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Artículos científicos

Desarrollar el pensamiento crítico: cartografía mínima de los formadores de docentes

Developing Critical Thinking: Between Structures and Simulacrum

Desenvolvendo o pensamento crítico: mapeamento mínimo de formadores de professores

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Resumen

Los argumentos que aquí se exponen son resultado de una investigación que tuvo el objetivo de documentar cartográficamente los trayectos que toma el formador de docentes ante las exigencias educativas de desarrollar el pensamiento crítico en sus alumnos. La investigación se llevó a cabo a partir de un estudio de caso en una escuela normal del sur del Estado de México. Como parte de los resultados, destacan tres trayectos que forman parte de toda una cartografía del ser y hacer docente. El primero da cuenta de docentes normados bajo estratos duros, quienes adecúan cada plan de estudios a su forma de ser porque tienen posturas arraigadas de su labor docente. El segundo muestra la oscilación entre el interés del docente en la posibilidad de transformar su práctica de acuerdo con las exigencias de un plan de estudio y el retorno al estrato duro, circunstancias que lo llevan a debatirse entre la lógica de

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una costumbre arraigada y la posibilidad de romper con ella. Por último, el tercer trayecto da cuenta de la capacidad de agencia que tiene el docente y, en ese sentido, la facultad de romper esquemas conceptuales para dar apertura a nuevas formas de organización del aprendizaje de sus alumnos y provocar el desarrollo del pensamiento crítico.

Palabras clave: cartografía, estrato duro, formador de docentes, líneas de fuga, pensamiento crítico, simulacro.

Abstract

The arguments presented here are the result of an investigation that had the objective of cartographically documenting the paths taken by the teacher educator in the face of the educational demands of developing critical thinking in their students. The research was carried out from a case study in a normal school in the south of the Estado de México. As part of the results, three paths stand out that are part of a whole cartography of being and doing a teacher. The first shows teachers regulated under hard strata, who adapt each study plan to their way of being because they have deeply rooted positions of their teaching work. The second shows the oscillation between the teacher's interest in the possibility of transforming their practice according to the demands of a study plan and the return to the hard stratum, circumstances that lead them to debate between the logic of an ingrained custom and the possibility to break up with it. Finally, the third path gives an account of the agency capacity that the teacher has and, in that sense, the faculty of breaking conceptual schemes to open up new ways of organizing the learning of their students and provoke the development of critical thinking.

Keywords: cartography, hard stratum, teacher trainer, leak lines, critical thinking, simulacrum.

Resumo

Os argumentos aqui apresentados resultam de uma investigação que teve por objetivo documentar cartograficamente os caminhos percorridos pelo formador de professores diante das demandas educacionais de desenvolvimento do pensamento crítico em seus alunos. A pesquisa foi realizada a partir de um estudo de caso em uma escola normal do sul do Estado do México. Como parte dos resultados, destacam-se três caminhos que fazem parte de toda uma cartografia de ser e fazer professor. O primeiro dá conta de professores regulamentados em estratos rígidos, que adaptam cada plano de estudos ao seu modo de ser porque têm posições arraigadas em seu trabalho docente. A segunda mostra a oscilação entre o interesse do professor pela possibilidade de transformar sua prática segundo as demandas de um plano de estudos e o retorno ao estrato duro, circunstâncias que o levam a debater entre a lógica de um costume arraigado e a possibilidade terminar com ela. Por fim, o terceiro caminho dá conta da capacidade de agenciamento que o professor possui e, nesse sentido, a faculdade de romper esquemas conceituais para abrir novas formas de organizar a aprendizagem de seus alunos e provocar o desenvolvimento do pensamento crítico.

Palavras-chave: cartografia, estrato rígido, formador de professores, linhas de fuga, pensamento crítico, simulação.

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Introduction

In Mexico, starting in 1985, developing critical thinking throughout the teacher training process became an official requirement. From this perspective, the action of promoting critical thinking fell directly on the teachers. However, more than two decades later, this educational approach does not seem to have the expected results. Some reasons could be supported by the adaptation of teacher educators to established social structures, and because they were trained to function under a system that regulates their working conditions and that, consequently, has constituted them under hard strata of thought, however Given the educational circumstances, they are forced to make a great turn in their being and become a teacher.

Undoubtedly, fulfilling this task of promoting the development of critical thinking in its students brought with it a host of diverse difficulties. Therefore, the interest in posing the following question: what are the paths traced by a teacher educator when faced with the dilemma of developing critical thinking in their students?

This article presents the results of an investigation that started from the recollection of a teacher to analyze and cartographically document the paths traced by him in the face of the dilemma of developing critical thinking in his students. It is a dimension that evokes the condition of being a teacher and its circumstances.

The thesis defended here is that the teacher, generally, is a being constituted by social structures and hard strata of thought, but the situation that arises for developing critical thinking implies moving to flexible strata and being an agent that transforms the education. Indeed, there are structures that constitute us, but do not determine us, because there are events, understood as simulacra, small interstices, becoming imperceptible, which give the teacher the opportunity to be an agent of change. In this case, the teacher goes through the lines of flight existing in each class; lines of flight that are tracing a map of teaching practice towards the development of critical thinking. However, it is an extremely difficult situation that forces the teacher educator to remain in familiar ground, even if this does not achieve the educational objective set.

In his adventures with Deleuze, critical thinking has been conceptualized as that type of complex and organized thinking, but capable of disorganization, folding and spreading, advancing in a spiral, in an "eternal ritornelo", in search of learning and violating structures. A type of thinking that demands to always experience new ways of understanding life. Even more: a thought that questions, that problematizes, that looks for solutions not given, that thinks about the "not yet"; an informed thinking, who makes decisions based on criteria and, to communicate, argues. It could be summarized in three major competences: 1) pose, address or solve problems (Gil, 2018), 2) argue (Córdova, Velásquez and Arenas, 2016) and 3) do metacognitive exercises that allow self-regulation of learning processes (Jaramillo and Simbaña, 2014). In turn, these three major competencies are directly related to the didactic actions that enable their development.

Generally, the methodologies used by researchers specialized in the subject in question here are related to problem-based learning. Saiz and Rivas (2017), for example, have a long history in the application of problem-based learning related to this purpose in



Spain, thanks to which they have managed to formulate an increasingly better defined program and criteria to assess the level of development when applying such a program. In Mexico, Núñez, Ávila and Olivares (2017) found that the use of problem-based learning promotes the development of critical thinking. There are also some works that investigate the conception that educational actors have about critical thinking and the influence of its development in higher education studies (Bezanilla, Poblete, Fernández, Arraz and Campo, 2018). However, research related to the development of critical thinking in pre-service teachers is less common; and the few that exist assume that the teacher educator knows what critical thinking is and that, without further ado, is going to put into practice the methodologies proposed for its development. Finally, even rarer are the investigations related to the conditions experienced by teacher educators when faced with the task of developing critical thinking.

Thus, the importance of this research lies, on the one hand, in the fact that critical thinking is one of the cognitive competences with the greatest presence in school curricula (United Nations Educational, Scientific and Cultural Organization [Unesco] / Regional Office of Education for Latin America and the Caribbean [Orealc], 2018); and on the other, that from the official educational political discourse, teacher educators have been identified as the direct promoters of the development of this competence.

Understanding the condition in which they live this demand makes it possible to understand the teacher from her human, social and work condition. Approaches of this type make it possible to reach a more favorable situation to implement joint training strategies for the teacher educator and overcome obstacles that stop the educational purposes and the achievement of the educational competencies proposed for the 21st century.

Path traveled (Methodology)

To answer the research question, we will approach Deleuze's theoretical perspective mainly through Mc Namara and Santaya (2017). Based on the construction of a social cartography (Diez and Escudero, 2014) and the narrative as an option to give voice to the experiences of the teacher educator (Landín and Sánchez, 2019), we will carry out the analysis of the teaching intervention practices and its different routes.



It is, with the narrative biographical method, which is located within the field of qualitative research, that we can account for this rich knowledge, since we work with the subjects through the narrative that travels through memory to bring to light those experiences, those images, those memories, feelings, ideals, learnings and contextualized meanings in a given time and space (Landín y Sánchez, 2019, p. 229).

Through the narrative of the teacher, who told stories raised in the classroom, empirical data were obtained by voice. In addition to this, the field notes served to record other equally important data. Once the narrative was transcribed, a confrontation with the theoretical contributions was made and some common situations related to some difficulties experienced by teacher educators in the demand to promote the development of critical thinking in their students were analyzed.

In this case, only three possible paths out of a number of them that occur daily in educational relationships within normal schools will be addressed: hard stratum, flexible stratum and simulation. These paths are outlined by the difficulties faced by the teacher educator regulated under hard strata, but who are at the juncture of an educational change. Above all, the way in which the teacher is torn between his hard layers and the opportunity to do a drill. It should be noted that simulation is understood here, following Deleuze (Castillo and Moreno, 2018), as making a difference, as the possibility of breaking schemes to achieve different results.

The analysis that is presented starts from a narrative recalled by a teacher trainer from a normal school in the State of Mexico. The remembrance exercise was carried out during the month of November 2019. The teacher is a normalist by training. At the date of the interview, he had 27 years of service, 23 of which he has exercised, at different times, in two normal schools in the southern region. He is currently pursuing doctoral studies online. This narrative is taken up for being representative of the paths that trace the difficulties experienced by teachers in the face of the responsibility demanded by the transformation of their educational practice.

The present work does not pretend to provide a systematic answer, but only to induce a possibility of analysis that leaves open some lines of flight to undertake an educational revolution by dint of experiencing the difference. It only intends to deploy the analysis of



some teaching intervention practices based on the paths traced and those that are still possible.

A conceptual approach to critical thinking

In education, the State tries to impose a model with its respective codes, protocols, programs and even the dominant language: the normalized language that prevents access to particular semiotics (Guattari, 2013). “Language is a collective equipment (...) that offers an axis to my thinking” (Guattari, 2013, p. 10); or what is the same, which limits it to a model, a copy, a representation. Thus, through the dominant language, and an educational model, the State is setting guidelines and lines of action in education. However, discursively, it is considered that “education is configured as a possibility of contributing to the formation of critical subjects” (Ducoing, 2014, p. 16).

However it may be, regardless of what the existing educational theories say, the teacher tends to represent an educational model based on their conceptions, beliefs and justifications. This representation keeps him online, in the routine and makes him renounce intervention practices that lead him to reinvent himself, to make a difference, to be a simulation. The representation keeps him on the sidelines of becoming authentic ideas that the teacher often sees and hears in the interstices given by educational relationships. Guattari (2013) aligns himself with the idea that “another world is possible”; thus, together with Deleuze, they constantly incite to be simulacrum (Heffesse, Pachilla and Schoenle, 2019). This is: to be difference. This would give the teacher the opportunity, in this case, to escape stereotypes and to play different roles in their teaching: to move towards provoking the development of critical thinking in their students.

To provoke the development of critical thinking, it is essential that teachers understand both the theoretical underpinning that supports critical thinking and the need to transform their educational practices. It is up to the teacher to invent new forms, to be a revolutionary of ideas, of norms. It corresponds to favor the proliferation of the lines of flight (understood as possibilities) to form rhizomes:

Those ways in which it doesn't matter which point can be connected to any of the other points, in a random way (...) in order to detect the knots “where it gets stuck”, the space-times where, on the contrary, “it walks” and make them work, make them run away (Guattari, 2013, p. 13).



That is, it is up to the teacher to be a simulation, to be a difference. Invent another world where nothing is ever taken for granted, where everything is still possible. Trace new trails. In reality, it does not matter that they seem to have already been addressed, the important thing is that they provoke different experiments and events. In this sense, and considering the three elements mentioned above of critical thinking, educational practices should focus on giving the student the possibility of questioning, investigating, arguing, solving problems, being aware of what he learns and the way he learns. . In short, to provide the possibility of thinking.

Having made this approach to some necessary concepts, we now go on to narrate a story that speaks of an educational experience. In it underlies that personal debate that the teacher constantly has before the possibility of developing critical thinking: simulation or starting, at least, by making its strata more flexible and that hard stratum subject to the dominant structures, rooted in their teaching consciousness, made up of a whole life history, culture and context. There is manifested that intense struggle that teachers have when trying to escape from “the redundancies that our daily life produces” (Guattari, 2013, p. 64) and mobilize stratified structures to reorganize the educational environment and escape the categorical system.

A meaningful story in the teacher's voice

It's 8:35 a.m. At the end of the Mathematical Thinking class, the teacher educator leaves a task for his students of the 1st semester of the degree in Preschool Education: “Investigate how to transform 1110101 (in base two) to a decimal system”. End of class.

Wednesday of the same week, 10:50 am. The teacher arrives on time for the 1st semester group. After greeting, taking the roll, remembering what they saw the last session, ask their students for the task and, also, if anyone is interested in going to the blackboard to explain what they have found. Silence. "Nobody?" Asks the teacher again. "Okay, I say ... let's see ... mmm ... Gina, you said you do bring homework, right?" The student confirms the teacher's suspicion. "Okay, come forward." "Okay," says the student, "but only part of it, because in the end I didn't understand him anymore." "Okay," replies the teacher.

The student comes to the front. She writes down the procedure previously recorded in her notebook on the board and stops at a point where she no longer has any idea how to continue. By this time there is no need to address someone in particular. Several hands are



raised, indicating the desire to continue the exercise. The teacher gives the participation to one of her students, who immediately goes to the blackboard. Clearly explain and conclude the process. Then, in one of the corners, one more hand is raised: "I have another procedure, can I explain it?" "Sure!", Assures the teacher. The student goes to the blackboard, explains a new procedure and arrives at the same result. At this moment, the students are absorbed in the activities carried out inside the classroom. They question the partner in front if something they do not understand and he solves the doubts.

The situation became more intense for the teacher when someone assured that he had a third procedure, different from the previous ones, and he also wanted to explain it. The students were impressed: with any procedure the same result was reached. At that moment an event of great importance to the teacher occurred. A student asked him if he knew how to solve it. The teacher, who did know one of the exposed forms, felt threatened. Her reaction was one of annoyance and outrage at the question. "Of course I know how to solve it. I know one of the ways that have already been exposed," he replied. However, there was a change in attitude, he was shocked, serious. The atmosphere became a bit tense. The teacher felt that things were getting out of control, so he ended that activity and moved on to the next one.

Results

Mapping Teaching Practice: Making Different Make Difference

For Deleuze (Esperón, 2016), there is not a center, but a problem, a distribution of relevant points, always decentrations. It suggests leaving the circle, abandoning the spherical organization altogether. Assume the voice of the other as something to which it is necessary to find meaning on the outside. Thus, these relevant points were worked on as routes (Diez and Escudero, 2014). In the narrated situation, the students were being agents in the teaching and learning relationship, they were exercising their thinking, there were questions, participation; There was a gap that broke the didactic scheme, the hard stratum of the teacher, possibly the beginning of a drill was taking place. But there was also a crash of bodies and the teacher was terrified, afraid of losing control, so he returned to his familiar territory.

In the first place, a path that was basic is mentioned: the possibility of a simulation, of drawing different lines in a teaching-learning relationship. The class was having a unique journey from the teacher's perspective. The teacher made his students an approach and their

responses exceeded expectations. The students managed to insert themselves into a different strategy. For them, it represented a drill, it was a class that made a difference. The teacher, when posing a problem, led the student to a situation of doubt or perplexity. The students investigated, made notes, looked for a way to understand the procedure and find elements to be able to explain it to others. When their colleagues asked, those in charge had the theoretical elements to resolve the doubts.

The students were exercising their thinking. If we understand it literally, on the blackboard there was only the representation of a pre-established machinic assemblage. But when the idea is nourished by several copies, it also comes to a different idea, an original idea, a simulation. And there were complicities among the students, when they observed that there were different processes and that they all led to the same result. And not because they were legitimizing situations, but because there was a clash of bodies that destabilized their own machinic assemblage and that, furthermore, allowed them to use theory to prop up their practices or to ask questions. This situation, from the perspective of Deleuze and Parnet, was ceasing to be a copy, it was becoming a simulacrum, especially due to the intensities that were manifested (Heffesse *et al.*, 2019).

The teacher was, at last, leaving behind the role stipulated by the hard stratum, the one that dictates that "he is the one who knows, and it is up to him to transmit the knowledge"; at least at that time he was being flexible and allowing the student to position himself at the center of the teaching-learning process. I was experiencing "the other". And it was causing didactic actions that stimulated the development of critical thinking: investigation by students, organizing their thinking to clearly express the procedure, questioning (Lipman, 2016); when there is no agreement, refute an answer; because they had the theoretical support that allowed them (Toulmin, cited in Pinochet, 2015); All of this was giving them the opportunity to be aware of the way they learned and to regulate their learning (Valenzuela, 2019).

There was an atmosphere of curiosity, even empowerment. The class was dynamic, flexible, everyone participated. Discovering that different procedures led to the same results shocked them; be they who explained it clearly, more. Students are eager to learn and if given the opportunity, they take advantage of it. They are the ones who frequently request the breakdown of educational schemes. They are the ones who want to experience different situations to make a difference.



But, suddenly, the teacher is going through a gap, a shock that caused a break in the didactic scheme. In his own words, "he was scared, he no longer knew what to do, he was afraid that the situation would get out of control." It became panic! Learning has chaotic moments, and teachers become chaos when they consider that the relationship established between teacher and student is out of control; in those cases, they better stop the chaos and return to familiar ground. Then, the teacher sets rules that allow him to maintain control. His layers have solidified, hardness now predominates and finding himself in unknown terrain causes him panic, he feels more comfortable in his comfort zone, where he is the one who leads the class, the one who knows, the one who asks for answers.

Thinking is only possible when faced with a conflict that is not understood; otherwise, only renderings are made. When the teacher understood that the questions asked by his students were not answered from a text, that the questions referred to the meaning of what happens to us, he determined not to continue drawing the fold (Deleuze, 1988 cited in Ferreyra, 2019). He did not accommodate the rupture and the possibilities of different thinking, he preferred to continue in the hard segmentation rather than dare to adopt different lines of flight that he did not know where they led.

The system reproduces copy teachers who follow a curriculum, a model, from a hard stratum, and the dominant language. But the paradox is also inserted there, there is the possibility of developing critical thinking. An exercise that involves breaking models, which needs to exit the program and do simulations. The questions now are: do teachers comply with the approach of the curriculum? It is a paradox wherever we see it. If teachers complied, they would be representing a model; If we talk about developing critical thinking, then there would be drills. Is a representation and a simulation possible at the same time? Do they need to follow the educational model for the development of critical thinking or do they need to leave the program to do simulations and promote this cognitive competence? Or does the educational model hide something perverse from the eyes of the school community?

It is identified that the teacher has copy actions. Starting from an ideal model, she tries to submit to the normalized, to the instituted. However, sham actions are also identified, those that seek the new, the paradoxical. And they really are interesting, but not very constant. They are insufficient mock actions to make a difference. They are only sparks of a moment. Only different situations that fail to make a difference.

Now, how long are these actions on the threshold? Because if they stay on the threshold there will be no critical thinking. And in the case raised at the beginning, the drill has been precisely on the threshold. Events appear, are captured, vibrated with their intensity; but the teacher becomes a crisis, vibrates with the panic of not controlling the situation and submits to the hard stratum. Then it is not transcended, it appears on the threshold, just that.

Although teachers are recognized as agents of change, daily life is full of schemes, models, structures that force the teacher to live in representations, who, in turn, causes the student to submit to such representations and, therefore, the exercise of thought is not achieved.

However, there is no way to teach. There is no institutional way of life. There are chances. Educational practice is not necessarily what is recognized there; it also implies what is not there, what is not recognized. It involves experimenting. And between the social structures there are small interstitial spaces that open the possibility for the teacher to position himself as an agent of change. It is experiencing simulations, experiencing becoming, because in simulations there is knowledge, an exercise of thought. So, if you want to promote the exercise of critical thinking, you have to break the normative, be a mock teacher.

But how do you turn these mock actions into a mock practice so that it stops being different and makes a difference? Or how to turn a different practice into a drill? How to make the different make the difference? Thinking with Guattari (2013), and Deleuze, at least one possibility is found in building teaching and learning relationships from a flexible segmentation, placing oneself in an “eternal ritornelle” (Sosa, 2019) of breaking schemes, of doing different things, that possibly leads to building the difference, the new, the unseen, the unthinkable. Without settling in it, because it calcifies and hardens in the same way, it becomes a hard layer; without staying in the drill, but moving the drill, moving with the drill, being a drill. Hence the emphasis on the eternal ritornello, a ritornello that will never lead to the same starting point, it always advances, it returns being different, because what the teacher can do in the classroom is the most impressive.

Discussion

The results have certainly been interesting. In the narrative used for this research, the difficulty that other teacher educators also manifest prevails. Teachers are torn between normalization and flexibility, between the hard stratum and the possibility of being simulacrum. There are structures, and they are necessary, for example, to promote social coexistence. Society has been constituted throughout daily life from great constants, but there have also been ruptures that have allowed us to look towards different sides, since the norms, the structures do not determine definitively. Because in everyday life small interstices also open up from which the human being knows himself an agent of change and recognizes his power of agency. Interstices that, no matter how small, have made a difference, have achieved simulations that transform society and, in this specific case, education.

In this research, at least three trajectories of a teaching cartography have been found in the face of the demand to promote the development of critical thinking. There are teachers who have solidified their strata of thought while they have adapted the program to their way of being and teaching, because each stratum in turn serves "as stratification surfaces" (Mc Namara, 2019, p. 111). That is to say, each accumulated experience consolidates teaching practices; Thus, even if there is a different study plan, teachers installed in this path tend to find ways to implement the study plan without substantially modifying their school practices. From Deleuze's perspective (Mc Namara, 2019), they constitute "a segmental organization" (p. 112).

In a second stratum, which Deleuze also calls the flexible stratum (Mc Namara, 2019), teacher educators, with the intention of implementing a new study plan, intend to make a difference by posing different didactic situations to their students. However, making a difference always requires intensity to deploy drills (Mc Namara, 2019), to implement different situations with which different results are reached. The teacher is torn between the known and the unknown of her educational work, between certainties and interstices. Possibly, in that sway, the event that breaks into the metastable educational practice achieves, which also destabilizes the teacher and makes him return to known territories of his school practice (Esperón, 2017).

What is sought, in view of the educational purpose of promoting educational development, is for the teacher trainer to trace mock paths, the product of events that disrupt the calcification of mental schemes as an "outbreak of difference" (Esperón, 2017, p. 35) and



that generally “takes place in the interstices, that is, between the strata. There [where] the assemblages arise”(Mc Namara, 2019, p. 114). In this sense, it is necessary for the teacher to identify the lines of flight that appear in the class and to violate the thought itself and that of his students to make each gap count in his experience, in such a way that he accepts the possibility of experimenting new ways of teaching, even mistakes as a way to provoke and evoke critical thinking. With educational breaks such as the aforementioned event experienced by the teacher, the thinking of the students would constantly be violated, a multitude of mock paths would be traced that would contribute to the development of critical thinking through the agency of the teacher educator.

It is worth mentioning that this research has made it possible to identify some trajectories of the problems that teachers face on a daily basis with the possibility of provoking the development of critical thinking; however, it has been limited to that. The answer to the hows remains pending: how to overcome this difficulty? What strategy could give flexibility to the hard stratum in which teachers experience the training of new teachers? Here we have analyzed only three trajectories of a whole cartography of difficulties faced by the teacher educator in this complex task.

Conclusions

While it is true that the educational plan for teacher training raises the development of critical thinking, it is also true that a subject cannot from one moment to another be an agent. It is more common to be between the structures and the assemblage. Being a subject, but knowing the possibility of being an agent. Knowing the structures, knowing oneself in the structures, but recognizing the ability to break them. From that perspective, it is natural for teaching staff to be willing to be flexible with their established mental structures: experiment, create, learn. Get out of the routine and assume different lines of flight that lead the subject to an "I don't know where", to a dis-encounter and to transform themselves towards the provocation of both thinking (thinking critically) and learning

In teacher training, it is necessary to exercise what we call thinking; but to exercise it totally another, breaking the rules, experimenting. Create vanishing lines, away from all representation. When the educational system proposes to exercise critical thinking in teaching and learning relationships, behind the scenes there is a whole breakdown of conceptual schemes that are debated between structures and simulation. This situation,



however, could represent a line of flight for the teacher educator; a metacognitive exercise that allows you to "become aware" of your possibilities and limitations, as well as to seek and find answers to the hows. Because as long as teachers do not recognize that structures are not decisive, the process of educational change becomes less tangible.

The ideal teacher does not exist, there are only possibilities to experiment, keep learning and re-experiment indefinitely, deterritorializing each time there are possibilities. Thus, a teacher who submits to a duty to be, only closes himself in function of his impotence, of his hard stratum that is not allowed to break. But a teacher who recognizes his possibility as an agent of change accepts that his task is to constantly reinvent himself and reinvent his practices, with the intention of violating the thinking of his students, of making them think critically. In such settings, the teacher would have to experiment with navigating the lines of flight existing in each class; lines of flight that trace the trajectories of a cartography of teaching practice towards the development of critical thinking.

The task of developing critical thinking is torn between structures and simulation. Proposing to exercise critical thinking in teaching and learning relationships is undoubtedly a difficult feat. However, promoting the development of critical thinking requires simulation, that is, not only being different, but making a difference, creating lines of flight away from all representation, breaking schemes, living events, making students think. Although it is true that, given their long career, hard strata predominate in teacher educators, it is also true that at every moment there are spaces of rupture, small interstices, flows that open the possibility of finding and using events that can transform in an unlimited way.

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