Knowledge of educational practice revealed by a master shipwright during his work as a teacher-trainer*1

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Abstract

In the city of São Luís, the capital of the State of Maranhão, Brazil. The Technological Vocational Center Shipyard School was opened in 2006. Its purpose is to train master shipwrights, who possess knowledge derived from experience, to become doctors who teach the stages and construction techniques of a craft vessel within a vocational school. This article sought to answer the following guiding question: how can we recognize a master shipwright as a teacher-trainer of the technical course for the construction of craft vessels from Maranhão within the Shipyard School? To this end, it aimed to identify knowledge from educational practice revealed during the teaching activities of a master shipwright and which allow us to recognize him as a teacher-trainer. This study followed the theoretical-methodological assumptions of narrative research, anchored in Dorothy Jean Clandinin and Michael Connelly. The field texts were composed using records made during the course on the construction of handcraft made boats in Maranhão, taught by a master shipwright, and a narrative interview with him. With the research data, it was possible to identify that the master shipwright has extensive knowledge about the world of shipwrighting; he has developed practical knowledge based on his daily experiences with his former masters, students and other teachers; and he has a conception of how to teach and a methodological order to transmit his knowledge. This knowledge was therefore categorized into knowledge of the craft, knowledge from experience and knowledge from pedagogical tradition.

Keywords

Knowledge of educational practice – Naval carpentry – Vocational school – Teacher-trainer.

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Introduction

Traditionally, Maranhão has the sea, the wind, a coastline with rough and choppy seas, fishermen, and sailing boats with their beautiful and different colors sailing along the coast. According to Soares (2015), these traditional vessels have direct links with the origin and history of the occupation of Maranhão and its building culture, originating from the Portuguese, indigenous, and black traditions that formed the population of the state, and which underwent transformations, sophistication, and adaptations over the centuries to sail the seas and rivers that bathe the lands of Maranhão.

They were the artisanal boats, "rustic beauty, simple in appearance, blended into the horizon and the mangrove trees, a hidden treasure"[4], which sparked the interest of the miner, engineer, visual artist and professor Luiz Phelipe de Carvalho Castro Andrès upon arriving in São Luís (MA), in March 1977.

Initially, Luiz Phelipe sought to produce a series of oil paintings with the aim of producing a kind of personal collection, documenting the typical boats of Maranhão. However, when he traveled on the weekends to the beaches of the island of São Luís, aided by a camera, collecting images of the various canoes he found along the way and talking to master shipwrights who worked in the island's shipyards, Luiz Phelipe discovered that there were no projects or any documentary record that preserved the art and culture of building boats. He therefore realized that the knowledge and construction techniques were only "in the heads" of the master shipwrights. (Andrès, 1998).

Faced with this reality, Luiz Phelipe proposed to develop the Maranhão Boat Project (PEM), in the early 1990s, together with a team of fifteen professionals – including an architect, industrial designer, historians, librarian, typist, among others – with the goal of "recovering and recording the traditional and popular techniques used in the construction of wooden boats in the North region of the country" (Andrès, 1985, p. 15).

With the results obtained with the PEM, in which master shipwrights revealed discouragement and dejection, finding themselves "unmotivated to encourage their children to follow a craft that had given them so much sacrifice and almost no reward" (Andrès, 2018, p. 235), Luiz Phelipe decided to invest in education and build a school "[...] where the knowledge of old master shipwrights and master craftsmen could be combined with the knowledge transmitted by professors and doctors from the university academy" (Andrès, 2018, p. 236).

4- Inaugural speech by Luiz Phelipe Andrès at the Maranhão Academy of Letters, held on May 23, 2013. Available at: https://academiamaranhense.org.br/?ocupantes=luiz-phelipe-andres. Last accessed: August 10, 2023..

Figure 1 – Technological Vocational Center Shipyard School in São Luís - MA

Source: (O Imparcial, 2017).

After the implementation of the Shipyard School, a technical course for the construction of artisanal vessels from Maranhão was created, with a matrix approved in 2008 by the State Council of Education of Maranhão. With the offering of the first class, master shipwrights began to teach new apprentices their knowledge and the construction techniques of an artisanal vessel alongside professors from the university academy, being considered true doctors.

It is important to emphasize that the master shipwrights who work as teacher-trainers at the Shipyard School did not attend any higher education course to perform their duties and learned their craft from the teachings of the old master carpenters in the artisanal shipyards of Maranhão. According to Soares (2015), they have specific ways of systematizing knowledge, they do not operate from scientific spheres, their knowledge does not necessarily involve the logic and instruments of engineering and their projects are linked to the need to foresee the life of the vessel in operation.

In the daily practice of a shipwright, the knowledge gained from experience is evident. It is knowledge acquired throughout life, in the practice of his craft, passed down from father to son, which enables them to build the traditional sailing boats of the state of Maranhão, which adorn and enchant the coast of Maranhão with their beautiful colors.

Based on the above, this article seeks to answer the following guiding question: how can we recognize a master naval carpenter as a teacher-trainer of the technical course for the construction of artisanal boats in Maranhão? To answer this question, we set the following general objective: to identify knowledge of educational practice revealed during the teaching activities of a master naval carpenter and that allow him to be recognized as a teacher-trainer. To this end, we followed the theoretical-methodological assumptions of narrative research (Clandinin; Connelly, 2011).

In this study, we understand knowledge of educational practice based on the conception of Tardif (2018), Pimenta (1996), Gauthier *et al.* (2006) and Freire (2015). According to these authors, teaching practice requires the use of plural and diversified knowledge whose construction is made from diverse sources that take into account the teacher subject in their varied ways of being and existing in the world, their life experiences, among other aspects that give it a character of subjectivity.

Like the aforementioned authors, we understand that a teacher-trainer, in this case, a master naval carpenter, who teaches a craft of local and/or regional tradition, even if he has not attended a degree course, needs to have plural and diversified knowledge of educational practice that will enable him to develop the act of teaching and perceive the peculiarities of his professional activity in order to, in a constant process of wondering, reconfigure his form of teaching know-how in a systematic, dynamic and continuous way.

Based on this understanding, we approach the categorizations of teaching knowledge and knowledge of educational practice presented by Tardif (2018), Pimenta (1996), Gauthier *et al.* (2006) and Freire (2015), to identify knowledge revealed by a master naval carpenter that allows us to recognize him as a teacher-trainer of the artisanal boat construction course within the scope of the Shipyard School.

Knowledge necessary for educational practice

Authors such as Tardif (2018), Pimenta (1996), Gauthier *et al.* (2006) and Freire (2015) clarify that teaching knowledge does not come only from initial training, nor does it end there. However, it is in the training process that teaching knowledge requires intense investment, contributing to preparing the future teacher, so that he or she can begin to act, gradually expanding his or her degree of autonomy to deal with the situations that permeate the school in general.

In the words of Tardif (2018, p. 36):

> [...] teaching knowledge can be defined as plural knowledge, formed by the more or less coherent amalgamation of knowledge originating from professional training and disciplinary, curricular and experiential knowledge (author's emphasis).

The knowledge of professional training (of educational sciences and pedagogical ideology) is the "set of knowledge transmitted by teacher training institutions (normal schools or faculties of educational sciences)" (Tardif, 2018, p. 36). Disciplinary knowledge is:

> [...] those that correspond to the different fields of knowledge, to the knowledge available to our society, as they are currently integrated in universities, in the form of disciplines, within faculties and different courses (Tardif, 2018, p. 38).

Regarding curricular knowledge, the author explains:

> [...] correspond to the discourses, objectives, contents and methods from which the school institution characterizes and presents the social knowledge defined and selected by it as a model of erudite culture and training for erudite culture. They are presented concretely in the form of school programs (objectives, contents, methods) that teachers must learn to apply (Tardif, 2018, p. 38).

And finally, Tardif (2018, p. 39) clarifies that experiential knowledge "arises from experience and is validated by it. It is incorporated into individual and collective experience in the form of habitus and skills, know-how and know-how." According to the author, we can also call it practical knowledge.

In short, Tardif (2018, p. 39) highlights that the teacher:

> [...] is someone who must know his subject, his discipline and his program, in addition to having certain knowledge related to the sciences of education and pedagogy and developing practical knowledge based on his daily experience with students.

According to Pimenta (1996), it is through a movement of articulation between different types of knowledge that teachers can become capable of perceiving the peculiarities of their professional activity and, based on this, reconfigure their forms of teaching know-how in a systematic, dynamic and continuous way. The author also emphasizes that it is during the didactic-pedagogical action that the teacher's identity and professionalization are consolidated. Pimenta (1996) uses the expression teaching knowledge as a reference, defining three categories: experience, knowledge and pedagogical knowledge.

According to Pimenta (1996), knowledge from experience is constructed by teachers based on their own trajectory as students, in their training process, as well as that which teachers produce in their daily teaching in a permanent process of reflection on their practice.

Knowledge of knowledge refers to specific knowledge of a certain area in which the teacher will work, such as: specific knowledge of physics, mathematics, among others (Pimenta, 1996).

Pedagogical knowledge refers to the knowledge of how to teach, to didactics. Such knowledge is learned through the didactic-pedagogical processes passed on by the university, where we learn the techniques necessary to carry out appropriate teaching methodologies (Pimenta, 1996).

For Gauthier *et al.* (2006), teachers use and mobilize a vast range of knowledge specific to teaching and reveal the existence of six categories of teacher knowledge: 1) disciplinary knowledge; 2) curricular knowledge; 3) knowledge of educational sciences; 4) knowledge of pedagogical tradition; 5) experiential knowledge and, finally, 6) knowledge of pedagogical action. It is this knowledge necessary for teaching that formalizes the repertoire on which the teacher would draw to respond to the specific demands of the concrete teaching situation. To understand each of them, we present the authors' conception in table 1.

Table 1 – Gauthier *et al.*'s (2006) conception of teachers' knowledge

Disciplinary knowledge	They are conceived as the subject to be taught, they are knowledge produced by scientists and researchers, and not by the teacher. They are generally acquired by teachers at universities, but are not related to pedagogical training.
Curricular knowledge	They refer to teaching programs and form the set of knowledge that should be taught.
Knowledge of educational sciences	This is knowledge that refers to school organization, learning, teaching methods and, generally, it is knowledge that is acquired in the teacher training process.
Knowledge of pedagogical tradition	This is knowledge that is linked to methodological concepts, related to the way of teaching in the classroom, but which goes beyond the knowledge acquired in professional training, as the name itself indicates, it is part of tradition.
Experiential knowledge	This is knowledge that represents the teacher's own experience and that, over time, ends up becoming a habit. However, according to the author, due to a lack of foundation, study, research and in-depth analysis, and, so to speak, scientific validity, such knowledge can end up generating mistaken conceptions of the practice itself.
Knowledge of pedagogical action	They are experiential knowledge that have been publicly tested and validated by research, and thus constitute important knowledge for the foundation of education and teaching.

Source: (Barbosa Neto; Costa, 2016, p. 92-93).

Freire (2015), in turn, explains a series of knowledge necessary for educational practice and argues that the teacher must work towards the autonomy of the student, their liberation from the oppressive society, highlighting that the teacher training process also occurs in the student's learning process. Therefore, the author emphasizes that:

> [...] there is no teaching without learning, the two explain each other, and their subjects, despite the differences that connote them, are not reduced to the condition of object, one of the other. Whoever teaches learns by teaching, and whoever learns teaches by learning (Freire, 2015, p. 25).

In table 2, we present the categorization of teaching knowledge presented by Freire (2015), in his book *Pedagogy of autonomy*.

Table 2 – Categorization of teaching knowledge presented by Paulo Freire

Necessary Knowledge for educational practice			
Teaching demands	There is no teaching without learning	Teaching is not transferring knowledge	Teaching is a human specificity
	Methodical rigor	Awareness of unfinishedness	Safety, competence and generosity
	Research	Recognition of being conditioned	Commitment
	Respect for students' knowledge	Respect for the autonomy of the student's being	Understanding that education is a form of intervention in the world
	Criticality	Common sense	Freedom and authority
	Aesthetics and ethics	Humility, tolerance and struggle in defense of educators' rights	Conscious decision making
	Embodiment of words by example	Understanding reality	Know how to listen
	Risk, acceptance of the new and rejection of any type of discrimination	Joy and hope	Knowing that education is ideological
	Criticism of the practice	Conviction that change is possible	Availability for dialogue
	Recognition of the assumption of cultural identity	Curiosity	

Source: (Block; Rausch, 2014, p. 253).

According to Block and Rausch (2014, p. 253), the knowledge listed in the first category "There is no teaching without learning" presented by Paulo Freire:

> [...] they attribute to teacher training an experiential character from which knowledge originates, where it becomes essential to perceive that the relationship between the teacher as subject of knowledge and the student as its object is not justified. Quite the contrary, teacher and student are not limited to a relationship that makes them subjects of each other (Block; Rausch, 2014, p. 253).

In the second category, "Teaching is not transferring knowledge," Block and Rausch (2014) point out that Paulo Freire lists important and essential knowledge to promote an educational practice that respects and truly gives autonomy to the student. In Freire's own words (2015, p. 47-48), we can understand this:

> When I enter a classroom, I must be open to inquiries, curiosity, and the students' questions and inhibitions; I must be a critical and inquisitive being, restless in the face of the task I have – that of teaching and not transferring knowledge. It is necessary to insist: this knowledge necessary for the teacher – teaching is not transferring knowledge – not only needs to be learned by the teacher and the students in its reasons for being – ontological, political, ethical, epistemological, pedagogical, but also needs to be constantly witnessed and experienced.

In the third and final categorization, "Teaching is a human specificity," Freire (2015) reveals the need for teachers to have confidence, knowledge, affection, and generosity toward students, so that they have competence, authority, and freedom when conducting their classes. The author also defends the need for teachers to exercise their teaching authority with confidence based on professional competence, combined with generosity, and demonstrates that discipline may not be silence, but the excitement that demonstrates enthusiasm for learning.

As we can see, each of the aforementioned authors, although presenting different categorizations for teaching knowledge, come together in their conceptions and discuss what each of the knowledge represents and influences the action of educational practice. To summarize what has been exposed and the categorizations of knowledge listed, we present Table 3.

Table 3 – Categorization of knowledge necessary for educational practice

Tardif (2018)	Pimenta (1996)	Gauthier *et al.* (2006)	Freire (2015)
1. Professional training knowledge; 2. Disciplinary knowledge; 3. Curricular knowledge; 4. Experiential knowledge	1. Knowledge from experience; 2. Knowledge from knowledge; 3. Pedagogical knowledge.	1. Disciplinary knowledge; 2. Curricular knowledge; 3. Knowledge of Educational Sciences; 4. Knowledge of pedagogical tradition; 5. Experiential knowledge; 6. Knowledge of pedagogical action.	1. There is no teaching without learning; 2. Teaching is not transferring knowledge; 3. Teaching is a human specificity.

Source: Prepared by the authors.

As we can see, the studies and research developed by the authors that theoretically support this research are related to the initial and continuing education of teachers that take place in educational institutions. Thus, we decided to approach their categorizations, sometimes using the nomenclatures, sometimes supporting ourselves on their ideas, and list a new categorization of knowledge necessary for educational practice based on the narrative of the master shipwright that will allow us to recognize him as a teacher-trainer of the artisanal boatbuilding course within the scope of the Shipyard School.

Composition of field texts and research text

To develop this study, we understood that it would be necessary to find a type of research that would allow us to identify knowledge from the educational practice of a

master naval carpenter, based on the experiences he had throughout his career and his work as a teacher-trainer in the artisanal boat construction course offered by the Estaleiro Escola. In other words, we needed a type of research that would allow us to represent, understand and theorize experiences, transforming them into academic knowledge (Rodrigues; Prado, 2015).

Thus, we chose to follow the assumptions of narrative research, anchored in Clandinin and Connelly (2011), by understanding that it is based on human, embodied experiences that cannot be interpreted without taking into account the social, spatial and temporal context in which they were lived, considering that this is what narrative analysis consists of: telling experiences and, at the same time, constructing the meanings of these experiences taking into account the temporality, sociability and location of the phenomenon analyzed.

To compose the field texts, the first author of this article enrolled, in the second semester of 2020, in the short-term course on the construction of artisanal boats offered by the Estaleiro Escola, with a workload of 100 hours, with the objective of observing and recording the teaching performance of the participant of this research, Mr. Otavionilson Nogueira dos Santos, better known as Master Otávio, who is one of the master naval carpenters who act as a teacher-trainer of the practical classes in this course.

Figure 2 - Master shipwright Otavionilson Nogueira dos Santos

Source: Researcher's personal archive.

The decision to live experiences alongside master Otávio at the Estaleiro Escola during the classes of the aforementioned course was guided by the conception of Clandinin and Connelly (2011) when they argue that narrative researchers should try to "familiarize themselves as much as possible with the many and multifaceted narratives present in the research field" (p. 107) and insert themselves in the context:

> [...] for a long time, pay attention and question situations to understand events and stories, the many narratives that interrelate at every moment and that point out, before your still inexperienced gaze, paths to understanding mysteries (Clandinin; Connelly, 2011, p. 115).

The experiences lived during the course were recorded by the first author using audio recordings, photographs and diary notes, which constitute field texts for this research. According to Clandinin and Connelly (2011, p. 119), "field texts help memory fill in the gaps, nuances and complexities of the landscapes and stories lived" and are prepared with the purpose of recording aspects of the experience lived during the construction of the research data.

Another method used to compose the field texts was the narrative interview (NI) conducted with master Otávio, following the assumptions of Jovchelovitch and Bauer (2008). The choice of the NE was made because it is understood that in it "the subject expresses himself, bringing in his voice the tone of others, thinking about the context of his group, gender, ethnicity, social class, historical, social and cultural moment" (Moura; Nacarato, 2017, p. 16) and because it makes it possible to "reconstruct social events from the perspective of the informants, as directly as possible" (Jovchelovitch; Bauer, 2008, p. 93).

The interview was conducted on February 16, 2022, at 2:00 p.m., at Estaleiro Escola, and began with an autobiographically oriented narrative question: tell me about your life trajectory so far. After the interview, the content of the interview was transcribed in full, giving rise to one of the types of field texts adopted in the preparation of this investigation (Clandinin; Connelly, 2011).

Mestre Otávio was born on December 11, 1981, on the island of Caçacueira, in the Maiaú Archipelago, in the municipality of Cururupu, in the state of Maranhão. He is the son of a fisherman and a shellfish gatherer. He only completed elementary school; he learned the craft of shipbuilding from his adoptive father, initially working as an apprentice, and had the opportunity to build his first boat by himself at the age of 16. He continued to work as a shipbuilding carpenter throughout his life and, in 2008, at the invitation of Luiz Phelipe Andrès, he became an employee of the Estaleiro Escola, to teach practical classes in the technical course on building artisanal boats. He is currently recognized in his field as a master shipbuilding carpenter for his vast knowledge of the art of building boats.

To analyze the data, the narrative analysis method was used, following the assumptions of Schütze (1983, *apud* Jovchelovitch; Bauer, 2008, p. 106) and, subsequently, the research text was created, whose "task [...] was to find a way to select and place together these field texts within a single, global narrative text" (Clandinin; Connelly, 2011, p. 187).

Thus, we focused on the field texts and, based on their analytical and interpretative process, we intertwined the data in order to identify knowledge of educational practice present in the teaching practice of Mestre Otávio and that allow us to recognize him as a teacher-trainer. It is important to emphasize that the identity of the research participant is revealed because we consider that anonymity would compromise the study. The participant was informed of this condition and agreed to the research format, signing the Free and Informed Consent Form (FICF).

Knowledge from the educational practice of a master shipwright

Based on the narrative of Master Otávio obtained through the interview and the observations and records that were carried out by the first author of this research, we developed three categories of knowledge observed in the educational practice of the master naval carpenter that allow us to recognize him as a teacher-trainer: knowledge of the trade; knowledge of experience; and knowledge of the pedagogical tradition.

From now on, we will explain our understanding regarding each of these categories and present excerpts from the narrative interview with Master Otávio, which confirm the existence of this knowledge in the educational practice that he develops at Estaleiro Escola.

Knowledge of the craft

As presented by the authors studied, in order to develop educational practice, the teacher needs to have specific knowledge of the area in which he/she will work, called knowledge of knowledge (Pimenta, 1996) or disciplinary knowledge (Tardif, 2018; Gauthier *et al*., 2006). Specific knowledge is, in the conception of these authors, produced by scientists and researchers, by social groups that produce knowledge, and "is integrated into teaching practice through the (initial and continuous) training of teachers in the various disciplines offered by the university" (Tardif, 2018, p. 38).

However, in Master Otávio's narrative, we observe that the knowledge he has was acquired through the teachings of his father and uncles, as he says: "I learned the craft of shipbuilding from my adoptive father and I also acquired a lot of knowledge from his brothers who were also carpenters"; and in the daily practice of the craft. This is knowledge passed down from generation to generation and developed by master shipbuilders based on experiences lived in various situations for which it was necessary to give meaning, significance and answers to what was happening.

Figure 3 – Master Otávio building a cave with the adze

Source: Researcher's personal archive.

Master Otávio also says that his knowledge was also acquired through attentive listening to the experiences of the oldest master carpenters who had a lot to say and share:

> [...] I liked to be with the elders, because I always believed that the elders have a lot of knowledge and have a lot to teach us. And I always had that in my head. If I get closer to the elders, I will have a better experience (Master Otávio – research interview).

During his classes, Master Otávio teaches his students the knowledge about shipbuilding and construction techniques, using the language specific to shipbuilding and transmitting what he learned during his life as an apprentice and what he continues to learn, as he narrates:

> In class, I also explained to students how to draw a vessel, how to draw the shape of a cave. [5] and of a canoe, how to put the keel on [6] in the riding arena, how to place the master bows, the bow [7] and the stern [8] which depend on the model of the canoe. For example, if it is a bow, the keel is straight, if it is a biana, the keel from the middle forward curves and to place a bow and stern launcher with the bows in the middle we place any two battens on the side, which we call a plank[9]. In scientific knowledge, they are known as falcas. In our daily lives, we don't know these terms; it's a crazy mess. There is a guide book that tells us the names of the pieces, but we say them differently, even the measurements are different. However, in the end, the shape of the canoe fits perfectly, even though our dimensions are different (Master Otávio – research interview).

Master Otávio is recognized among other shipbuilders as a master because he can build any vessel from scratch, without needing help or reference material, and he has the respect and recognition of the older masters. Therefore, we can say that he has a vast knowledge to teach, which we call here the knowledge of the trade.

In short, we can define trade knowledge as knowledge acquired through daily life experiences, which seeks to give meaning, significance and answers to different situations experienced in the exercise of the profession. This knowledge is passed down from generation to generation and enables the holder of this knowledge to exercise the profession, pass it on to new generations and gain recognition from other professionals, especially those who can be considered masters of the trade.

Experience knowledge

For Pimenta (1996), experiential knowledge refers to the knowledge produced by teachers in their daily work, as well as the knowledge they have before arriving at an initial training course. For Tardif (2018, p. 38-39), it is knowledge that is developed by "teachers

5 - Each of the curved pieces that attach to the keel and form the structure of the vessel's hull (Andrès, 1998, p. 127).
6 - Main part of the structure of a vessel's hull, located in the lower part (Andrès, 1998, p. 127).
7 - Front end of the vessel (Andrès, 1998, p. 127).
8 - Rear end of the vessel (Andrès, 1998, p. 127).
9 - Narrow strip that connects the bow and stern of the vessel and determines the measurements of the bow.

themselves, in the exercise of their functions and in the practice of their profession, [...] based on their daily work and knowledge of their environment".

Gauthier *et al.* (2006) come close to Tardif's (2018) conception of experiential knowledge, but they state that this knowledge specific to the teacher's experience, which ends up becoming a habit, can, due to lack of scientific validity, generate mistaken conceptions of the practice itself. Freire (2015), despite not presenting a specific category on experiential knowledge, discusses in almost all of his work the importance of experience and critical reflection in/of educational practice for the training and professional constitution of the teacher. According to him,

> [...] in the ongoing training of teachers, the fundamental moment is that of critical reflection on practice. It is by thinking critically about today's or yesterday's practice that one can improve the next practice. [...] The better I do this operation, the more intelligence I gain from the practice under analysis and the greater communicability I exercise around overcoming naivety through rigor (Freire, 2015, p. 40).

When we analyze Master Otávio's narrative, we observe that it was the knowledge gained from the experiences he had during his journey as an apprentice of the trade and during the classes of the artisanal boat construction course that enabled and still enable him to learn how to develop his educational practice and his teaching being-doing.

Master Otávio says that he was never prepared to teach: "I was never prepared to be a teacher. What really prepared me was life." He adds: "I was never prepared to pass on my knowledge; everything happened naturally, day by day, talking to students and acquiring knowledge from them as well.

Master Otávio explains that it never crossed his mind to be a teacher, however, when he arrived at the Estaleiro Escola he was immediately introduced to teaching, despite not having received any training to teach his knowledge to the students on the course.

> When I arrived at the Shipyard School in mid-2007, I had no experience in teaching; it never crossed my mind. I had only worked building boats and I went there with that goal in mind. However, as soon as I arrived, I was immediately introduced to teaching. At that time, the course was already set up, the teachers were already giving theoretical classes and my role at the school was to be responsible for the practical classes in the Shipyard warehouse and to implement my knowledge to add to theirs. At that moment, I thought: - If it's to show what I know how to do, it won't be difficult. *That's when I realized that doing things by explaining is different* (Master Otávio – research interview - our emphasis).

Throughout his first experiences as a teacher-trainer, we observed that Master Otávio was reflecting on his practice and the act of teaching, and as he narrated, he began to realize that "doing while explaining is different". These initial reflections enabled him to interpret, understand and guide the teaching profession and educational practice, as well as acquire knowledge about how he could teach his students during the practical classes of the artisanal boat building course.

Master Otávio also recalls how he learned the craft of naval carpentry and states that he sought to teach his students following the same method as his former masters.

> I remember that during my learning process, my old teachers would say: - "There's a canoe over there. Go over there, put that plank over there, close that canoe." And they would continue: - "There's that wood over there. Build that boat." [...] So, I would teach classes by doing something, showing how to do it and building the boat (Master Otávio – research interview).

In the records made by the first author of this article during classes in the artisanal boat building course, offered in 2020, we clearly see the influence of the teaching practices of his former masters on his professional performance within the Shipyard School. During the classes, master Otávio presented the constituent elements of a boat, built a piece for viewing and had the students of the course handle, build, cut and place it in the right place. This happened in every class. Therefore, his educational practice is also influenced by the experiences he had before becoming a teacher-trainer.

Figure 4 – Records of classes in the artisanal boat building course

Source: Researcher's personal archive.

Still in his narrative, teacher Otávio says that he used to talk to the other teachers at the institution and exchange experiences: "[...] during class breaks, the other teachers at the institution and I would talk, share experiences about what each other's classes were like", which leads us to agree with Tardif (2018, p. 49) when he states that "the teacher never acts alone. He is in interaction with other people [...]". Still according to the author, teaching activity is carried out concretely in a network of interactions with other people, thus, experiential knowledge, with interactions being one of its objects, "provides teachers with certainties regarding their work context at school in order to facilitate their integration" (Tardif, 2018, p. 50).

Based on the narrative of Master Otávio, we observed that the experiences he had with his former masters during his learning process, with his students during the classes of the artisanal boat building course and with the teachers at the Shipyard School allowed him to build knowledge of educational practice and to redefine his performance as a teacher-trainer and his act of teaching. We call this knowledge; knowledge of experience.

In short, we can define experiential knowledge as the set of knowledge that is individually and daily constituted during the educational practice carried out by the teacher and in interaction with other people in the context – students and other actors in the field of their practice –, based on a permanent process of reflection on the act of teaching. It is also knowledge acquired while an apprentice of the trade through teaching practices developed by former masters and that is used and reinterpreted during the professional performance of the teacher.

Knowledge of the pedagogical tradition

This category follows the nomenclature used by Gauthier *et al.* (2006) and is close to their conceptions when they reveal that they correspond to the set of knowledge related to conceptions of methodological order, the way of teaching in the classroom, of school, of the teacher, of the students, of the process of learning and teaching. These representations were constructed, according to the authors' arguments, in stages prior to entering the career, that is, even before the teacher decided to be a teacher and enrolled in an initial training course.

When we analyze Master Otávio's narrative, we observe that in order to develop his educational practice, he constructed a way of teaching, or we can say, he conceived a methodological order for the knowledge that he should teach his students, which may have been influenced by the way he learned, by the guidance given by Professor Luiz Phelipe and by the way he conceives the learning process of the construction stages of a vessel.

In his narrative, he explains the methodological order he uses to teach students on the artisanal boat building course:

> When the students arrived, I showed them the tools right at the beginning. Standing on a bench, I explained what an adze was. [10], a chisel [11], a hammer, a saw, a plane [12], a drill, he talked about each one, what they were used for and their importance in naval carpentry work, because without these tools, it would not be possible to build a vessel (Master Otávio – research interview).

We noticed that the starting point of Master Otávio's classes is the presentation of the tools used by shipwrights in the stages of building a vessel. Without knowing the tools and the purpose of each one, as he said in the classes, it would be impossible to develop the activities of the trade.

10- Instrument used by carpenters that consists of a cutting metal plate and a curved handle to roughen pieces of wood and is the most important in terms of developing the master's manual skills and acumen.

11- Also known as a wood chisel, it is used to cut and carve wood with the help of a hammer.

12- It is a basic carpentry tool used to make wooden surfaces flat and level.

In addition to knowing, the apprentice needed to learn how to use them, so Master Otávio always had his students use the hammer, the adze, the grating[13] and at the same time taught the best ways to work with them. As he says, this class "[...] took the whole day".

The next class took place in the Shipyard School warehouse, where there were machines that could be used to facilitate the work of the shipwright. In his words: "I talked about the machines, explained what they were for and why they were important."

During one of the classes of the artisanal boat building course, this practice was noticeable. Furthermore, when presenting the machines, master Otávio said to his students:

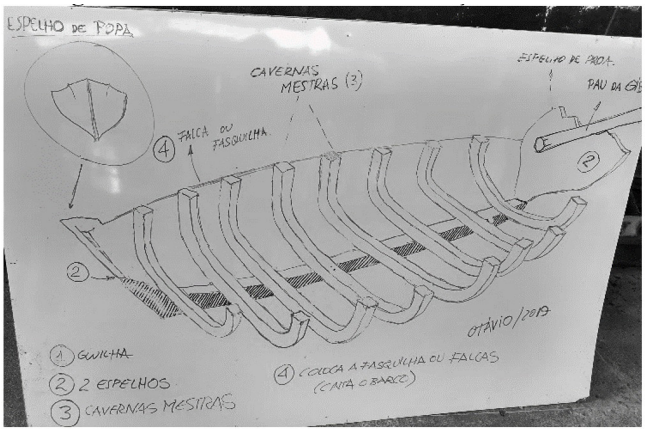
> The shipwright cannot become a hostage to these machines; he also needs to know how to handle the artisanal tools. There are still artisanal shipyards scattered throughout Maranhão that do not have electric machines. So, if you work in these shipyards, you will know how to handle the tools you have (Master Otávio – research interview).

Later, Master Otávio revealed the next step:

> I explained to the students how to draw a boat, how to draw the shape of a bow and a canoe, how to place the keel on the rigging, how to place the main bows, the bow and the stern, which depend on the model of the canoe (Master Otávio – research interview).

In the 2020 classes, Master Otávio showed students a drawing of a vessel made on a whiteboard and from there explained the structure and definition of each part that makes it up, namely: the bow, the stern, the bows, the keel, the side, among others. During this class, the students were taken to the library of the Shipyard School so that they could see the drawings of all types of vessels cataloged during the PEM research. For each drawing observed, Master Otávio explained its origin, characteristics, location, structure and construction methods.

Figure 5 – Drawing of a handmade vessel



Source: Personal archive of the researchers.

13- Rudimentary instrument that serves the function of a rustic medieval slide rule and is the basis for the construction of the artisanal vessel.

Only then, after these introductory classes, says Master Otávio, "[...] I would go to the work field and show the students each piece of the vessel [...]. I would dig and show the students". During the classes, he would teach his students through practical exercises, that is, he would build, handle the tools and have the students do the same, always under his supervision.

Figure 6 - Records of classes in the artisanal boat building course

Source: Personal archive of the researchers.

Whenever possible and when there is material available, Master Otávio says that he starts a boat with his students from scratch, defining the keel, the bow and the pulp, so that the students understand all the construction stages. Later, he defines the two master frames and then the other frames, builds the hull and continues with the other construction stages. However, when the course is short, he always tells his students:

> "In three months, you won't learn carpentry, you'll have an idea of how to assemble a small boat" and advises them to "[...] renew their registration every three months and continue taking the course".

As we can see, Master Otávio has a way of teaching, a methodological order to transmit shipbuilding knowledge to his students and a conception of the learning process. This knowledge developed by the master carpenter, we therefore call knowledge of pedagogical tradition, approaching the conception of Gauthier *et al.* (2006).

In summary, we can define knowledge of pedagogical tradition as a set of knowledge related to the conception of the way of teaching, of a methodological order and of the learning process, based on the learner's experiences, their professional performance and the constant process of reflection in/of educational practice.

Final considerations

In view of everything that has been exposed in this article, we return to our guiding question: how can we recognize a master naval carpenter as a teacher-trainer of the

technical course for the construction of artisanal vessels in Maranhão?; and to our general objective: to identify knowledge of educational practice revealed during the teaching activity of a master naval carpenter and that make it possible to recognize him as a teacher-trainer.

We emphasize in advance that narrative research was undoubtedly the best theoretical-methodological assumption for the development of this investigation, since it guided our steps to understand the experiences lived by Master Otávio and revealed to us knowledge of educational practice that allows us to recognize him as a teacher-trainer. Thus, at the end of this study, we were able to state that narrative research is "the best way to represent and understand experience", "it is a key form of experience" and "a way of writing and thinking about it" (Clandinin; Connelly, 2011, p. 48).

As we have shown, it was possible to identify in the narrative of master Otávio knowledge present in his educational practice that approaches the conceptions and categorizations of teaching knowledge of Tardif (2018), Gauthier *et al.* (2006), Pimenta (1996) and Freire (2015), namely:

1) Professional knowledge: knowledge acquired through daily life experiences, which seeks to give meaning, significance and answers to different situations experienced in the exercise of the profession. This knowledge is passed down from generation to generation and enables the holder of this knowledge to exercise the profession, pass it on to new generations and gain recognition from other professionals, especially those who can be considered masters of the trade.

2) Knowledge from experience: a set of knowledge that is individually and daily constituted during the educational practice carried out by the teacher and in interaction with other people in the context – students and other actors in the field of their practice –, based on a permanent process of reflection on the act of teaching. It is also knowledge acquired while an apprentice of the trade through teaching practices developed by former masters and that is used and reinterpreted during the professional performance of the teacher.

3) Knowledge of pedagogical tradition: set of knowledge related to the conception of the way of teaching, the methodological order and the learning process, based on the learner's experiences, their professional performance and the constant process of reflection in/of educational practice.

The knowledge that Master Otávio presents allows us to recognize him as a teacher-trainer as, when approaching the knowledge listed by the authors studied, he reveals that he has vast knowledge about the universe of naval carpentry, has developed practical knowledge based on his experiences and daily experiences with his former masters, students and other teachers and has a conception of the way to teach and a methodological order to transmit his knowledge.

The knowledge of the trade, experience and pedagogical tradition allow Master Otávio to teach the knowledge of shipbuilding to the apprentices of the technical course, contributing to the mission of the Shipyard School of preserving, valuing and transmitting the Maranhão culture and art of building artisanal vessels to new generations.

Therefore, we believe, as does Luiz Phelipe, that the presence of master shipwrights within the Shipyard School is extremely important. They are key players in truly transmitting and preserving the culture of artisanal vessels.

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