

Initial teacher education and teaching practice: cultural-historical research on 5th grade teachers in Porto Velho, RO, Brazil

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Abstract

This paper describes part of a study that investigated how 5th grade teachers who work in Elementary Schools in Porto Velho, Rondônia (RO), Brazil, perceive their teaching practice in relation to their initial teacher education processes. Based on the Cultural-Historical Theory, the study used the dialectical method for analyzing data in the unit “Relation between teacher education and teaching practice carried out by 5th grade teachers” based on two analytical axes. This paper highlights discussions on axis 1, which is “Context of teacher education in Porto Velho”. Fifty-four teachers answered a mixed questionnaire online and the main findings showed not only that practice is fundamental to face the dichotomy between theory and practice and to strengthen the indecomposable relation between teacher education and teaching practice but also that the Cultural-Historical Theory was poorly addressed in their initial education. This paper defends the need to intensify debate on the relation between teacher education and teaching practice to enable Elementary School teachers’ effective pedagogical praxis.

Keywords

teacher education; teaching practice; pedagogical praxis; elementary school.

Formação inicial e atuação docente: uma investigação histórico-cultural com professores de 5º ano de Porto Velho/RO

Resumo

Este artigo resulta de uma pesquisa que investigou como docentes de turmas de 5º ano do ensino fundamental de Porto Velho, Rondônia, percebem sua atuação docente em relação com sua formação inicial. Fundamentado na Teoria Histórico-Cultural, o estudo utilizou-se do método dialético para analisar os dados, mediante a unidade “Relação entre a formação e a atuação do professor do 5º ano do ensino fundamental”, suportada por dois eixos analíticos. Neste manuscrito, destacam-se as discussões do eixo 1, “Contexto da formação dos professores em Porto Velho”. 54 docentes responderam a um questionário misto *on-line* e os principais achados revelaram que: a práxis é fundamental para a superação da dicotomia teoria/prática e para fortalecer a relação indecomponível entre formação e atuação docente; e a Teoria Histórico-Cultural pouco foi abordada na formação inicial dos professores. Defende-se a necessidade de intensificar o debate sobre as relações formação/atuação docente visando à práxis pedagógica pelos professores do ensino fundamental.

Palavras-chave

formação de professores; atuação docente; práxis pedagógica; ensino fundamental.

Formación inicial y práctica docente: una investigación histórico-cultural con profesores de 5º año de Porto Velho/RO

Resumen

Este artículo es resultado de una investigación que buscó conocer cómo los profesores de las clases de 5º año de la enseñanza fundamental de Porto Velho, Rondônia, perciben su práctica docente en relación a su formación inicial. Con base en la Teoría Histórico-Cultural, utilizó el método dialéctico para el análisis de los datos, mediante la unidad “Relación entre la formación y el desempeño del docente del 5º año de la enseñanza fundamental”, apoyado en dos ejes analíticos. En este manuscrito, se destacan las discusiones sobre el eje 1, “El contexto de la formación docente en Porto Velho”. 54 profesores respondieron un cuestionario online mixto y los principales hallazgos revelaron que: la praxis es fundamental para superar la dicotomía teoría/práctica y para fortalecer la relación entre formación y desempeño docente; y la Teoría Histórico-Cultural rara vez fue abordada en la formación inicial de los docentes. Defiende la necesidad de intensificar el debate sobre la relación entre formación/práctica docente, visando la praxis pedagógica de los docentes de la enseñanza básica.

Palabras clave

formación docente; práctica docente; praxis pedagógica; escola primaria.

1 Introduction

Education, as a social process, rather than an individual one, plays an important role in the construction of a better, more humanized and more democratic world. We believe that when Education considers everyday knowledge and advances to scientific knowledge (VIGOTSKI, 2021) in a non-alienating way (DUARTE, 2010; MARX; ENGELS, 2010), it is a means to humanize citizens since it may favor the construction of collective alternatives to enable more people to achieve better days.

A human being's educational process also takes place in school because it is the space that is structurally thought and organized to transmit knowledge that goes beyond people's everyday life, i. e., scientific knowledge (VIGOTSKI, 2021; VYGOTSKY, 1982), the one accumulated by humanity and intentionally transmitted by formal teaching (SAVIANI, 2009). Besides, teachers' work in the teaching structure has been the object of several studies over the years.

An aspect that has been highlighted by research on Education since the (re)structuring of Brazilian Education at the end of the 20th century is the need to develop teacher education programs that aim at teachers' practice so that they may get

hold of references that actually help them. Therefore, we outlined the following research question to carry out the investigation described by this paper: Have 5th grade teachers – who teach in public Elementary Schools in Porto Velho, Rondônia (RO), Brazil – had their theoretical-practical needs met by initial and continuing teacher education programs?

In the search for the answer, we established the following objective: “to investigate how 5th grade teachers in public Elementary Schools in Porto Velho, RO, perceive their activities in their classes and the contributions of initial and continuing teacher education programs to their teaching practice”. The investigation is based on theoretical assumptions of the Cultural-Historical Theory (CHT), mainly on the ones proposed by Lev Semenovitch Vigotski¹ (1896-1934).

We chose to carry out this study with 5th grade teachers because of our professional experience in Education. We have noticed that teacher education programs implemented by city schools in Porto Velho, RO over the last decades often take place in the first grades in Elementary School since they focus on literacy, mainly addressed at 1st and 2nd grade teachers. Regarding 4th and 5th grade teachers, the programs usually focus on implementation of curricula to teach contents that must be transmitted to students and on training for institutional evaluation descriptors. However, they do not encompass theoretical references that base teaching practices since they take for granted that the professionals have already defined and mastered their theoretical assumptions.

The study was carried out by the dialectical method which aims at research on Education from a cultural-historical perspective (ASBAHR, 2011; CASTRO, in press) to explain reality under investigation in its multiple determinations in the unit of analysis named “Relation between teacher education and teaching practice carried out by 5th grade teachers”. This paper focuses on initial teacher education processes and addresses results of the analytical axis entitled “Context of teacher education in Porto Velho, RO”, which was based on both auxiliary abstractions “initial teacher education” and “pedagogical praxis”.

¹ Lev Semionovitch Vigotski has had his name spelled in different ways in the literature. In this text, we have used the spelling adopted by Prestes (2010): Vigotski (original spelling of references was kept).

Concerning the structure of the paper, firstly, we problematize initial teacher education aiming at practice. Secondly, we describe and justify the investigation path of the study. Finally, we close it with our final remarks.

2 Initial teacher education aiming at teaching practice

According to Silva and Souza (2022), considering current dilemmas and problems that influence teacher education, we must reflect upon the occupation since we know that several elements impact teacher education, mainly in a context full of contradictions, such as the Brazilian one. In different educational contexts, teacher education may generate several pedagogical and cultural readings which produce the dialectical character of educational processes in teaching practice. From this perspective, we advocate the need to identify an epistemological basis in science to support teacher education.

Initial teacher education in Brazil is offered by Pedagogy undergraduate courses and other teaching degrees. According to Libâneo (2001, p. 6), as an Education science, Pedagogy is “[...] a field of knowledge about the whole educational issue and historicity and, at the same time, a guiding directive of educational activity”. The author states that Pedagogy deals with educational acts through teachers’ education and concerns for pedagogical praxis and learning. Pedagogy must ensure that teachers-to-be are guided in their future teaching practice.

Based on this proposition, we believe that Pedagogy, which has its own identity and problems, acknowledges that its fields are elements that constitute educational processes, their historical and cultural contexts and human transformations that they cause. Saviani (2009, p. 3) adds that “[...] Pedagogy has developed in a close relation with educational practices and has become their theory or science”. Thus, it has been identified in certain contexts as the intentional way to carry out Education.

To potentialize knowledge needed for this process in a cultural-historical perspective that focuses on teacher education, instruction is used for developing learners (VIGOTSKI, 2021). In this process, the presence of someone who is capable of defining the pedagogical structure that results in successful instruction is what constitutes this science. In every historical period, educational means improve and

concepts are defined as the result of discussions about theses proposed by researchers-educators.

Taking into consideration the proposition that structured schools enable teachers to better plan their teaching, Saviani (2012), in agreement with Libâneo (2001), states that schools exist to allow acquisition of instruments which enable citizens to access both elaborated knowledge (science) and its elements.

However, Carvalho and Martins (2017) highlight that there is a dichotomy between theory and practice, a recurrent issue in debates about teacher education in our country because, at certain times, teacher education was based on the model of cultural-cognitive contents while, at other times, the focus was the pedagogical-didactic model. In the former, teacher education should deal with contents to be taught since practice would be learned as the result of either teaching experience or in-service education. In the latter, teacher education should be based on pedagogical-didactic preparation.

Gatti (2017, p. 4) adds that these professionals need theoretical knowledge and social ways of acting “[...] in community relations and in the ones related to our natural habitat” which require learning experiences supported by “[...] knowledge and cultural practices of didactics and methodologies of intentional educational relations filled with contents that are relevant to human and collective life”. However, the author points out that academic and social discussions about cultural distancing between practices carried out by higher education institutions and basic education have taken place for some time. According to Gatti (2017), the most serious problems are found in the broad and complex system of public and private institutions – mainly the private ones – that teach online and have provided little space to studies of Didactics, instruction and Developmental Psychology in the composition and development of their curricula. The author points out that problems in this field make initial teacher education programs move away from educational references which are needed for demands of educational work in school systems, mainly in classes (GATTI, 2017).

Among theoretical-epistemological assumptions in initial teacher education, we highlight the ones connected to Pedagogy that belong to the Marxian tradition of Education for praxis. In the Marxian philosophy, praxis consists of practice conducted by theory, rather than being a mere utilitarian practice. It is the projected, reflected,

conscious, transforming action, from natural to social, and understood as a dialectical relation (MARX; ENGELS, 2010). In this philosophy, it is important to understand that theory and practice are dialectically related since praxis is not any practical activity, but the one of who makes conscious choices. To do it, a person needs theory. Regarding the articulation between theory and practice, according to Mizukami (2013), in instruction, for instance, theory should be seen as a resource that enables teachers to account for needs of the educational reality where they practice, rather than a mere set of rules to be followed.

This thought makes us conceive that theory and practice are indissociable and qualified for teaching. On the premise that there is a dialectical relation between both, teachers may incorporate articulation elements into their work to conduct effective pedagogical praxis based on the understanding of the actual totality which is both human objectification and nature control as achievement of human freedom (ASBAHR, 2011; MARTINS; LAVOURA, 2018) and possibility of emancipation (FREIRE, 2013).

To make sense of human emancipation as a dialectical process, we believe that teachers' work, just like any other occupation in a capitalist society, is the result of the historical development of work. Therefore, teachers' behavior in their work may also mean either social alienation or human emancipation, depending on how Education is guided, mainly throughout teacher education processes (DUARTE, 2010; SAVIANI, 2012).

In the light of the CHT, which problematizes and elaborates theoretical concepts whose essence carries human activity as being historical and cultural, teacher education may be an instrument to understand human development. From this perspective, praxis is seen as a humanizing and emancipatory dimension that should not be ignored. Thus, teacher education enables to re-think teaching and (re)elaboration of instruction permanently, based on theoretical articulation that advances from common sense to pedagogical praxis and allows teachers to act as researchers who develop their practice and their theories while they re-think their actions: "[...] we have to see teacher education as a process that promotes its own humanization and goes beyond common sense" (FACCI, 2004, p. 250).

We believe that teachers must be aware of the possibility of a transformation process that not only changes representations of people involved in it but also gives new sense to their interpretations of the educational phenomenon, since they may guide their future actions. This prerogative led to our interest in critical Investigation into issues related to teacher education that result in the development of instruction which ends up showing interests hidden by systemic educational proposals and guide teachers' work. It is shown by data and analyses that comprise the study of teacher education and teaching practice that we carried out with 5th grade teachers in public schools in Porto Velho, RO, in 2021.

3 Investigation path

In the investigation path of our study², we decided to follow the theoretical-methodological recommendations given by Asbahr (2011), Castro (in press) and Martins and Lavoura (2018) regarding the use of the dialectical method. Our choice is justified by the fact that these authors have used principles of the CHT³ in their studies.

When Saviani (1991) discusses the need to make Brazilian educators advance from common sense to philosophical awareness to understand their teaching, he recommends the dialectical method as an instrument to carry it out. He explains how it takes place when the step of educational common sense (knowledge of the empirical reality in Education) is overcome by philosophical awareness (concrete reality of Education which is thought about and fully understood) by means of theoretical analysis (movement of thought, abstraction).

This movement requires mediations which are called central and abstract categories, essential for the phenomenon under study in the dialectical method (MARTINS; LAVOURA, 2018). According to Asbahr (2011), it is what Marx and Engels

² The investigation was carried out by the research group named "HISTCULT - Educação, Psicologia Educacional e Processos Formativos" (UNIR) and is part of the research project "Intervenções Pedagógicas em Rondônia: inovação educacional e produção de conhecimento em Educação" (Portaria no. 81/2019/PROPESQ/UNIR). This research project composes the research program named "Educação e Psicologia Histórico-Cultural: investigações teórico-práticas de processos educativos na Amazônia Ocidental" (Portaria no. 70/2019/PROPESQ/UNIR).

³ The study was approved by the Research Ethics Committee at the Universidade Federal de Rondônia (UNIR) (no. 4.389.284) and certification of ethical appreciation (CAAE) no. 37443120.5.0000.5300.

(2010) called abstractions, the most essential unit of a phenomenon, and what Vigotski (1999) called unit of analysis. Thus, we defined the unit of analysis *relation between teacher education and teaching practice carried out by 5th grade teachers in Porto Velho, RO*. The dialogical process that resulted from the definition of the unit of analysis led to two analytical axes. This paper highlights the one entitled “Context of teacher education in Porto Velho, RO”, whose analysis was based on auxiliary abstractions “initial teacher education” and “pedagogical praxis”. Our starting point was the evaluation that teachers conducted on their own initial education process and how it reflects on their teaching practice, whose reference is the use of theoretical-practical bases that they apply to their classes.

To get to know the empirical reality related to the objective defined by this study, we applied a mixed questionnaire (BAUER; GASKELL, 2017) with 23 questions – nine were open-ended ones and 14 were closed ones – which was made available by Google Forms to all principals in public city urban and rural schools in Porto Velho, RO, from May 10th to May 20th, 2021. They were responsible for sending the questionnaire to their 5th grade teachers. Even though there were difficulties due to a global pandemic, the questionnaire was answered by 54 (17%) out of 322 5th grade teachers⁴.

Questions 1, 2, 3, 4, 7, 8, 15 and 16 in Parts A, B and C of the mixed questionnaire enabled us to outline the participants’ general profile. Fifty-four teachers answered the questionnaire: forty-seven (87%) were female and seven (13%) were male. The same percentages also coincidentally represented where participants work: 87% teach in urban schools and 13%, in rural ones.

Concerning age, five groups were created: 20 to 30 years old; 31 to 40 years old; 41 to 50 years old; 51 to 60 years old; and over 61 years old. The youngest teacher was 25 years old while the oldest was 69 years old. Most participants (49%) ranged from 41 to 50 years old. All participants had graduated from college and most (44) had graduated in Pedagogy and were able to teach early Elementary School grades (81%). Six teachers (11%) had graduated in Languages-Portuguese and four (8%) had graduated in Languages- English, Languages-Spanish, Mathematics and Geography.

⁴ Neither names nor any personal information is revealed due to confidentiality. Participants are identified by names of suburbs in Porto Velho, RO.

Participants' experience on basic education is significant. Most teachers (24 - 44%) have taught for more than 10 years; 19 (35%) have taught from six to ten years; nine (17%) have taught from one to five years; and two (4%) have taught from 21 to 34 years. It was an experienced group of teachers even though most had not taught 5th graders for a long time. Thirty-eight (70%) teachers had taught 5th graders for five years or less; 14 (26%) had taught them for six-ten years: and just two (4%) had taught them for 11-20 years.

This initial presentation of fundamental elements, which led our investigation to the ideal process of reproduction of the real subject-object movement, enables us to synthesize our findings.

4 Fifth grade teachers' perception of initial teacher education and teaching practice in public schools in Porto Velho, RO

We started the synthesis of our analyses with answers given to questions 12 and 14, Part B: "How do you evaluate your initial teacher education process to teach early grades in Elementary School?" and "How do you evaluate your initial education to work as a teacher?". Even though they are similar, both questions aimed at showing approximation among teachers' perception of the context of their initial education to teach 5th grade students and the ones attending other grades since, as shown by their profile, 92% had not worked exclusively in a certain grade since they started teaching in city schools.

Regarding the evaluation of their initial education to teach early grades in Elementary School, 18 (33%) teachers said that it was "excellent" or "fine"; 19 (35%) stated that it was "good" or "very good"; six (11%) said it was "regular"; four (8%) mentioned that it was "as expected"; five (9%) said it was "reasonable"; and two (4%) considered it "bad". Five (12%) out of 42 (75%) teachers who evaluated their initial education positively (excellent/fine, good/very good and as expected) attributed their answers to good professors they had in college, to the theoretical-practical basis which they were taught and to the fact that they got important knowledge to act in their occupation. An answer collected in Nossa Senhora das Graças (2021) illustrates it: "*I had good professors who helped me to be the professional I am nowadays*".

According to Vygotsky (1982) and in agreement with our experience in initial and continuing teacher education in Porto Velho, RO, the role of collaborator that teachers must play while they develop instruction in class may trigger students' internal developmental processes. Good examples given by professors throughout teacher education processes may make teachers-to-be act similarly in schools later.

Concerning praxis, despite constant dichotomy related to the distance between theory and practice in initial education processes highlighted by several teachers, a participant in Juscelino Kubitschek (2021) mentioned that his "good education" results from the theoretical-practical basis he got: "*It was good, both theoretical and practical*". To enable articulation between theory and practice, Gatti (2017) explains that teacher education requires theoretical knowledge and ways of acting socially in workplaces, mainly the ones that may be applied to didactics and educational intentionalities.

The following relations between Saviani's and Duarte's thoughts (2012) were introduced by participants in Triângulo, Baixa União and Mato Grosso when they reported knowledge (resulting from teacher education processes) that was relevant to their work:

[...] through it, I got relevant knowledge to carry out my work. (TRIÂNGULO, 2021).

Good; despite feeling very insecure at the beginning of my professional career, it provided a basis. (BAIXA UNIÃO, 2021).

It corresponded to my demands of teaching at that time. (MATO GROSSO, 2021).

In initial teacher education, Saviani and Duarte (2012) state that curriculum contents of a certain field must also be the ones needed to master processes, ways, i. e., didactic-curricular knowledge. According to both authors, teachers must have pedagogical knowledge that are related to knowledge of educational theories and understanding of cultural-historical conditions that determine educational tasks, which requires understanding of the movement in society. Therefore, the ideal perspective in teacher education should comprise knowledge of contents, didactic-pedagogical education and historical conditions.

Another aspect found in answers given to question 12 refers to teachers who got a teaching degree in High School, which used to be offered to Brazilian students. They all praised this course in their answers. Two (4%) teachers mentioned its importance to their work and pointed out that it was more relevant than their college education:

I got a teaching degree in High School. Pedagogy was a college complement. I'm sure the former was the best in my education process! (IGARAPÉ, 2021).

Excellent, because my initial education was my teaching degree in High School. This course better prepares teachers-to-be to the practical work in class. (UNIÃO, 2021).

According to Saviani (2009), the teaching degree in High School was responsible for teacher education from 1971 to 1996 (Law no. 5,692/1971). The course was organized into two modalities: one of them lasted three years (2,200 hours) and its participants were able to teach up to 4th grade; the other lasted four years (2,900 hours) and its participants were able to teach up to 6th grade. Even though Saviani (2009) stated that this course was poor and restricted, participants in Igarapé and União said that this process was more adequate to their work as teachers. They said it was better than their college courses. We believe that technical skills related to “how to teach a class” end up being highly important to teachers-to-be since they are insecure about what to do in class, even though it is far from the idea of praxis that we advocate.

We also noticed a contradiction in the argument used by the participant in Juscelino Kubitschek (2021) since he said that he had got “[...] *good theoretical and practical basis*” in his college education. Initial education may have provided different approaches to how teachers understand this relation. Even so, we have perceived this contradiction in schools since teachers’ discourses dissociate theoretical bases from work in class, the “school floor”. Based on this contradiction, from now on, we should search for mechanisms to help this group of teachers overcome the misunderstanding that involves the relation theory-practice. We think that this conflict should not exist since there is an inter-relation between them, considering a practical being who acts and is also a being who thinks. Practice leads to a theory and what exists is always

the theory of a practice. Tension between them is not only normal but also important to the search for syntheses that enable school problems to be overcome.

Even though most participants were satisfied with their initial teacher education, eight (22%) out of 37 teachers think it is important to continue it so as to improve teaching:

[...] I'm not satisfied with my search for knowledge. I intend to take a master's degree in Education. (TUCUMANZAL, 2021).

[...] I acknowledge that there is constant need to improve, to update and to contribute to improvement in our Education. (NOSSA SENHORA DAS GRAÇAS, 2021).

It was enough to give me a good basis but it is not enough and we must always update ourselves. (INDUSTRIAL, 2021).

It was good; now, I need qualification to deal with technology. (MOCAMBO, 2021).

Although 37 (69%) participants stated that their initial education was positive to enabled them to teach early grades in Elementary School, 17 (31%) considered it regular, reasonable, as expected and even bad, as shown by both reports:

Graduation in Pedagogy has some illusionism which initially makes you fall in love with Education but, when we face reality, we perceive that it is quite far from the educational context and its relations. (FLODOALDO PONTES PINTO, 2021).

Construída pouco a pouco em um período de 15 anos de sala de aula, buscando conhecimento para uma boa base teórica e prática. I'm not satisfied with my search for knowledge. I intend to take a master's degree in Education. (SOCIALISTA, 2021).

Gatti's studies (2017) of initial teacher education show that this type of desire which teachers have to be constantly learning while teaching results from new demands – identified in everyday schoolwork – that cannot be answered only by knowledge learned in college. The author also adds that the demands may be tension from different contexts and the need to learn new pedagogical approaches which may help instruction. They may also refer to requirements of a system that imposes a burden on teachers, i. e., negative results in evaluation systems which require teachers to improve their practice.

In the attempt to approximate theory and practice, a participant in Eletronorte (2021) suggests that Internships should be longer, which means more time to perceive the use of theories that were analyzed in college: “*My education was regular because the course [Pedagogy] should offer more internship hours*”.

Answers given to question 12 reinforce the dichotomy between theory and practice. We agree with Gatti (2017) and point out that it is fundamental to change the belief that practice and theory are opposed and the conception of practice as mere application of theories learned or mediated by techniques or the mechanical use of a manual of techniques. Answers given to question 14 in Part B confirm participants’ opinion about the evaluation of their initial teacher education process and provide more elements to enable us to analyze the relation between education and practice. The following are some reports given by 40 (74%) participants who evaluated their processes positively (excellent/fine, good/very good and as expected):

Fine. In it, I could connect the theory of my teacher education process and the practice I had already experienced to employ it in class. (CIDADE DO LOBO, 2021).

My initial teacher education was very good. I use several techniques that I learned in college in my work as a teacher nowadays. (NOSSA SENHORA DAS GRAÇAS, 2021).

Very valuable, considering that my first course was my teaching degree in High School. (TIRADENTES, 2021).

Six (33%) out of 17 (31%) participants who believe that their initial teacher education processes were regular, reasonable, as expected or bad highlighted fragility in the relation between theory and practice, as shown by the following answers:

Just theory. A professional’s construction takes place on the school floor, searching, studying, exchanging experiences. (FLODOALDO PONTES PINTO, 2021).

Nowadays, I believe that several interesting issues and theories needed for learning and getting knowledge were addressed. However, further studies related to teaching practice are needed. (INDUSTRIAL, 2021).

It helped a lot but class reality is different from the one we study in college. (JARDIM ELDORADO, 2021).

In theory, it is very good but, practically, what happens is that teachers graduate from college and end up learning in school. (TUPY, 2021).

Emphasis given to theory in initial teacher education and to the need to approximate it to practice is again criticized. Carvalho and Martins (2017, p. 173) explain that the permanent dichotomy between theory and practice has permeated teacher education in our country and discourses in schools: “[...] at times, the pendulum swings to theory, to knowledge, to contents that have to be taught; at times, it swings to practice, to didactics, to ways of teaching”.

To better perceive the relation between theory and practice that participants apply to teaching, we asked question 13: “Which theoretical-practical basis of your teacher education process have you used in your pedagogical practice?” The set of answers that we named “Motley” comprises four (8%) participants’ reports whose references were José Carlos Libâneo, Jussara Hoffmann, Magda Soares and Lev Vigotski (each one was cited once). Twenty-one (39%) participants were not able to objectively mention any theoretical-practical basis of their teacher education process and used in their teaching practice. A participant in Marcos Freire (2021) stated: “*I use guiding practices that aim at educating people that think about the society coherently, with principles of being more*”.

Regarding theoretical-practical bases learned in initial teacher education, 16 (30%) participants answered only constructivism while six (11%) mentioned traditional teaching and constructivism, totaling 22 (41%) out of 54 participants. The result corroborates Duarte’s studies (2010) which highlight that the most popular pedagogies in the 1990’s and 2020’s were based on constructivism focused on knowledge about children’s “natural” development. According to Duarte (2010, p. 41), these theoretical bases have limits and risks:

In this epistemology, the genesis and development of human knowledge are promoted by the effort an organism makes to adapt to the environment. Not only plans of action and thought but also structures of intelligence develop as the result of reciprocal and complementary action between a cognoscente subject’s effort towards assimilation of the object of knowledge to his/her mental structures and schemes and resistance of the object against assimilation, thus, generating the need for spontaneous re-organization of the mental structures and schemes so that they may adjust to characteristics of the object.

In the light of this theoretical basis, from a pedagogical perspective, the most valuable activities are the ones that trigger the spontaneous process of knowledge

construction. The active process is more important than what students get to know by means of school education.

Concerning traditional teaching, which was identified as a theoretical-practical basis by several participants, Saviani (2005) states that it is a pedagogical trend centered on instruction. Thus, schools are seen as agencies centered on teachers, whose task is to transmit contents in a logical gradation while students should assimilate them. According to the author, practice is then determined by the theory that molds it since it provides both the content and the way it should be transmitted by teachers. As opposed to the previous conception, little is attributed to students' activities in traditional teaching.

The pedagogical conception proposed by Paulo Freire, a Brazilian educator and scholar, was found in a significant number of answers. Ten (18%) out of 54 participants have a dialogical basis which starts from problematizing questions and opposes the idea of the banking model of education since teachers agree that knowledge that results from educational practice is critical and reflective and that Education is a political act (FREIRE, 2013). Caring for students, showing joy and hope, having freedom, authority and curiosity and being aware of incompleteness are principles that permeate teachers' practice in the Freirean conception. However, we should consider that, even though many Brazilian teachers call themselves Freirean – a cliché in schools –, some have not deepened their studies on the scholar's ideas at all.

Only one (2%) out of 54 participants cited Vigotski, although this author was not the only reference given by the specific answer in Juscelino Kubitschek (2021): "*In our theoretical basis, we read a lot about Piaget, Vigotski and Paulo Freire; their contributions are relevant to our pedagogical practice*". We deduce that Vigotski and, consequently, other authors connected to the CHT have not been deeply studied in initial teacher education processes, a fact that dissociates teachers-to-be from this theoretical reference. We believe that if this theory were better taught in initial education processes, mainly in Pedagogy, more teachers would find the balance between the supremacy of the Piagetian perspective of constructivism, which focuses on the human biological condition, and the Vigotskian perspective, which is based on historical and culturally mediated development (CASTRO, 2014; DUARTE, 2010; SAVIANI, 2005; VYGOTSKY, 1982).

In general, we found certain diversity in answers regarding previously mentioned references. It may show lack of a plan of public policies but also reveals certain influence of policies that have a constructivist basis, a warning that has been given by Saviani (1991, 2005) for more than four decades.

A worrisome aspect is that our analyses pointed out that 21 (39%) participants cannot mention any theory to ground or help their teaching. Another important contradiction was found: 15 (71%) teachers evaluated their initial education positively and added that it had been “*very theoretical*”. We think that it is hard to imagine that theoretical principles are not used in actual situations that take place in schools, a fact mentioned by teachers. Consciously or deliberately, teachers may not use any theoretical reference, but our long experience in teacher education processes in schools in Porto Velho, RO, enables us to say that it is not the case. Behind every practice – either conscious or unconscious –, there is some epistemology that grounds practice in classes.

A participant in Aeroclube (2021) praised his teaching degree in High School as a relevant basis in his education but he was not able to point out any theoretical basis to ground his practice: “*My basis results from my teaching degree in High School, where I learned many practices, and from my college course in Pedagogy, where I learned theories*”. We may infer that, in this case, besides the explicit dichotomy, more importance is given to practice than to the theoretical basis and to use a reference in planning and development of teaching his students does not seem relevant to this teacher.

In the discussion of this analytical axis, which dealt with the context of teacher education and whose auxiliary abstractions were “*initial teacher education*” and “*pedagogical praxis*” (ASBAHR, 2011; CASTRO, in press) to analyze what was collected by the mixed questionnaire, we aimed at determining how initial teacher education reflects on teaching by using theoretical-practical bases mentioned by teachers to develop their teaching as our references. We found that initial teacher education – to carry out teaching practices – is positively evaluated by 40 (74%) participants while 14 (26%) evaluated it negatively.

It should be highlighted that 21 (39%) out of 54 participants could not clearly define any theoretical reference to ground their practice even though 15 (71%) of them had evaluated their initial education positively. In this analytical axis, it should be pointed out that two (25%) out of eight participants – who mentioned the need to keep working on their education processes – want to attend a master's program to help them fill gaps that resulted from their initial and continuing teacher education processes. It was stated by a participant in Baixa União (2021): *“My initial education ended up as expected in Pedagogy but I would like to attend a master's program in Education”*.

According to Facci (2004), continuity in education enables teachers to act as researchers and develop their practices and theories aiming at pedagogical praxis. This conception of education was highlighted by a participant in Nossa Senhora das Graças (2021) because it connects teachers' wishes to keep studying and to improve Education: *“My education enabled me to teach early grades but I acknowledge that I need to improve and update my knowledge to contribute to improvement in Education”*.

According to Mizukami (2013, p. 23), “[...] teaching is a complex occupation which, like the others, is learned”. To provide solid theories and effective practices for teachers, Carvalho and Martins (2017) advocate that courses in Didactics and Teaching Methodologies should enable students to get the didactic-methodological basis needed to teach contents but, as a complement to Didactics, they should deeply know the contents of what they teach. Saviani (2012) states that theories are only elaborated to solve problems that result from social practice. Therefore, there is no theory without practice and there is no practice without any theory. The author points out that theory without any practice is verbalism and that practice without any theory is activism.

We believe that contributions given to Pedagogy by Principles of Education are essential. Proposals were made by Saviani (2012) and reformulated by Carvalho and Martins (2017) to highlight teaching by improving teaching degrees with theoretical education based on practice so that teachers can perceive it in their everyday pedagogical work, respond to pedagogical issues and search for theoretical alternatives to help them. We agree with participants who say that initial teacher education is not enough to fulfill teacher education in all aspects. Thus, we believe that continuing education is essential to reach constant improvement in teaching.

6 Final remarks

This paper introduces discussions and results of a study of relations between initial teacher education and teaching practice of 5th grade teachers in public schools in Porto Velho, RO. The study involved 54 teachers who answered a mixed questionnaire which was made available to them online via Google Forms. Their answers were analyzed by the dialectical method based on methodological assumptions proposed by Asbahr (2011) and Castro (in press) to carry out educational studies based on the CHT.

Positive evaluation of initial teacher education (75%) was mainly attributed by participants to “*good professors*” they had in college and to the theoretical-practical basis they had to carry out their occupation. Eight (19%) out of 42 teachers who evaluated their initial education positively believe it is important to keep studying and update their knowledge. Their justification is that theoretical-practical references they got do not meet their actual needs completely since they go beyond their initial teacher education. This result corroborates findings of teachers’ anxiety after their initial education reported by Facci (2004) and Gatti (2017).

Twelve (25%) out of participants who evaluated their initial education negatively said that it was mainly due to the gap between Pedagogy and school reality and to excessive number of hours aiming at teaching “theories” rather than practice. We noticed the strong dichotomy between theory and practice, as if there were competition between both. The permanent dichotomy between theory and practice that permeates Brazilian Education (CARVALHO; MARTINS, 2017) is also the rhetoric used by 5th grade teachers in Porto Velho, RS. Two (8%) teachers who evaluated initial education negatively believe that the teaching degree in High School is more relevant to their teaching practice than college graduation in Pedagogy because the former meets their needs in classes.

Results of the theoretical basis applied to teaching show that constructivism has been widely acknowledged and used. They corroborate warnings made by Duarte (2010) who states that pedagogical theories based on this reference are the most common in Brazil. They also influence policies on teacher education, a fact that has been shown by Saviani (1991, 2005, 2009, 2012) for more than three decades. This

study also shows that reference to the CHT in initial teacher education is almost non-existent, since only one participant mentioned Vigotski along with other authors. Little attention given to this theoretical basis in initial education dissociates teachers from it.

Reality diagnosed in Porto Velho, RO, confirms Facci's thesis (2004), which emphasizes the importance of permanent dialectical relation between objective and subjective conditions of teaching so that the objective ones should not limit access, implementation and quality of Elementary School teacher education processes. The unit of analysis "Relation between teacher education and teaching practice carried out by 5th grade teachers in Porto Velho, RO", based on findings and contradictions reported by our study, shows that this indissociable relation needs to be better understood by teachers.

We agree with Duarte (2010), Gatti (2017) and Saviani (2012) when they advocate that, in teacher education processes, curriculum contents of a certain field should also be the ones related to processes, forms and didactic-pedagogical knowledge. This study showed and problematized contributions to keep the debate about the relation between teacher education and practice. However, we advocate that further debate and studies may (and must) be carried out in this field.

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