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Narrative as a Method for the Construction and Expression of Knowledge in Didactic Research

A narrativa como método de construção e expressão do conhecimento na pesquisa didática

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Abstract

The construction of knowledge in the social sciences has produced a series of discussions about the method and how it allows to interpret, analyze and reliably understand the phenomena studied. Didactics, as a social science, has not been alien to such reflection; for this reason, it has started a search for methods that allow researchers to build scientific knowledge that accounts for the meanings and meanings of the discourses that surround the classroom, which show the teaching and learning processes. This article presents an analytical study in which the narrative is proposed as a method to epistemologically support the knowledge that is built in didactic research, achieved in qualitative research, and also as a means that allows to express the built knowledge.

Keywords: Narrative, Didactics, Scientific Knowledge, Scientific Method, Education.

Resumo

A construção do conhecimento em ciências sociais causou uma série das discussões em torno do método e como esta permire interpretar, analisar e compreender de maneira confiável os fenômenos estudados. A didática, como ciência social, não foi alheia a tal reflexão; Por isso, iniciou-se a busca por métodos que possibilitem aos pesquisadores construir um conhecimento científico que dê conta dos sentidos e significados dos discursos que circundam a sala de aula, que evidenciam os processos de ensino e aprendizagem. Este artigo apresenta um estudo analítico em que a narrativa é propos- ta como método de suporte epistemológico ao conhecimento que se constrói na pesquisa didática, alcançado na pesquisa qualitativa, e também como meio que permite expressar o conhecimento construído.

Palavras-chave: narrativa, didática, conhecimento científico, método científico, educao.

Narrative and Knowledge in Social Sciences

In recent decades, some discussions have arisen around narrative as a research method for the social sciences, such as those provided by Blanco (2011); Salazar Henao and López Moreno (2016); Guillaumet, Amorós, Ramos, Campiño and Martínez (2018); Pérez Villalobos-Clameria and Melo-Hermosilla (2019); among others. The knowledge that is built on social phenomena requires the researcher to carry out methodological processes framed in the analysis and interpretation not only of the facts and problems that he faces in social reality, but also of the discourses that are created and surround to provide clear descriptions and explanations about this reality. In this sense, in the construction of knowledge in the field of social sciences, the researcher assumes a tacit commitment to language, its rules and uses, since this is a condition of possibility for knowledge, in addition to being a necessary condition in the nature of the social phenomenon.

Social institutions are created through the use of language and action. Facts and social problems have in their nature or basis the social institution of language. Social reality is intentionally created through speech acts (Searle 1969, 1980, 1995, 1998 and 2010). In this sense, language is not only a condition of possibility for knowledge, but also for the construction of social reality, as well as being a necessary condition for the circulation and validation of the statements and theories that are built on social phenomena.

Now, the ontological subjectivity of social reality has led, erroneously, some theorists to consider that the knowledge that is built in the social sciences is also subjective and that with it, everything that is said about it, a social fact becomes valid. However, the logical studies carried out by Wittgenstein (2009a); Concha, Barriga and Henríquez (2011) and Rodríguez (2018) show that such insights are nothing more than misfortunes when making inferences about the construction of knowledge of the social. As Searle (1995, 1998 and 2010) argues, social reality is ontologically subjective, there is no doubt about that, but epistemological studies on it achieve objectivity, and they do so precisely in the use of language, as stated by Berger and Luckmann (1972).

Ontology and epistemology have different objects of study, therefore, it does not follow logically that accepting the subjective nature of the social fact continues to accept epistemological subjectivity[1].

Undeniably, social reality and the knowledge built on it - like knowledge about any natural phenomenon - depends ontologically on the subjects. Science, as stated by Kuhn (2004) is a human and social activity, framed in time and in the needs of the context; For this reason, as it is constructed by the subjects, it does not reach absolute truths, and is restricted by the limits of our human condition. However, accepting science as a human construction does not imply acceptance of the premise that promotes a subjective nature of knowledge. Scientific studies on social reality, as well as in the natural sciences, can be expressed in objective statements. In this sense, it can be accepted, as stated by Searle (1995, 1998 and 2010), that social phenomena have an ontological subjectivity and an epistemological objectivity.

Seen this way, it is possible to accept that the knowledge of the social sciences can be constructed and expressed in an objective way, without going so far as to affirm that, by claiming objectivity in the process and in the statements, an absolutist position is assumed. The surrounding 'truths' that are expressed in theories that account for social facts are relative to time, method, and object of study. In this sense, the construction of knowledge about social reality must be carried out based on reliable methods and processes that objectively account for the phenomenon. Knowledge about the social world cannot be reduced to the subjectivity of the researcher; even when this, to build it, uses interpretive processes and discursive analysis. The interpretation in the investigative process must be made in the light of the phenomenon studied and not from the *a priori* beliefs of the researcher.

According to what has been said, the knowledge that is built in the social sciences marks a higher challenge that the formal, natural and experimental sciences assume, insofar as the object of study is mostly changing and complex. Social phenomena belong to a specific historical epoch. Social facts occur in defined times and spaces and those who study them use different methods, which is why various theories arise. In the social sciences, concepts are less variable in their meanings, since the phenomenon is exposed to fewer changes than those that occur in the social sphere. In this sense, the central concepts of the social sciences become changeable and vary in meaning from one theory to another; as well as the meaning of a concept

1. To understand in detail the difference between the ontological and the epistemological, as well as the problem of wrongly considering the inheritance of a subjective ontology in epistemological studies, it is suggested to review the texts of Searle, J. (1995). *The Construction of Social Reality*; as well as the text by Rodríguez, A. (2018). ***Naturaleza biopragmática de*** *la moral. Lenguaje y mente, condiciones necesarias de la institución moral*. These authors show how objectivism and relativism have been considered antonyms in philosophy, when in reality the opposites are objectivism / subjectivism and absolutism / relativism. Likewise, given this confusion, it has been considered that due to the fact that something is created by man, that is, because it has a subjective nature, then the construction of knowledge will also be subjective, a false inheritance, since logically such a conception is not followed.

changes when studied in one discipline or another. Reason why, we do not speak of a social science, but of *social sciences;* in each study on x and y social phenomenon, contributions are made to understand only a part of the totality of reality, which requires researchers of the social sciences to be in continuous review of the fundamental concepts; which in turn implies processes of linguistic analysis in the construction of knowledge about the social phenomenon, since each discourse handles, as Wittgenstein (2009b) exposes, its own set of rules.

Narrative as a Method in Social Research

Both social life and the knowledge that is built around it have the structure of a story, as it is essentially discursive, as supported by the studies by Searle (1969, 1995 and 2010) and Ricoeur (1996). Human beings build social institutions and meanings around social phenomena with our practices and through the use of language. We make stories and by constructing them we appropriate the story of others with whom we share, in addition to appropriating the theoretical story that epistemologically sustains social reality. We take the stories that others have created and endowed with meaning to understand and interpret the world and make sense of our social practices (White, 1978 and 1972) and White & Epson (1993). This is how science is one more story that allows us to understand the world in which we live.

Knowledge is presented by scientists as a story that accounts for the events of the world (Rodríguez, 2019). Statements of science are expressed in propositional terms, including those that refer to social facts; facts in which, on a daily basis, we intervene with our speeches and actions to transform the reality in which we live. In this way, we not only create social reality, but we study, analyze, interpret and learn about it through discourse to later transform it.

Therefore, for the construction of knowledge about social facts we use qualitative research and its methods. They allow us to unveil the problems of a conceptual and practical nature that arise in the social world and initiate theoretical reviews that allow us to understand and interpret social facts. Constructions that constitute an epistemological horizon for the social paradigms that guide our actions. The "truth"[2] expected in the statements that make up the corpus of social sciences - in our case the beliefs that we hold to be true and that become reliable, even when they are fallible - are interwoven within the framework of narrative fiction, as proposed by coherentists. Thus, some beliefs are coherently linked with others, through which the studied reality can be interpreted. The text mimics and graphs reality (Ricoeur, 1996), and through this text we can begin the interpretations to inhabit it. In other words, language allows not only to describe and narrate, but to explain natural and social reality. Language and its use, through narration, gives an account of the facts, especially if we consider that social phenomena are constructed, regulated, instituted and expressed linguistically.

If the social phenomenon arises in the use of language and in action, and its knowledge is constructed and expressed in linguistic terms, we could suggest that perhaps the narrative can become a pertinent option, not only to express knowledge, but also to build it. Narrative can be a reliable way - of course not the only one - to produce knowledge about the social world. In qualitative research, meaning, the analysis of language and social practices and their interpretation prevail. In a broad sense, qualitative methodology can be defined as research that produces descriptive data: people's own words, spoken or written, and observable behavior (Quecedo and Castaño, 2002, 7). Therefore, the researcher is a reader of the text, the world, the phenomena and the discourses. As a reader, you must be able, as Contursi and Ferro (2000) put it, to interpret by making inferential reasoning based on the paths drawn by the narrator (the subjects and actions that constitute the social problem).

If social life is a text in which facts, actors, time and space are identified; then, life itself, as Ricoeur (1996) puts it, is a narrative. Seen this way, narrative, understood as a linguistic form that has literary elements to express and systematize the experiences of individuals, can be considered valid for studying social experiences in a specific field — the problem — since it is part of reality. Narrative allows the subject to recognize himself as part of the problem and the solution, as a historical being that creates and recreates his reality in order to understand it. Narrating allows the subject to establish a dialogue between reality (their experiences) and the theoretical foundations, both ontological and epistemological, of the social sciences. Thus, the historicity and temporality of human existence can be understood from discourse. In *Sí mismo como otro*, Ricoeur (2003) allows us to see that by taking the narrative as a method for the construction of knowledge, the hidden processes and phenomena of individuals and social groups can be unmasked. The above

2. It is essential to clarify that the use of the term "truth" does not refer to an absolutist, nor universalizable, nor to the ontological truth, nor to the truth by correspondence. When this term is used, reference is made to the aletic condition of propositional statements that are expressed in science. For the specific case of interest in this study, the statements that are produced in research carried out in science didactics.

maintains since, it will allow to describe, interpret, provide meaning, explain the studied phenomena and express them through propositional statements (Wittgenstein, 2009a; Rodríguez, 2019), which arise in the discourse of those who create them to graph the reality studied.

For Miskovic (2007), the narrative allows studying culture, life, individuals and communities during a period of time, it allows others to identify how marginal groups initiate political actions, since the narrative is a story that reflects a determined cultural moment. This perspective requires researchers that their new story be narrated objectively from the problem studied, the perceptions of the individuals and groups of subjects that intervene and are part of the phenomenon; the stories they tell and what their practices reveal and not from their own gaze.

Accepting the above, leads to the social scientist in qualitative research processes assuming the role of a reader who interprets the problem from the discourse narrated by those who are part of it. To the researcher, the problem itself is presented as a text to be interpreted. Text as a discourse framed in context allows you to unveil the hidden in order to understand it. Thus, the narrative as a method for qualitative research allows us to delve into the subjects that are part of the nature of the problem and advance in the process of construction of knowledge. The narrative allows the researcher to interpret and critically understand the reality evoked by the multiple discourses that surround and originate the social problem. The process described will lead the researcher to give rise to a new methodologically and epistemologically grounded discourse. In other words, narrative as a research method will allow not only to identify the details in the words of those who are part of the object of study (actors and creators of social reality), but also of those who investigate it; since the researcher becomes a reader, interpreter and writer when he narrates the reality he interprets.

Now, as it has been stated, our social reality is a story constructed by speech acts and narrative brings us closer to the interpretation and understanding of these in order to explain them, as proposed by MacIntyre (1980). Reason why, when proposing narrative as a method for the construction of knowledge, the researcher is required to have knowledge of the rules of this type of discourse. The multiple rules that call for the different language games (Wittgenstein, 2009b). Following the rules of the language games used to construct the stories of social life is what will allow achieving objectivity in the analysis and interpretation of the phenomena. If we create social facts through language, we must also be able to recognize the rules that call for the discourses we use, otherwise, under what epistemological support would the new narrative rest? This conception of knowledge of the rules of narrative discourse allows us to see that in addition to being a pertinent method in the construction of knowledge in the social sciences, it can be considered as a means of propositionally expressing constructed knowledge. Seen this way, the narrative can have a double function in social research - as Clandinin and Connelly put it, (1990, 2000 and 2007)- when considering it as a method that allows the study phenomenon to be made explicit, analyzed and interpreted in the actors' speeches and as a means of expression to present the results, that is, as a theoretical reconstruction of the research process.

Supported by Denzin, we accept as a premise that “we live in the moment of the narrative. The narrative turn is taking place in the social sciences... Everything we study is within a narrative representation or story. In fact, as academics we are storytellers, storytellers about other people's stories. We call these stories "theory" (1997, p. Xi), therefore, our duty as social researchers calls for the assumption of a commitment to discourse, to managing it to describe and narrate stories, to explain phenomena; so, as MacIntyre (1981) affirms, thanks to language we are animals that we construct and we narrate the stories and these that account for the social phenomena that we construct.

In a similar regard, Smith (1980) states that qualitative research carried out in the social sciences becomes an empirical process that calls for discourses; The same that does not remain in the intuition or subjective reflection of the researcher, but develops in the social field in which research is done. Qualitative research seeks to interpret, understand and comprehend problems and situations in a particular context, for which it calls for particular discourses to produce knowledge. In other words, the inductive nature of this type of research calls for methods and techniques that allow the researcher to achieve meaning about the phenomenon studied and produce knowledge about that particular reality. Interpretations, descriptions and understandings are made to reveal the meaning and signified of actions and speeches made by actors in a given context and time. For Smith, this type of research does not use the method to guarantee the truth, but rather as a way to search for reliable knowledge that leaves the researcher's speculation. In other words, rather than having as its object the claim to truth, qualitative research tends to search for the meaning and understanding of the social phenomenon (Smith, 1980).

Well, if “qualitative studies attempt to systematically describe the characteristics of variables and phenomena (in order to generate and refine conceptual categories, discover and validate associations between phenomena

or compare constructs and postulates generated from phenomena observed in different contexts), as well as the discovery of causal relationships, but avoid assuming constructs or relationships *a priori*"(Quecedo and Castaño, 2002, 12), the narrative can be considered as an opportune method to achieve such interests; Of course, if the researcher manages to overcome the autobiographical and anecdotal descriptions of experiential knowledge, and goes on to epistemologically support the discourses studied in order to achieve the construction of theories that explain the data, the inductively created hypotheses, or the adjusted causal propositions to the data (Quecedo and Castaño, 2002, p. 12).

We can assume, then - as Taylor and Bogdan (1989) suppose - that qualitative research, through narrative as a method, allows a face to face between the researcher and the actors that make up the reality studied; which leads to that in the encounters, those who have the information about the social problem, narrate it in their own words and the researcher interacts with the informants through the use of language, in order to interpret and achieve the meaning of what is communicated. Life stories, interviews and dialogues will give an account of the experiences and situations that occur. The analysis and interpretation of these will allow a new theoretical construction that allows us to understand the phenomenon and propose alternative solutions to the problems, as is well stated by Arias and Alvarado (2015).

Narrative as a Means of Expression of Knowledge

In the previous section, narrative is presented as a relevant method in qualitative research for the field of social sciences, given that the nature of this type of discourse has similarities with the nature of the social phenomenon under study. It was also briefly outlined that narrative in qualitative research can serve a dual role; on the one hand, to serve as a method to collect stories and speeches from social actors, as well as to analyze and interpret the information contained in said stories. On the other hand, it can serve as a means of theoretical construction, since the researcher through his narration can present the results achieved in his investigative process, describe the problem, present the hypotheses and narrate how he confronted, analyzed and interpreted the data in the process. Likewise, narrative as a literary resource makes it possible to present a final research report, since it allows the narrator to present his exercise to the academic community, and to exhibit - through the text - the categorization in light of the theories that founded the study. process, in addition to opening a space for the voices of the agents linked to the research problem.

Narrative will then serve to carry out the collection of empirical data that offer complex descriptions of events, interactions, behaviors, thoughts ... that lead to the development or applications of categories and relationships that allow the interpretation of the data (Quecedo and Castaño; 2002, p. 12) and allows the researcher to carry out processes of re-interpretation through the act of telling. In terms of García-Huidobro (2016), the narrative is situated as an epistemological and methodological resource in research; since it allows the researcher to reflectively build the knowledge that accounts for the process carried out. Due to its structure, it facilitates the researcher's interpretation of the social actors' discourses in light of the theory, all of the above, in order to support the knowledge that he constructs (p. 157).

The narrative construction of knowledge allows giving shape and meaning to the stories that social reality summons. The narrative takes on forms and takes on unique procedures depending on the material that makes up the fable. It is not the same to narrate a personal experience as an anecdote that does not have us as protagonists (not only in an individual sense, but also in collective, national, ethnic, cultural terms). It is not the same to make a “racconto” of a nearby event at the time of the enunciation, to reconstruct what happened, for example, two centuries ago (Contursi and Ferro, 2000, 61). The meaning of the social fable, as proposed by Eco (1981), is the substance of the content. Narrative allows establishing semiotic relationships between words, symbols and actors; it allows the semiotic representation of the fact itself. The narrated fable is the means of expression that allows the recognition of the person in their daily life (Goffman, 1994).

Construction of Knowledge in Science Didactics

In recent years a wave of studies has emerged around the consolidation of didactics as a scientific discipline. The delimitation of its object of study, the search for methods in the construction of knowledge about the teaching and learning processes, and the academic communities that investigate in pursuit of the construction of their own knowledge, based on epistemological guidelines, account for a theoretical construct that has matured in the spaces of scientific discussion. Authors such as Astolfi and Develay (1989); Izquierdo (1990); Astolfi (1993); Adúriz-Bravo (1999-2000); Espinet (1999); Adúriz-Bravo and Izquierdo (2002); Mestre, Fuentes and Álvarez (2004); Soto (2012), among others, have stated that science didactics emerges as an autonomous discipline, which has demarcated its object of study in the teaching and learning processes of science content. As an autonomous discipline, it builds its own knowledge that, although it is in relation to other disciplines, is able to differentiate itself from these to the extent in which it

delimits its object of study and looks for reliable methods supported by epistemological review, all of this to reach a theoretical construct about this social phenomenon that takes place in the classroom (Izquierdo, 1990).

Didactics - for Adúriz-Bravo- as an autonomous discipline builds theoretical models on the social phenomena of teaching and learning in the classroom. This knowledge that arises in a given social space has been sustained - as Joshua and Dupin (1993) show - in methodological designs that in turn are based on epistemological and psychological approaches. Didactics as a scientific discipline demarcates a path in the construction of knowledge around the learning and teaching of science, not only because it has empirical data and its own conceptual frameworks; but because its theoretical constructions, in addition to taking the foundations of the contributions of the *cognitive sciences,* end up contributing to this field of knowledge as well.

> If we examine the theoretical connections of didactics with other disciplines, we agree that epistemology, the history of science and the psychology of education have provided its theoretical foundations. In this sense, much of the current didactic research can be located in the interdisciplinary field called cognitive science, which combines contributions from neuroscience, artificial intelligence, systems theory and psycholinguistics. (Adúriz-Bravo and Izquierdo, 2002, p. 136).

In this sense, the knowledge that is built in specific didactics, although it is in relation to other disciplines, begins to be considered as an independent knowledge, to the extent that it leaves aside the problem of training in general, which calls for pedagogy, and studies the teaching and learning processes of specific sciences and the development of the thinking skills required to achieve deep learning about the concepts that are addressed in the classroom.

It concerns the didactics of the sciences reflections on the questions of content, the methodological intentionality of the design, the means or resources, the evaluation, the context, the organizational forms of the teaching exercise, the needs and interests of the students, the cognitive processes and learning obstacles. Phenomena that raise questions such as: what to teach? What to learn? How to teach?
How do you learn? What hinders the learning processes? What hinders the teaching processes? How to overcome the obstacles presented in teaching and learning?, among others. Questions that lead the researcher to circulate between theory and practice in order to account for the phenomenon studied; in addition to building knowledge about said phenomenon and put it into practice in their teaching practice, for the sake of transforming their teaching.

For Soto (2012) there are a series of elements inherent to the nature of didactics that allow it to be considered as a science. The objectives, the content, the methods, the means, the evaluation, the organizational forms of teaching, the teacher (teacher or professor), the student and the school group are elements that, when studied, account for the essential components of this science: object of study, general objective, essential function of science, and essential methods for research. Likewise, it states that science, in addition to defining and assuming concepts and categories related to its object of study, interprets and applies principles and laws, providing theoretical-practical tools, such as those provided by didactics; They allow not only the objective interpretation of the surrounding reality in the classroom, but also the transformation of that reality on the basis of previously conceived objectives (Soto, 2008).

The knowledge constructed by science didactics meets the requirements proposed by Soto (2008; 2012), Adúriz-Bravo (1999-2000) and Adúriz-Bravo and Izquierdo (2002), since it is not a reflection *per se* about classroom experiences, but about the review of the teaching experience, focused on teaching and learning, in the light of historical-epistemological foundations. In this sense, the knowledge built in didactics is a theoretical-practical knowledge; in which the teacher, in addition to being an actor in the problem studied, is a researcher in action. It is part of the phenomenon studied, but in turn must assume the reflective posture of a subject who takes distance from the object, to look at his work from the outside, in order to achieve reliability in the theoretical construction on the object studied.

On the other hand, as stated by Kuhn (2004), science develops in a social work, framed in a socio-historical context; it is not an individual job. Latent characteristic in science didactics. The construction of knowledge in this field of knowledge implies social work, in which the community discusses and works under certain paradigms that guide their scientific practices and in the classroom.

From the Kuhnnian perspective of science, it can be suggested that didactics be considered as scientific disciplines, since to build their knowledge:

1. Part of observation and experience. Elements that drastically limit the range of admissible scientific beliefs (Kuhn, 2004, p. 25).
2. The scientific community assumes the construction of knowledge as a historical process.

3. Researchers have created paradigms under which they regulate the construction of knowledge (theoretical assumptions, laws and norms).

4. Theory models are built in order to give solution to problems.

5. A realization is achieved by means of the extension of knowledge of the facts.

6. A problem (teaching and learning) is summoned in this study and on this the scientific community identifies different topics to study.

It could then be said that, under Kuhn's guidelines, the activity carried out by the academic community, the research processes and the theoretical construct that has been achieved in science didactics can be considered under the concept of "science". It is necessary to clarify that this theoretical construct is just going through its first phase. The foregoing is affirmed, given that in science didactics the research community, in addition to having clear a series of problems that summons them, has as a starting point for its studies the preceding scientific theories, thus linking the knowledge of the history and framing the problems in that historical development. Likewise, it is observed that the knowledge that is built in this field of knowledge becomes the foundation for subsequent practice, something that resembles the notion of Kuhnnian "paradigm".

In the same way, it can be affirmed that there is a scientific community that is clear about its object of study, analyzes, interprets and investigates it in the light of an emerging paradigm that has become independent, as proposed by Adúriz-Bravo and Izquierdo (2002), of pedagogy. What has been achieved in the construction of knowledge around teaching and learning has passed the stage of individual interpretation and subjective descriptions at the time of accounting for the phenomenon or fact. Beliefs and criteria for their study have been unified, thereby establishing a paradigm that guides the actions of theorists in this field of knowledge. In this sense, research in didactics meets the essential requirements to consider the knowledge that is built in this field, as scientific knowledge, since the theories in specific didactics have achieved a synthesis capable of attracting the majority of students. professionals of the next generation, which leads to the oldest schools gradually disappearing (Kuhn, 2004, p. 45), thereby achieving autonomy in the processes.

Now, it is important to clarify that the scientificity achieved is not given by the universal demonstration, as other sciences have claimed. In the social sciences, specifically in research on the specific didactics, "the qualification of the scientific of a certain knowledge is not given by the accuracy and unappealability of the result finally achieved, but by the path that has been traced to manufacture it, that is, by the application of a method: the scientific method". (Prats, 2003, p. 2). In didactics, as in the rest of the social sciences, the task of research has been a craft and creative profession that either starts from a theory and contributes to the transformation of a reality, or part of social reality to questioning the theory that explains it, forcing it to rethink itself, and accompany the social researcher, reason, intuition and decision (...) (Sobejano, 2002, p. 121).

The didactics of science make a contribution to the construction of social knowledge, in addition their theoretical constructions transform the action in the classroom, therefore they are considered as an applied science. In terms of Prats, facing didactics "we can affirm that it is situated in the field of science with a clear technological component, defining this, as Bunge does, as the field of research, design or planning that uses scientific knowledge in order to to control things, processes, to design artifacts and to conceive operations" (Prats, 2003, p. 3). Knowledge in didactics moves between the scientific, technological and technical, since it creates scientific knowledge about its object of study, uses it to control the teaching and learning processes, and designs strategies to make better didactic transpositions in the classroom; in addition to using for this task norms that guide the teaching processes. Constructed knowledge leads the researcher to take a step to transform the existing reality. Through the didactic intervention the researcher intentionally intends to improve the teaching exercise and the learning processes in his students.

The transformation of the studied social phenomenon (teaching and learning) requires the construction of knowledge around the object of study and this is only achieved if the social reality that is presented in the classroom is investigated. Seen this way, didactic knowledge arises from practice and subsequently allows intervening to transform said practice. It is knowledge in continuous movement, in addition to being provisional to remedy problems that arise in a given context and time.

Narrative in the Construction of Knowledge in Didactics

Considering the knowledge that is constructed in the didactics of science as scientific and recognizing its contribution in the construction of theories that account for the social phenomena (teaching and learning) that this science in emergency studies allows us to initiate a discussion around the role of the narrative in the research processes in the classroom.

For a long time narrative has been considered as a resource that allows to carry out didactic transposition processes and contributes to improving teaching and learning processes, as Mengo and Tenaglia (2015) have stated. However, what summons this study is the analysis of the narrative as a research method when building knowledge in didactics and as a means of theoretical construction; Since, given its structure, it facilitates the communication of the results, the expression of the knowledge built by the teacher from their intervention in the classroom, since it gives them the space to recognize themselves as an actor.

Life in the classroom - as a social phenomenon - does not escape discourse. The teaching and learning processes are built on the use of language; they are mediated by the speech that circulates intentionally between teacher and student. Stories are constructed daily in the classroom, which reveal the work of the teacher and the role of the student in their learning process. The teacher uses multiple speeches in the classroom. As Lemke (1998) puts it, teaching science involves the teacher talking about science, using words and evoking meanings and meanings for them.

In terms of Tamayo, Cadavid and Dávila (2018), scientific knowledge has a multimodal nature, which leads the teacher to use - as proposed by Wittgenstein (2009b) - the multiple games of language and its rules for the sake of carry out a better didactic transposition. The sciences taught in the classroom are conceptual constructs that demand channels of communication, meaning and apprehension of discourse, both from teachers and students. The teaching and learning processes are based on the communicative processes and the content that is also intended to be taught; in this sense, discourse is the central element that gives meaning and meaning to school reality. From the discourse, in addition, the problems that arise around teaching and learning are revealed; for this reason, it turns out to be a good option to use the narration as a method to investigate the problems studied by the didacts and from this to build knowledge in qualitative research. In other words, if the teaching and learning processes have the communicative component in their nature and, as has been expressed so far - following the guidelines of Searle (1969, 1980, 1995 and 2010) - the social reality in the classroom is constructed by acts of speech, then, we ratify that language is part of the nature not only of the social phenomenon that concerns didactics, but also of the knowledge that circulates (which is taught), as well as that which is produced when a classroom research.

In this sense, it is noted that the narrative becomes a relevant method in the construction of knowledge in didactics, since it provides space to expose the problem, analyze it and trace the categories to interpret them, thereby seeking to overcome "(...) problems inherent to the knowledge-teacher-student relationship framed in a particular sociocultural context" (Quiroz & Díaz, 2011, p. 3). Narrative traces a path for the analysis of the obstacles that arise in the teaching and learning processes, based on what the interlocutors express about the problem.

For Prats (2003), the didactic researcher is an actor in the problem; therefore, it must study the situation of which it is part, intervene and propose solutions. This type of research is a process between the theoretical and the practical, which will allow the teacher-researcher to know the social reality that he studies in his classroom, interpret it and understand it in the light of the theories built, therefore, narrative becomes useful in each of the phases of this practical science. Well, it allows to collect information from direct sources, contrast it with theories, identify the categories and interpret them in the light of existing theories, in order to build theories to intervene in the problem trying to improve the teaching and learning processes.

Narrative can be considered as an appropriate method in the construction of didactic knowledge due to its compatibility with the nature of the phenomenon studied. It is important to clarify that it is not affirmed that it is the only method, since Participatory action research (PAR), social ethnography, rapid ethnography, case studies, among others, also become useful in the construction of this kind of knowledge. However, unlike these, the narrative allows the actors who intervene in the problem to express their conception about it and due to its discursive nature it allows the researcher a saturation of data and information to interpret the phenomenon studied. In other words, social reality - especially the phenomena of teaching and learning - is a construction carried out by subjects through the use of the word and the narrative provides the space for each actor to tell their experience, in such a way that the researcher can contrast the two parts that are interrelated through language with the knowledge that is taught in the classroom. Also, what is taught (scientific knowledge) are narratives that describe and explain the phenomena of the world. Researchers-teachers are storytellers who create and teach, based on descriptions, physical and social phenomena in the form of factual accounts (science); For this reason, the narrative allows to demarcate the path to travel in the construction of knowledge in the didactics of science.

Narrative as a method enables the researcher to understand his role as a teacher (actor of the problem), analyze his own discourse, his teaching process, to initiate processes of reflection and meta-reflection that

allow him to be more aware of the language he uses when transposing scientific knowledge didactically. In the same way, it allows students to express their speech, and by doing so the teacher can show the understandings reached by them. A narrated text enables the researcher to return to this and understand the phenomenon of learning, identify obstacles and intentionally plan new didactic designs that allow students to achieve deep learning. Similarly, the narrative generates a dialectical linguistic space so that teacher and student feel actors in these processes and can return again and again to their own discourses. Narrating allows the actors to identify the gaps that can be generated between the teaching and learning processes. In this sense, the researcher will have in the narrative a method that brings him, in the use of language, closer to understanding the nature of the problem, from the sources themselves: *the actors or subjects who narrate (teachers and students) and the narrated knowledge (knowledge)*.

Thus, the narrative facilitates an epistemological positioning that helps the researcher to assess, question and make the problem addressed (García-Huidobro, 2016, 157) visible, to interpret and understand it. It allows to initiate systematic and rigorous reflections on the teaching and learning processes to carry out a reliable construction of knowledge.

Narrative: A Means to Communicate Knowledge in Didactics

What has been exposed so far reveals that scientific knowledge is a narrative that allows us to describe and express what the world is like and how it works; Likewise, an attempt has been made to show that narrative, as a discourse (given its nature), can be an appropriate method to build knowledge in the social sciences, and opportune to build knowledge in the field of didactic research, especially in those focused on qualitative. However, these are not the only functions that narrative can perform. Narrating is also a means to disseminate constructed knowledge, an example of this is what has been done in disciplines such as history and anthropology. For this reason, in recent decades the pedagogical narrative has been used in the field of education to express and systematize teaching experiences. The narrative, as a literary resource, can be useful when it comes to accounting for constructed knowledge; it can be taken as a means of expression to support the findings of investigative processes in the classroom, as stated by García-Huidobro (2016), the narrative can be situated epistemologically and methodologically in research (p. 2).

Seen this way, we can affirm that there is a didactic narrative. A narrative that allows the didact to research and give an account of his process in the classroom. Narrate the events that he interprets and analyzes in his work when studying the teaching and learning processes, the obstacles he identifies and the overcoming of these through didactic interventions. The teacher in his teaching process narrates by making didactic transposition and as a researcher in didactics he can use the narrative as a method and a means to build and express knowledge, that is, as a way to travel in the construction of knowledge about the phenomenon studied and as means to present his research report. In this sense, the narrative becomes a text to communicate the results of the research process.

In accordance with the above, the didactic narrative must be a discourse in which the researcher teacher relates the teaching experience, focusing special attention on the teaching and learning processes. These will be the axes of his story, since they are the phenomena on which knowledge was built in the research processes in the classroom. Thus, the narrative as a means to express knowledge must account for the research problem, the objectives set in this process, the voices that interact in the process (allowing the actors to narrate) and the interpretations made by the researcher, always contrasting the speeches of the actors with the theories of the didactics. The narrative for the researcher, as a literary resource, is a type of text in which the researcher recounts his experience in the construction of knowledge and in turn gives a voice to the actors of the learning process. It is not a mere description, but a discourse in which it interprets and gives meaning to the stories of the actors involved in the problem, contrasted with the theories studied to understand the problem and provide a solution. In this logic, a didactic narrative should show the reader the obstacles found in the teaching and learning processes and account for the strategies used in the intervention to overcome them, contrasting reality with the theories studied to provide a solution to the problem detected. The narration must show the categories selected, analyzed and interpreted and must show the results obtained in the process. Therefore, it becomes a text that, rather than describing the opinions of the subject who studies reality, goes on to argue the meanings and meanings found in the contrast: theory-practice. The narrative, as such, must be a text that, in addition to the aspects of this type of literary discourse, accounts for the research process, the construction of knowledge, without ignoring the experience of the actors involved in the problem, but without reducing the construction of knowledge to the experiential.

Conclusion

The construction of knowledge in social sciences, especially knowledge in qualitative

research in the field of didactics, requires methods that allow to interpret and understand the studied phenomena. Both in the nature of social facts and in the knowledge that one has of them, language is found as a necessary condition for their existence. For this reason, the researcher, when studying social facts and their problems, assumes the obligation to interpret and analyze discourses, in order to reveal the meanings expressed by the actors who are part of the problem. The social world is an intentionally linguistic construction, and teaching and learning are not immune to it.

In this sense, the social world is assumed as a narrative and the knowledge that is built on it as well. In all narration, language turns out to be essential, especially in the case of science didactics; not only because it is the element that mediates the teaching and learning processes, but because it is the one that allows interpreting and inferring whether the expected transposition of scientific knowledge that the teacher intends to teach his students is taking place. For this reason, both in the *praxis* of science didactics and in qualitative research processes in this field of knowledge, language is consolidated as a "crankshaft", which leads to a reflective search for methods that allow interpreting and understanding the phenomena studied and build reliable knowledge around the teaching and learning processes; methods consistent with the problems studied. Therefore, narrative is considered an epistemologically and methodologically correct option, insofar as it serves as a means for the construction and for the expression of the knowledge that is constructed.

In conclusion, narrative as a method allows the teacher to investigate his classroom; study the discourses that are presented in it in the teacher-student dialectical interaction; address the analysis and interpretation of teaching and learning processes; collect the information of the subjects (teachers and students) who narrate their processes (teaching and learning), triangulate the saturated information in light of the school knowledge that surrounds the classroom and that show the didactic transposition of the narrated texts that are taught (scientific theories). Likewise, it allows the researcher to move, through discourse, in the didactic triangle (teacher, knowledge, student) to understand the teaching and learning processes; identify the obstacles that arise in these and plan new designs that make it possible to overcome such obstacles in order to promote in-depth learning. Narrative is postulated as an appropriate and useful method for the construction of these applied sciences: didactics. In addition, it is a good literary resource to express the knowledge built.

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