellectual and conceptual skills that accompany and allow the practical realization of the research, the second has to do with practical and systematic research skills, the third is related to the skills to write or systematize research processes, until reaching the highest level in the fourth quadrant, with the development of the identity of an academic researcher. According to Salmento and Murtonen (2018), developing these higher mental abilities is necessary for students to be successful: at the highest level of epistemic understanding, subjects develop a commitment to certain knowledge, based on their judgments.

Reflection on teaching practice

Reflection is a fundamental element to have a constructivist approach to learning (Brownlee & Berthelsen, 2005). Part of reflection involves constructing meaning from what we believe to be knowledge and the beliefs we hold about how it is obtained and how it should be applied. Along these lines, we agree with Pérez Gómez (2011) that people build meanings, both individually and collectively, based on our interests and possibilities of discernment and understanding, always in concrete contexts, historically conditioned.

Two professors with the same university degree, with similar training, and perhaps with the same socioeconomic level, do not develop their teaching in the same way; there are intrinsic aspects of the person that affect the way they see and analyze their environment; in fact, that same context and culture are responsible for molding some schemes in people, about what is good and bad, about what success and failure are, and about countless concepts that make up our thought structures.

In this regard, the approaches of John Dewey (1933) are important, who since the 1930s formulated his theory about reflection and reflective thinking, postulating that thinking reflectively is an active, persistent, and careful consideration of beliefs and assumptions in the environment to knowledge, of the foundations that sustain that knowledge and the conclusions to which that knowledge leads; In that sense, reflective thinking is an ordered chain of ideas, which drives inquiry.

Bearing this in mind, according to this classic, the function of reflective thought is to transform a doubtful situation into a clear and coherent situation; for this, five phases are crossed. In the first phase, starting from the initial reception of anticipatory suggestions for action, then the problem and the reasoning around it are built in a more defined way: in the second phase of reflective thinking, the initial situation is intellectualized into a problem more defined, then we move on to a hypothesis formulation phase, where the situation is comparable and probably measurable. Finally, there is a reasoning phase, where the ideas lead to others, depending on the prior knowledge of the individual and the culture in general, to culminate with the verification phase of the hypotheses.

From this context, educational institutions in general, and specifically teachers, have an important role to develop reflective thinking in students, fostering in them the ability to determine learning deficiencies and become responsible for their learning. To do this, according to Töman (2017), university professors, and in particular those who have recently joined the institution, must be able to use reflective thinking skills in the learning environment.

In that order of ideas, Dunn and Musolino (2011) assert that in developing reflective teaching practice, it is necessary to emphasize critical reflection to promote transformation in beliefs and learning. According to the authors, reflective practice is a hallmark of both personal and professional development, and is made up of, among other factors, reflective thinking and self-directed learning; however, for teachers to develop truly reflective practice, they need to understand more about the ongoing development of students' reflective thinking and approaches to learning.

Teachers develop a reflective practice when they analyze more deeply what they experience in their classrooms, think about and observe what is working and what could be improved, so it is important to carry out observation cycles in which teachers ask themselves what they do as teachers, what that means for them and their students, how they came to act that way, and how they might do things differently; however, in addition to the technical aspects of teaching practice, teachers must also reflect critically, to become *critically reflective practitioners* (Lowenstein & Brill, 2010). For their part, Campo and Restrepo (1999) consider that one of the necessary characteristics to be able to teach is the capacity for self-recognition, reflection on oneself and on the world that constitutes, in the understanding that pedagogy implies a reconstructive theory of educational practices.

When teachers make a critical reflection on their practices, they consider the diversity of needs, approaches, and interests of their students, thus also developing more inclusive and democratic practices, where the traditional perception of teacher power is also transformed and they are considered, respect and value the voices of all those involved in the process (Lowenstein & Brill, 2010). According to Barnett (2001), when students impose a

thought, or belief, for truth without them having the possibility to question, suggest or argue from other points of view, their autonomy is restricted and the study programs lose their flexible nature. For their part, Barreto et al. (2011) state that the reflection process rejects routine thinking, replacing it with rational and intuitive thinking, from certain attitudes, stimuli, inducers, and incentives of enthusiasm, questions, and answers, becoming a creative process.

From the perspective of Domingo (2011), there are three types of reflection: on practice, in practice, and for practice; the first two revolve around a specific fact that forces the teacher to react concerning to which he acts quickly or immediately, while reflection for practice is the desired result of the previous two, seeking with this, not to return to the past but to guide future actions.

For the expert Max Van Manen (1997), reflection in teachers' practice goes through three levels: an initial level, where reflection is applied to the selection and adequate use of didactic strategies; At the second level, teachers reflect on the implicit assumptions in specific classroom practices, as well as on the consequences of certain strategies, curricula, and other aspects, reaching the point of applying educational criteria for contextualized pedagogical decision-making. Finally, at the highest level of reflection, teachers are more critical and question ethical, normative, and moral criteria directly or indirectly related to the classroom.

Similarly, Mezirow (1998) suggests that to reach critical reflection, teachers go through three previous stages: habitual action, understanding, and reflection. During the first stage, the habitual actions of teachers take place unconsciously; in the second stage, an understanding of concepts is evidenced, without reflecting on their meaning in personal or practical situations. In the reflection stage, teachers carry out actions connecting information with experience, while in the critical reflection stage there is a transformation of beliefs and meanings, which involves a personal construction of meanings, as well as an application of cognitive skills of high level by teachers, such as analysis, synthesis, and evaluation.

As can be seen, thinking reflectively is a process, so we must evolve from some habits to others, and remain constantly reinforcing our critical and analytical capacities from which we can actively identify strengths and weaknesses in the way of teaching and the way students are learning.

When we critically examine our own basic principles and begin to create reflection routines, reflective thinking is consolidated, after overcoming the doubts, hesitations, perplexities, and mental difficulties of the initial phase, and then moves on to a phase of search, investigation, and pursuit of elements that clarify the initial uncertainty (Dewey, 1989). In this sense, analyzing the teaching practice implies studying the questions and problems based on their own experiences, reflecting on the contents, the pedagogy, the curriculum, the contents, the students, the context, and the educational purposes, which constitute the narrative element of said analysis (Barreto et al., 2011; Sparks-Langer & Colton, 1991; Barnett, 2001).

From a study carried out by Barreto et al. (2011), at least five dimensions were identified to analyze teaching practice: personal, academic, work, teaching experience, and context. On the other hand, Garcia et al. (2008) formulated an evaluation model of teaching practice that contemplates three dimensions; the first is related to

the teacher's thinking, the second to interaction in the classroom, and the third to reflection on educational practice.

We agree with the idea of Pérez Gómez and Gimeno (2008) that working as a teacher is not easy, so many choose to continue replicating the traditional practices that have been dominating the educational system since this apparently makes things easier, and simpler, although it is not so. In this regard, it is important to know the constructs that determine teaching practices.

A first approach to this analysis is to study the teaching philosophy of university professors, which, beyond being a mere requirement imposed by some institutions, makes it clear what the professor's didactic thinking is, his purposes, methods of action, and even his vision regarding professional development and, although it can be thought that the university professor is responsible, either directly or indirectly, for conforming his philosophy regarding education, teaching, learning and everything related to it over the years, in This construction is also influenced by other factors, such as its institutional, academic, social and cultural environment.

The universities themselves in their models and curricula establish by default what a desirable pedagogical-didactic practice (as well as research and extension or linkage) means for the institution, assigning in that order of ideas a certain role and creating one or the other expectations on the teacher. In this regard, Gimeno (1989) states that the specification of what is meant by the proper professional exercise of the teacher at a given time depends on and is specified largely in the role assigned to him in the configuration and development of the curriculum in the centers and in the classrooms where he works; this entails important derivations for their behavior, which means that the margin of autonomy of teachers is limited.

From the previous scenario, the importance of delving deeper into the thinking of the university professor is evident.

Models and didactic thought of university professors

According to Dewey (1989), the purpose controls the process of thinking, and this purpose is determined by the nature of the problem, so that, as we exercise ourselves more and more in reflecting on the situations in our environment, we develop more complex systems made from the analysis. This analytical relationship with action is, from the point of view of Perrenoud (2007), an epistemological panorama necessary for self-analysis of the profession of teaching. For Lowenstein and Brill (2010), a culture of thought is what distinguishes teachers as technicians, from teachers as professionals, understanding the term *professional* as a member of a particular culture of thought and practice.

Teachers' thinking involves the analysis of teaching work; therefore, certain aspects that make up the pedagogical practice must be considered, such as the organization strategies of the class, the forms of evaluation, the detection and channeling of the problems of the students, as well as the reflection on the work of the teachers as such (Figuerola & Páez, 2008; Hurtado et al., 2015).

According to Figueroa and Páez (2008), thought is associated with cognitive order processes; these are both conscious and unconscious acts. Thought is also something symbolic, a significant intention that tries to explain or describe what is perceived in reality. For the authors, this thought has to do with three types of processes: a logical process of teaching; the link between implicit theories and pedagogical practice; and, a process of association of implicit theories and beliefs present in the teacher. In this line, they point out that the didactic thought of the university professor contemplates three categories: cognitive questioning, the relational scenario of the professor, and beliefs and didactic work (Table 2).

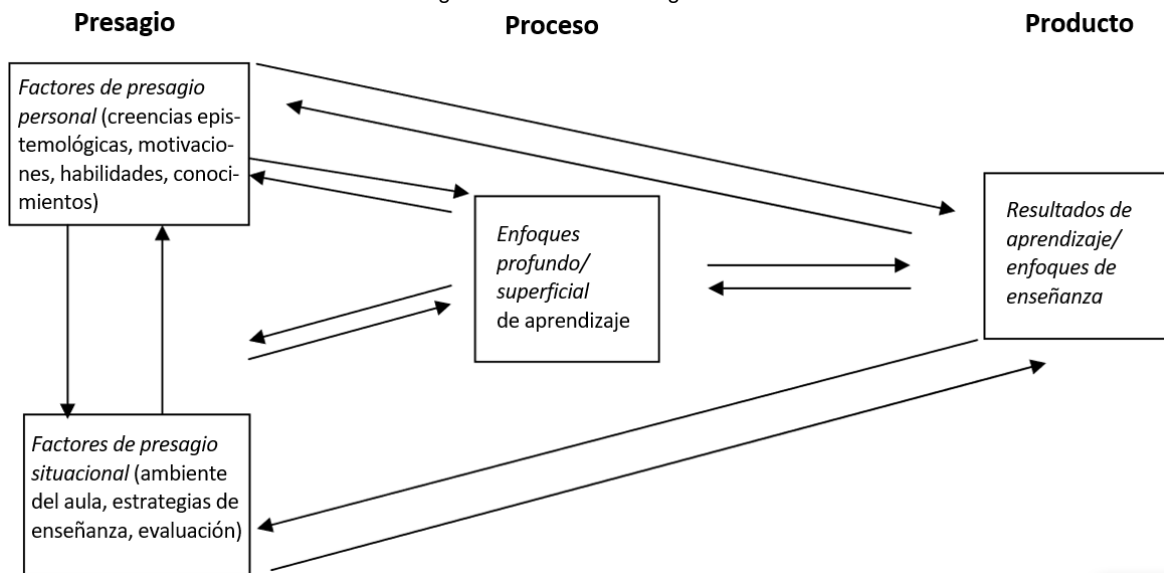
Table 2. Categories of the didactic thought of the university professor

	Cognitive questioning	Teacher Relational Scenario	Beliefs and Didactic Task
Description	Reveals a process of: <ul style="list-style-type: none"> • Disturbance • Doubt • intrigue, and • Realize the cognitive, psychological, cultural, and social changes that are occurring in the mental structure of both teachers and students 	The different communicative events that are established between the teacher, the student, and knowledge in the microsocioal context of the classroom during the didactic task. A didactic situation is mediated by communication and personal relationships, both explicit and implicit, that arise in the fabric of the classroom.	The set of opinions, arguments, ideas, norms, principles, knowledge, attitudes, and thoughts that are expressed by the teacher inside and outside the educational fact.
purposes	<ul style="list-style-type: none"> • Problematize the learner and the teacher • Resolve momentary or long-term blockages • Refute your own ideas and those of others • Incorporate new cognitive, psychological, and cultural structures • Move towards new learning 	Is related to: <ul style="list-style-type: none"> • The language • The comments • The emotions That arises in the educational fact, from their professional, academic, and even family training.	It implies the conclusion of agreements of both parties and for there to be mutual respect between the opinions, it is necessary to establish in the pedagogical practice: <ul style="list-style-type: none"> • trials • standards, and • beginning

Self-made based on Figueroa and Páez (2008)

As can be seen, of these three categories, one is external to the teacher himself, while the other two refer to his personal decision to question and rethink his beliefs regarding knowledge, the ways of reaching it, and how our students learn, which are personal foreshadowing factors, as indicated by Biggs (1987) in his classic model called *the 3P's* (Figure 3).

Figure 3. 3P's Learning Model



Biggs (1987)

Along these lines, Groccia (2012) adds to these personal variables, the training experiences and the teaching experiences of the teachers; Likewise, it considers that the variables related to the environment contemplate not only the institutional and classroom environment but also the formative experiences of the students, which determine to some extent the behavior of the students in the classroom and produce immediate or long-term changes both in his personality as well as in his professional skills.

From the point of view of Estévez et al. (2014), university education currently responds more to the industrial stage than to the information age, so there is a gap in this regard. According to the author, this can be seen in standardization, bureaucratic organization, centralized control, competitive relationships, autocratic decision-making, subordination, conformism, and one-way communications. These characteristics can, unfortunately, also be identified in most of the practices carried out by university professors today. This teacher-centered teaching approach affects a superficial approach to student learning (Iqbal et al., 2019; Villalobos, 2018).

In this order of ideas, the literature indicates that, classically, two great teaching approaches have been identified: one centered on the teacher, and the other centered on the student. The first, from which traditional teaching practices are perpetuated, prioritizes the transmission of information to passive students, who are only responsible for receiving said information. In contrast, in the student-centered approach, the student has a more active and dynamic role and the teacher sees teaching as a procedure through which learning and change in students are motivated and favored (Gargallo et al., 2007; Valverde & López, 2009; Gargallo López et al., 2010; Estévez et al., 2014; Yunga-Godoy et al., 2016; Villalobos, 2018; Iqbal et al., 2019).

From the perspective of García and Porlán (2018), in addition to the didactic models that literature already formally proposes, as they develop their own practices and didactic thinking, university professors build their own models, which, although they could be based on in the *formalized* ones, they have more personal nuances and a lower degree of coherence, since they are generally organized unconsciously and with little argument,

around the culture in which they are immersed, although not necessarily dominated by the institutional context where they carry out their teaching duties.

For these authors, these personal didactic models reveal many aspects of teaching practice, both positive and negative, among which may be mentioned: deficits related to mastery of the discipline, insecurity in interpersonal relationships, fear of criticism, awareness of insufficient didactic training, internalized epistemological absolutism, the teacher's attitude towards the institutional, for example, conformity to evaluation formats and policies, or the predetermined contents for the classes that are taught.

It is important to point out at this point that personal didactic models are built not only individually but also, implicitly, considering their colleagues and external factors at an academic and social level, the most important thing is the commitment to move forward from those models towards desirable models, that overcome difficulties and that allow the teacher to work in networks and be open to accompaniment by more experienced colleagues (García and Porlán, 2018).

In this order of ideas, it is evident that, for students to develop a deep learning approach, their teachers must also change their teaching approach, for which they must also modify a series of constructs that they have been structuring as their own for years, and that institutions are often responsible for reinforcing. In the university context, this is even more evident, since it is about teaching and learning of adults who, according to Habermas (1984), have very particular knowledge and interests, so it is necessary to understand the meanings that they attribute not only the educational as such but also the historical, the epistemological and the social.

According to Mezirow (1981), university teaching should be characterized by being critically aware of our habits of perception, thought, and action. For the author, this *awareness* is the result of a perspective of transformation that fosters an emancipatory action, which is ultimately the central function of adult education. To carry out this process of transformation, this author proposes a path of action that starts from disorientation that provokes an inner dilemma and self-examination, which leads to the critical evaluation of the roles and assumptions internalized personally and the sense of alienation of traditional social expectations, as well as an analysis of the relationships of discontent towards similar experiences of others, the exploration of options and new courses of action, the construction of skills and self-confidence in new roles, planning a course of action, acquisition of knowledge and skills to implement these action plans, interim effort to play new roles and provide feedback, and reintegration into a society based on the conditions dictated by the new perspective.

This cannot be achieved if teachers continue to develop traditional teaching practices; however, for this, the pedagogical training processes of teachers are important, mainly for beginning teachers, since this traditional conception of teaching is not entirely the responsibility of the teacher, but rather they do not always have sufficient teaching skills to do their job. I work effectively (Gargallo López et al., 2007; Rosales & Silvestre, 2015), so it will be difficult for them to progress towards didactic models where the student and their learning are the centers of the teaching process.

4. CONCLUSIONS

Based on the reviewed literature, we identified a consensus regarding two large categories to consider when analyzing the practices of university teaching staff: the first category has to do with intrinsic aspects and the second with extrinsic aspects. The category on intrinsic aspects is related to teachers' beliefs about what to teach, how to teach, why to teach that way, how to evaluate, and why to evaluate that way; Likewise, it contemplates the previously academic, professional, personal, and social experiences, the formal, non-formal and informal learning achieved by teachers throughout their lives, as well as their individual and collective identities. The category of extrinsic aspects contemplates the personal, sociocultural, and academic-institutional environments in which teachers interact; the latter has a direct impact on teaching practices since they establish a reference framework on what and how to evaluate, as well as on the evaluation processes.

Around these categories, teachers develop more or less critical thinking, from which they analyze their own performance until they reach levels of reflective thinking that give rise to reflective teaching practices. Depending on the level of reflection and sophistication of the teachers' thinking, personal didactic models are consolidated, which take up elements of the formal models and redefine them according to the teachers' beliefs, experiences, learning, identities, and interactions, approaching or moving away from what the literature calls an *ideal model*.

Only by developing a reflective, comprehensive, and participatory practice, we will be able to overcome the challenges that current education represents, such as, for example, considering the rhythms, styles, and other characteristics of our students, thus fostering attention to diversity and promoting more inclusive education, to guide our students towards the acquisition of learning that allows them to perform satisfactorily not only academically and professionally, but also personally and socially.

Conflicto de intereses / Competing interests:

El autor declara que no incurre en conflictos de intereses.

Rol de los autores / Authors Roles:

No aplica.

Fuentes de financiamiento / Funding:

El autor declara que no recibió un fondo específico para esta investigación.

Aspectos éticos / legales; Ethics / legals:

El autor declara no haber incurrido en aspectos auténticos, ni haber omitido aspectos legales en la realización de investigación.

REFERENCES

- Barnes, N., Fives, H., Mabrouk-Hattab, S., & SaizdeLaMora, K. (2020). Teachers' epistemic cognition in situ: Evidence from classroom assessment. *Contemporary Educational Psychology*, 60, 101837. <https://doi.org/10.1016/j.cedpsych.2020.101837>
- Barnett, R. (2001). *Los límites de la competencia. El conocimiento, la educación superior y sociedad*. Gedisa.
- Barreto, J., Mateus, C., & Muñoz, C. (2011). *La práctica reflexiva, estrategia para reconstruir el pensar y hacer las prácticas de enseñanza* [Pontificia Universidad Javeriana]. <http://hdl.handle.net/10554/1260>
- Biggs, J. (1987). *Student approaches to learning and studying. research monograph. Australian council for educational research*. <https://eric.ed.gov/?id=ED308201>

- Boshier, R. (1978). Book reviews : Dave, R. H. (ed.). Foundations of lifelong education. Oxford: UNESCO institute for education and pergamon press. *Adult Education*, 28(2), 132–135. <https://doi.org/10.1177/074171367802800207>
- Brookes, A.-L., Belenky, M., Clinchy, B., Goldberger, N., & Tarule, J. (1988). Women's Ways of Knowing: The Development of Self, Voice, and Mind. *Curriculum Inquiry*, 18(1), 113. <https://doi.org/10.2307/1179565>
- Brownlee, J., & Berthelsen, D. (2006). Personal epistemology and relational pedagogy in early childhood teacher education programs. *Early Years*, 26(1), 17–29. <https://doi.org/10.1080/09575140500507785>
- Campo, R., & Restrepo, M. (1999). *Formación integral: modalidad de educación posibilitadora de lo humano*. Santafé de Bogotá : Pontificia Universidad Javeriana.
- Chihu, A., Jiménez, G., Pérez, R., Reygadas, L., Montesinos, R., Nateras, A., & Maffesoli, M. (2002). *Sociología de la identidad* (Ed. MAPorr). 970-701-233-1.
- Chrysostomou, M., & Philippou, G. (2010). Teachers' epistemological beliefs and efficacy beliefs about mathematics. *Procedia - Social and Behavioral Sciences*, 9, 1509–1515. <https://doi.org/10.1016/j.sbspro.2010.12.357>
- Cropley, J. (1980). *Towards a system of lifelong education, some practical considerations* (1st Editio). <https://www.elsevier.com/books/towards-a-system-of-lifelong-education/cropley/978-0-08-026068-6>
- Dewey, J. (1997). *How we think*. Dover Publications.
- Domingo, À. (2011). *Niveles de reflexividad sobre la práctica docente: niveles, activadores y pautas*. <https://docplayer.es/209347727-Niveles-de-reflexividad-sobre-la-practica-docente-niveles-activadores-y-pautas-dra-angels-domingo-roget.html>
- Dunn, L., & Musolino, G. (2011). Assessing reflective thinking and approaches to learning. *Journal of Allied Health*, 40(3), 128–136. <https://pubmed.ncbi.nlm.nih.gov/21927778/>
- Estévez, E., Arreola, C., & Valdés, A. (2014). Enfoques de enseñanza de profesores universitarios en México. *Education Policy Analysis Archives*, 22, 17. <https://doi.org/10.14507/epaa.v22n17.2014>
- Faris, R. (1992). *Lifelong learning for the 21st century: A report on the future development of adult*. Ministry of Education, Skills and Training.
- Figueroa, N., & Páez, H. (2008). Pensamiento didáctico del docente universitario: una perspectiva desde la reflexión sobre su práctica pedagógica. *Fundamentos En Humanidades*, 9(18), 111–136. <https://www.redalyc.org/pdf/184/18411970006.pdf>
- García, B., Loredo, J., & Carranza, G. (2008). Análisis de la práctica educativa de los docentes: pensamiento, interacción y reflexión. *REDIE. Revista Electrónica de Investigación Educativa*, 10. <https://redie.uabc.mx/redie/article/view/200>
- García, F., & Porlán, R. (2018). *Los principios didácticos y el modelo didáctico personal*. Ediciones Morat.
- Gargallo, B., Fernández, A., & Jiménez, M. (2009). Modelos docentes de los profesores universitarios. *Teoría de La Educación. Revista Interuniversitaria*, 19. <https://doi.org/10.14201/3256>
- Gargallo, B., Sánchez, F., Ros, C., & Ferreras, A. (2010). Estilos docentes de los profesores universitarios. La percepción de los alumnos de los buenos profesores. *Revista Iberoamericana de Educación*, 51(4), 1–16. <https://doi.org/10.35362/rie5141826>
- Geis, G. L., Knapper, C., & Cropley, A. (1986). Lifelong learning and higher education. *The Journal of Higher Education*, 57(3), 337. <https://doi.org/10.2307/1981562>
- Gimeno, J. (2021). Profesionalidad docente, curriculum y renovación pedagógica. *Investigación En La Escuela*,



- 7, 3–21. <https://doi.org/10.12795/IE.1989.i07.01>
- Gorodokin, I. (2006). La formación docente y su relación con la epistemología. *Revista Iberoamericana de Educación*, 37(5). <https://doi.org/10.35362/rie3752691>
- Groccia, J. E. (2012). A Model for understanding university teaching and learning. In *Handbook of College and University Teaching: A Global Perspective* (pp. 2–14). SAGE Publications, Inc. <https://doi.org/10.4135/9781412996891.n1>
- Hofer, B., & Pintrich, P. (1997). The Development of Epistemological Theories: Beliefs About Knowledge and Knowing and Their Relation to Learning. *Review of Educational Research*, 67(1), 88–140. <https://doi.org/10.3102/00346543067001088>
- Hurtado, A., Serna, M., & Madueño, M. (2015). Práctica docente del profesor universitario: su contexto de aprendizaje. *Profesorado, Revista de Currículum y Formación Del Profesorado*, 19(2). <https://recyt.fecyt.es/index.php/profesorado/article/view/40922>
- Iqbal, T., Saeed, A., & Akhter, M. (2019). A study of university teachers' approaches to teaching at undergraduate level in Punjab, Pakistan. *Bulletin of Education and Research*, 41(1), 147–162. <https://eric.ed.gov/?id=EJ1217855>
- Kallen, D., & Bengtsson, J. (1973). *Recurrent education: a strategy for lifelong learning*. Organisation for Economic Cooperation and Development (OCDE). <https://eric.ed.gov/?id=ED083365>
- Knapper, C. (2021). Lifelong learning: historical perspectives and future prospects. *Journal of Global Lifelong Learning*, 1(1), 3–16. <http://gll.shou.org.cn/Upload/PaperUpload/3f4aba02-4a38-40f6-acda-30fb5d7ee7c0.pdf>
- Lengrand, P. (1966). *L'éducation permanente*. Peuple et culture.
- Lengrand, P. (1975). *An introduction to lifelong education*. <https://eric.ed.gov/?id=ED118876>
- Lowenstein, K., & Brill, A. (2010). A Culture of thinking like a teacher: The role of critical reflection in teacher preparation. *Journal of the National Association for Alternative Certification*, 5(2), 9–22. <https://eric.ed.gov/?id=EJ1053507>
- Medina, P. (2001). ¿Eres maestro normalista y/o profesor universitario? La docencia cuestionada. *Colección Pedagógica Universitaria*, 36, 1–4. <https://biblat.unam.mx/es/revista/coleccion-pedagogica-universitaria/articulo/medina-melgarejo-patricia-eres-maestro-normalista-yo-profesor-universitario-la-docencia-cuestionada-mexico-plaza-y-valdes-2000>
- Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education*, 32(1), 3–24. <https://doi.org/10.1177/074171368103200101>
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 197(74), 5–12. <https://doi.org/10.1002/ace.7401>
- Mezirow, J. (1998). On critical reflection. *Adult Education Quarterly*, 48(3), 185–198. <https://doi.org/10.1177/074171369804800305>
- Montanares, E., & Junod López, P. (2018). Creencias y prácticas de enseñanza de profesores universitarios en Chile. *Revista Electrónica de Investigación Educativa*, 20(1), 93. <https://doi.org/10.24320/redie.2018.20.1.1383>
- Murtonen, M., & Balloo, K. (2019). *Redefining scientific thinking for higher education*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-24215-2>
- Pérez, Á. (2008). ¿Competencias o pensamiento práctico? La construcción de los significados de representación



- y de acción. In *Educación por competencias, ¿qué hay de nuevo?* (pp. 59–102).
- Pérez, A., & Gimeno, J. (2008). *Comprender y transformar la enseñanza* (Duodécima). Morata.
- Pérez, Á., & Gimeno, J. (2021). El pensamiento pedagógico de los profesores: un estudio empírico sobre la incidencia de los cursos de aptitud pedagógica (CAP) y de la experiencia profesional en el pensamiento de los profesores. *Investigación En La Escuela*, 17, 51–73. <https://doi.org/10.12795/IE.1992.i17.04>
- Pérez, Á., Gómez, E. S., Sola, M., & Serván, J. (2009). *La universidad del aprendizaje: orientaciones para el estudiante*. © Ediciones Akal, S. A.
- Perrenoud, P. (2001). *Desarrollar la práctica reflexiva en el oficio de enseñar*. ESF éditeur.
- Perry, W. (1968). *Patterns of development in thought and values of students in a liberal arts college: a validation of a scheme*. <https://eric.ed.gov/?id=ED024315>
- Rosales, M., & Silvestre, M. (2015). Caracterización de un modelo de enseñanza del docente de nivel superior. *Foro Educativo*, 25, 11–29. <https://dialnet.unirioja.es/servlet/articulo?codigo=6429437>
- Schommer-Aikins, M. (2004). Explaining the epistemological belief system: introducing the embedded systemic model and coordinated research approach. *Educational Psychologist*, 39(1), 19–29. https://doi.org/10.1207/s15326985ep3901_3
- Sparks-Langer, Georgea Colto, A. (1991). Synthesis of research on teacher's reflective thinking. *Educational Leadership*, 48(6), 37–44. <https://eric.ed.gov/?id=EJ422853>
- Töman, U. (2017). Investigation to improve the process of pre-service teachers' reflective thinking skills through an action research. *Universal Journal of Educational Research*, 5(9), 1535–1548. <https://eric.ed.gov/?id=EJ1151892>
- Valverde, J., & López, E. (2009). Modelos pedagógicos en la docencia universitaria a través de entornos virtuales de enseñanza-aprendizaje. *Campo Abierto*, 28(2), 47–68. <https://dialnet.unirioja.es/descarga/articulo/3128555.pdf>
- van Manen, M. (1977). Linking ways of knowing with ways of Being Practical. *Curriculum Inquiry*, 6(3), 205. <https://doi.org/10.2307/1179579>
- Villalobos, A. (2018). Enfoques de aprendizaje y enfoques de enseñanza en la educación superior chilena: un análisis comparativo. *Tendencias Pedagógicas*, 31(2018). <https://doi.org/10.15366/tp2018.31.007>
- Wisker, G., Murtonen, M., & Balloo, K. (2019). *Redefining Scientific Thinking for Higher Education*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-24215-2>
- Yunga-Godoy, D., Loiza, M., Ramón-Jaramillo, L., & Puertas, L. (2016). Enfoques de la enseñanza en educación universitaria: Una exploración desde la perspectiva latinoamericana. *Profesorado, Revista de Currículum y Formación Del Profesorado*, 20(3). <https://recyt.fecyt.es/index.php/profesorado/article/view/54600>