

# PROEJA'S CLASSROOM AS A SPACE FOR TEACHER EDUCATION

## SALA DE AULA DO PROEJA COMO ESPAÇO DE FORMAÇÃO DOCENTE

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### ABSTRACT

We developed this research focusing on the classroom as a space for teacher education, aiming at pointing out which of the teachers' knowledges are re-signified in a mathematics classroom of Proeja-Ifes-Vitória. We emphasize the importance of a school space of interaction among the people involved, aware that although learning is an individual process, it occurs collectively. We opted for a qualitative research, based on an *in-situ* observation, with written records and filming that would assure us a greater proximity with the perceptions of the field of subjectivity. As a theoretical framework that discusses teacher education from a critical perspective, we use the works of Charlot, D'Ambrósio and Freire. From the results, we can point out that the openness to the transformation of Eja modality can be the foundation for a new teaching-learning process, since we saw in the classroom an articulation of knowledges, sometimes of the theoretical field and sometimes of lived experience, a clear sign of the perceptions of these teachers' knowledges. Adding that if the same process of educating while teaching follows intentionality, that is, the awareness of the fact, we may consider the exercise of self-education more likely.

Keywords: Proeja, Teacher Training, Dialogue, Classroom

### RESUMO

Com a intenção de apontar quais saberes docentes são ressignificados numa sala de aula de matemática, do Proeja-Ifes-Vitória, desenvolvemos nossa pesquisa com foco na sala de aula como espaço de formação do professor. Enfatizamos a importância de um espaço escolar de interação entre os sujeitos nele envolvidos, cientes de que embora a aprendizagem seja um processo individual, ela se dá no coletivo. Optamos por pesquisa qualitativa, com base na observação *in loco*, com registros escritos e filmagens que nos assegurassem uma proximidade maior com as percepções do campo da subjetividade. Como suporte teórico de base, utilizamos das leituras de Charlot, D'Ambrósio e Freire, autores que discutem a linha de formação de professores numa perspectiva crítica. Dos resultados podemos sinalizar que a abertura para a transformação da modalidade Eja, pode ser a base de um novo processo de ensino-aprendizagem, pois vimos naquele espaço da sala de aula, uma articulação de saberes, ora do campo teórico, ora da experiência vivida, uma sinalização clara das percepções destes saberes. Acrescentando que se o mesmo processo, de se formar ao ensinar, vier acompanhado de intencionalidade, ou seja, da consciência do fato, poderemos considerar mais provável o exercício da autoformação.

Palavres-chave: Proeja, Formação do Professor, Diálogo, Sala de Aula.

## 1. Introduction

The experience of the research carried out in EJA classes, at Vitória campus, Ifes, we had as educators of the Professional Education Program Integrated to Basic Education in the Youth and Adult Education Modality- Proeja<sup>1</sup> and Proeja Specialization, both at Ifes, Vitória campus - ES, led us to realize the relevance of the proposal, which encompasses the development of the learner's autonomy, and mainly how the relationship established between teacher-students, whose methodological proposal is founded on the discourse of action in the collectivity, collaborates with that teacher's education.

The option to write the text in the first person of the plural is due to the fact that this research was developed in partnership with colleague Maria da Glória Médice de Oliveira, whom I thank for the partnership and discussions we had during this work.

In the course of the experiment, we observed the autonomy acquired by the student as a result of the opportunities arising from the collective exchanges provided by the educator, while perceiving a natural and unconscious formation process of that educator, which was verified in our GPEM-ES research group<sup>2</sup>, to which we belong and submit our experiences for analysis. This verification and the teacher's decisive role and the dialogue he provided in the construction of his own knowledge instigated us to undertake this research, focusing on the following issue: Which teachers' knowledges are re-signified through dialogue in a Proeja's classroom that may change the teacher's practice, in a self-education process?

As principles, we considered that: 1. education must contemplate democratic and inclusive practices; 2. knowledge construction is more than sole transmission of a formalised content, encompassing the establishment of cultures related to this knowledge; 3. the school, as a space where knowledge is produced, should not be restricted to the presentation of a formalised content, rather, it should cover the various ways of approaching it; 4. being a teacher requires knowledges, professional knowledges, of one's own. Thus, we consider the teacher's education as a specific culture, a process by which the individual-teacher becomes a bearer and generator of meaning. For Charlot, "[...] a cult person is the one for whom the world is not only a place where you act, but a universe of meaning". (CHARLOT, 2005, p.95)

Therefore, we can claim that Proeja's classroom is a space for teacher education. Through interactions and shared knowledges, the teacher re-signifies his knowledges about mathematics teaching-learning, that is the aim of our research. Thus, with a critical proposal, we understand the need and capacity of the teacher to make use of his various types of knowledges, instigating a dialogue that values and awakens the learners' collective critical awareness while encouraging communication with the countless areas of knowledge, in a proposal of construction of knowledge for the student and for himself. D'Ambrósio (2011, p.76) expresses his concern about the issue of shared knowledge in areas that do not dialogue, stating that:

The complexity of the problem of knowledge derives from the fact that it is impossible to separate its various dimensions, just as it is impossible to study its elaboration piecemeal. (D'AMBRÓSIO, 2011, p. 76)

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<sup>1</sup> Proeja: National Program for the Integration of Professional Education with Basic Education in the Modality of Youth and Adult Education, implemented by Decree 5840 of July 13, 2006.

<sup>2</sup> GPEM-ES: Grupo de Estudo e Pesquisa em Educação Matemática do Espírito Santo (Group of Study and Research in Mathematics Education of Espírito Santo).

We agree with D'Ambrosio in which the educator, by fragmenting knowledge, does not perform the interactions that are necessary to construct critical awareness, sustaining the traditional teaching-learning concept in which the student remains a listener, an assimilator of content, and a passive subject of his own education.

This research has been developed aiming at verifying which of the teachers' knowledges are present in the school space and which place the dialogue occupies in the teacher's education from a critical mathematics education perspective. Hence, we considered the dialogue in a collective perspective, in the sense of an open attitude between teacher-student, in which both appropriate the space of the classroom without competitiveness, but respecting the limits imposed by the necessary rationality, that is, with the minimum necessary interference of the educator in the learning environment. We emphasize the importance of a school space of interaction among the people involved, aware that, although learning is an individual process, it occurs collectively (SKOVSMOSE, 2007).

## **2. A training that emerges from practice**

Teacher education, both at an initial and at a continuing level, has been suffering from a lack of visible results. Because of that, it has been under pressure from the research community. In meetings of the Group of Study and Research in Mathematics Education of Espírito Santo - GEPEM-ES, linked to the Post-Graduation Program EDUCIMAT-Professional Masters in Science and Mathematics Education of Cefor/Ifes, teachers and students of the master's degree, mathematics undergraduate students of the Ifes/Vitória and teachers of basic education - former students of the master's degree - advocate that the teacher's education from a perspective of construction of professional knowledges has practice as an educational space. In this way, it seemed fundamental to understand whether we can affirm that the teacher is able to re-signify knowledges in the classroom space, and how it occurs in the process of his education while educating their students. In *Pedagogia da Autonomia*, Freire (1996, p.51) clarifies that:

Witnessing openness to others, the curious availability to life, to their challenges, are necessary knowledge to the educational practice. To live respectful openness to others and, from time to time, according to the moment, to take the practice of openness to the other as an object of critical reflection should be part of the teaching adventure.

Pursuing this premise, we explored a mathematics classroom of Proeja-Ifes-Vitória, eager to answer our questions and fulfil our purposes.

As legal support, we use the Law guidelines and bases of national education- LDB 1996, article 67(Brasil,1996), which deals with the importance of the initial and continuing teacher education, in a process where the teacher becomes an educator who perceives himself as a professional, constituting himself from a specific knowledge, being responsible for his own construction, with skills to deal with his knowledges, and appropriating them while getting education. For Shulman (1987), the educator needs to learn to relate the contents with the methods, interweaving the specific contents with the pedagogical contents, avoiding the mere reproduction of the knowledge. In this sense, our research focused on observing a teacher and his ability to deal with the knowledges that are present in his practice that would make his self-education possible.

By assuring ourselves of the legal aspects and our theoretical frameworks, we focused our concern on the teacher and his connection with himself, with his knowledges as he prepares to teach and to complete the sense of collectivity in the dialogical relationship with the

students. Beyond the didactic-methodological question, we focused on what the teacher allows himself while teaching, in a collaborative process, to recognize himself and the students as subjects of this education, in which the educator is the author and actor of his own education.

We opted for a qualitative research, based on an *in-situ* observation, with written records and filming that could assure us of a greater proximity with the perceptions of the field of subjectivity, making data collection as reliable as possible, since we deal with complex and dynamic social phenomena that interact in the natural environment (ANDRÉ, 2010). We met a math teacher, who we will call "Vicente"<sup>3</sup>, to talk about attending his classes, in a group chosen for reasons that favoured both observers. We decided to attend the math classes, which was interesting for both researchers, in a night-shift group of an IFES course, in the year 2012/2013, with an average of 20 young students and working adults of EJA modality. The research was carried out twice a week, during two school terms.

To clarify, IFES is an educational institution mainly involved with the technical-professional modality. Today it is composed of higher education, post-graduation and Proeja (this since 2006), besides the technical courses. We understand that working with young people and adults in the perspective of an integral education is not only a challenge for teachers, it is also a novelty, since we have a significant shortage of educators with training in this specific modality.

The age range, from 19 to 62 years, was noteworthy since the beginning of the research. That age difference favoured a surprising interaction among the students, of which most were workers who had been away from school for more than 5 years. Consequently, this would require more attention and knowledge from that teacher on how to deal with such a diversity. Following Ludke and André's recommendation (1986), we took all precautions to avoid any mistaken apprehension of meanings, both from the class and from the teacher, mainly because, as we have already mentioned, the classroom is a space of interaction between the people involved, where learning is an individual process, but that occurs collectively, according to Skovsmose (2007).

Vicente, subject of our research, is a full-time permanent teacher at IFES, where he started his experience at EJA, has a degree in mathematics, and states a willingness to learn by teaching (FREIRE, 1996), thus eager to dialogue with the student. In his perception, time was responsible for transforming his didactic-methodological practice, when allowing himself to learn and re-signify knowledges in the interaction with teaching. As a mathematics teacher, he consented to our presence in his classes, signing a term of consent, in which the parties agreed with the determinations defined by the ethics in the research.

The educational perspective experienced here is based on a conception guided by the practices and knowledges that are proper to the activity of teaching in Proeja, considered a professional activity. According to Gatti (2012, p.18), we understand "*How important it would be to change our conception of practice by assuming that practice is the place of professional teaching relationships in which vital knowledge on the processes of teaching practice arises [...]*". We corroborate Nóvoa (2007, 2009) when he defends a teacher education built within the profession itself, in which he highlights: "*the importance of granting a status to the knowledge that emerges from the teachers' pedagogical experience*" (NÓVOA, 2007, p.17). Those knowledges, according to Tardif (2002, p.39), "*[...] stem from the experience and are validated by it. They are incorporated into the*

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<sup>3</sup> Professor Vicente: fictitious name, chosen by the teacher himself.

*individual and the collective experience in the form of 'habitus' and skills, of knowing how to do and knowing how to be."*

The experience knowledge defended by Tardif (2002) is present throughout the process of pedagogical reasoning, and it is a necessary, but not sufficient, condition for the construction of teaching knowledge. For Shulman (1986, 1987), the knowledge foundation for teaching refers to a professional repertoire, it is knowledge that underlies the understanding that the teacher must have to promote learning among students. Knowledges of different natures are approached, all necessary and indispensable to the teacher's professional practice, enabling him to understand what is necessary to promote the students' learning.

Paramount among the categories presented by Shulman (1986, 1987) in his teaching knowledge foundation is the pedagogical content knowledge - PCK, "which goes beyond knowledge of subject matter per se to the dimension of subject matter knowledge for teaching" (SHULMAN, 1986, p.9), since it incorporates the teaching-learning process of the content. It is considered a special amalgam of content and pedagogy, by which teachers give a special meaning to their professional understanding (SHULMAN, 1987).

This knowledge (PCK) embodies important contents to be studied, encompassing the most useful representations, the most effective analogies, illustrations, as well as examples and demonstrations. Thus, we can affirm that it is through it that the educational conceptions and the educational principles are manifested through the pedagogical strategies used. This knowledge favours the planning and organization of teaching-learning situations, in order to achieve goals related to education, mathematics learning and the role of the collectivity in the students' education, which is a matter of concern for teacher Vicente, who is the subject of our research.

To this debate we add Charlot's notions (2005), who understands the subject as a being open to the world in which he positions himself both in an active and a passive way, in a process of constructing himself and letting himself be constructed, while being subject of other constructions, carrying with him an inheritance of what was part of that process that is established from the relationships with the knowledges. When we refer to the relationships with the knowledges, we are referring not only to the knowledge itself, but to the knowledge in its connections with the world, connections that are established on the very foundations of the dialogue, in which we agree with Charlot (2000, p.62), when he says that they "[...] are specific forms of connection with the world".

Therefore, when in connection with and in the world, the subject-educator, when open to the teaching-learning process, establishes a relationship of movement with the several knowledges beyond the contents, knowledges that are constantly changing insofar as the experience is actualised, whether positively or not. It is worth recalling that, in this way, the teacher will be constantly constructing his knowledge in the practice of his knowledges, while, in the practice of those knowledges, new knowledges will be constructed, so that relating his practice with knowledge will generate an uninterrupted cycle.

Based on the theoretical framework mentioned above, we set out for the observation, which is the effective action of the research. On the first day, we made the necessary introductions, taking care to clarify the role that we would play from there forward, and the reasons that made us choose that specific classroom, as well as how important it was. With all the students present and having had their consent, we began the task of observing, recording and filming what would later be taken, at the appropriate moment, to the GPEM-ES study group for the collective analysis, for collaboration. We emphasise that our research group offers its collaborators assistance to allow the doubts arisen in the development of the

research to be shared there, with the purpose of an openness to knowledge, with the appropriate theoretical support. All its members are called to the debate in the construction of a scientific knowledge.

With abundant material collected throughout the research, it was necessary to choose a cut that would meet the demands of this article, focused on the teacher and his relation with the knowledges present in the classroom and the possibility of interaction with the student's knowledge, observing carefully to verify whether at the moment of the interaction between the teacher's knowledge and the students' knowledge the education of this teacher would be actually happening, so that it would be evident in our evaluation. The records have appeared to the needs of the text.

In the course of the research process, it was necessary to add interviews made with the educator and the student, to confirm some questions that are sometimes conflicting, since they are subjective. As an example of that subjectivity that was observed several times, we can mention one that was always present in the classes we attended: the teacher insisted on supporting any and all logical reasoning coming from the students when he was working with activities, even when there was no correct answer. In a didactic-methodological effort, we tried to understand the motive behind that attitude, which so often called our attention. We registered students' comments, such as: "[...] this teacher confuses us... Gee!" In a short interview with this student, we were told that "it was not that kind of method that other teachers use," he continues, "it seems that he likes to tease us". Perhaps the ideal word would not be tease but encourage. Yes, encourage a student's own reasoning, with all the possible characteristics of a first originality.

After two weeks of class, we gathered some of the material and set off for our first interview with the teacher, which happened just after one of the classes observed, still in school. Our curiosity, almost astonishment, about the teacher's attitude toward the students' participation was satisfied when we heard from him that the process of reasoning is what matters most, which has always been pointed out in the observations. For example, it does not matter whether the student hits the result, but it does matter how the development of the reasoning takes place. The room he gives for error, reversing it in favour of the student, enables us to understand it as a perception knowledge, present in class. As D'Ambrósio (2011, p.91) points out, "*many times the students' creativity is manifested in their mistakes rather than in their hits*". This was how the class was conducted. This teacher was not interested in giving a quick solution, but to instigate the students to seek an original form of reasoning, as presented in his speech: "*they (the students) lack interpretation. They show insecurity and ask: teacher, is that it? Got it correctly? And alas ... they often ask the teacher to check whether what they think they understand is in fact what should be understood there.*" That was the moment when the teacher, from the openness he offered, constructed a new knowledge. We could see how the teacher encouraged that situation so that the student felt comfortable and secure. Perhaps the so urgent answer, for that teacher, was the student's self-assurance in exposing himself.

Our points of interest emerged in a simple, natural and surprising way. It was true that teacher Vicente, until then, moved in an unknown universe, the EJA, thus stated in another interview. He said: "*... my way of working with Proeja was built throughout my work with them... when I arrived at Ifes, I got to know the modality only after I had taken the class...without knowing what the acronym meant...*" D'Ambrósio (2005) conducts an important reflection on the pedagogical actions, when he recognises the teachers' responsibility when it is their awareness and availability that will take the students to discover their potentialities. For Shulman (1986), the "Pedagogical Content Knowledge - CPC" allows the teacher to value the students' activity in the construction of knowledge,

from our point of view, even if it is not a conscious act. Assured by the pedagogical content knowledge, the teacher is given permission, indirectly, to make use of experiments that will justify his attitude as a researcher, and whose action may result in his self-education.

In this context, we saw teacher Vicente in the process of educating himself taking active and passive positions, letting himself be constructed in teaching and acting in other constructions while constructing himself, as a subject open for the world of knowledge, according to Charlot's conception (2005).

The following interview focused on the question: When did the teacher realize that denying the learner a more direct, explicit explanation, as the learner demanded, would be more interesting for EJA students? That is, why did he adopt the methodology of initially denying the explanation expected by the students during the activities and encouraged them to expose what can be considered as the students' production, even if the reasoning was not correct? This was a very important moment for the research, because we reached the crucial point of our quest. The answer could not be more assertive and clearer, he said: "*[...] then, my way of working with PROEJA was built during my work with them, my teaching was not copied, because to copy it I would have to have attended classes with other professionals of this modality... I try to value their knowledge, to work the discipline from many of the students' statements, I end up getting a hint from that statement to link with what I was saying, somehow I will use his example to teach a content, I do not go into the classroom with an already established content to be taught [...]*". The idea that the knowledge is the result of the student's intellectual activity is, according to Charlot (2005), a universal principle of the teaching situation. The author adds that "*the knowledges are products of the collective adventure of humanity and not mere contents of tests you have to pass to have a good life in the future*" (CHARLOT, 2005, p.85)

Besides, Charlot (2005) states that the obligation of preparing students to live in an information and communication society must be based on the multiple knowledges of social practices, which derive from information, code-knowledges and system-knowledges, valuing the knowledges that are contextualized and constructed in a collective experience.

Let us go back to the classroom. During an activity, the students, who were anxious for a quick explanation, demanded that the teacher solved the problem immediately, and said that they did not want to "waste time", those were the words. Charlot (2005), D'Ambrósio (2011) and Skovsmose (2011) agree that education is a universal right, and cannot be transformed into a commodity, or subject to market time. Our teacher, subject of this research, at no time showed any sign that he could be worried about "wasting of time", what was made explicit by some students. He conducted the process in the same way, without changing, understanding that this would give him the opportunity to consolidate notions that, in the traditional process, would require time outside the classroom, that is, as homework. In an interview, he reminded us that, as they were young working adults, they had no time for many activities at home, as the time they had did not allow any other occupation outside the school environment, what was quite different from regular classes. However, the "bank", "depository" inheritance, theorised and rejected by Freire (1987), does not allow the student to value the process that teacher Vicente tries to develop in his classroom. Nevertheless, without letting this influence him, he explained that: "*... I often avoided as much as I could contributing while they were generating records. I tried to do my best to have them record the most of what they had thought.*" For him, he will always sustain in his daily school practice that the student has much to contribute.

In another moment of dialogue, teacher Vicente told the students: *"When I ask you a question, you have to explain as if I did not know anything about it, you have to forget that I am a teacher, because it prevents you from explaining... I want you to explain to me enough so that your colleagues understand it too, and, you see, they have not understood it yet, and many have read and have not understood it, so you have to explain to me with clarity of details, richness of details, let's say so."* A very suggestive discourse for those who realise themselves in a process of collective construction in relation to knowledge (CHARLOT, 2005). The perception we had was that there was, on the part of this teacher, a desire to know, if possible, the first form of reasoning of each student, trying to find in it the answer to a methodology that would meet the expectations of the public in question, since he recognised that he had not been properly trained to deal with those students. A man of opinion, he understands that the path must be to seek a primary form of reasoning from those who are part of the Eja modality.

### 3. Knowledges built in experience

Seeking the re-signification of his knowledge, teacher Vicente elaborated some points that he thought could have originated in the results of his observations of the experience lived with and in Proeja. Therefore, suggestions built in praxis<sup>4</sup>, namely:

1. *Make use of a simpler language, speak using a more popular register, use slang. As an example: cambalacho, gambiarra, etc.*
2. *To define a mathematical concept, it is important to look for ways to explain from examples that are close to his students' reality. If you are teaching for a Building course, think of examples that have some connection with the area. Try to read about that field.*
3. *Take every opportunity to learn from these students.*
4. *Do not allow any situation where the student feels "dumb", as they say in their everyday language. All the activities that the students perform according to their understanding, I score as a fulfilled task.*
5. *Never deliver a response to the student, facilitating the final process. On the contrary, avoid any kind of readiness that promotes a passive attitude and easy agreement.*
6. *Always work with discussions, teasing, motivating questions, that is, always problematise mathematics.*

Considering teacher Vicente's six suggestions, it was possible to confirm what we presumed: the teaching knowledges present in the classroom contribute to the teacher education. We now must know what those teaching knowledges are and whether we can affirm that they contribute to the education of the teacher in the classroom.

We made a choice for practical reasons. As we work in a technical school, it becomes easier for us to understand it, while we can contribute more concretely to our institution. We decided to verify suggestion 2: *To define a mathematical concept, it is important to look for ways to explain from examples that are close to his students' reality. If you are teaching for a Building course, think of examples that have some connection with the area. Try to read about that field.*

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<sup>4</sup> Praxis: action that modifies the living conditions of the human being. (MONDIN, 1987, p.103)

In teacher Vicente's talk, we realised a concern directed to strategies arising from the student's experience, which referred us to D'Ambrosio's statement (2005, p.107):

As a mathematician, I try to use what I learned as a mathematician to accomplish my mission as an educator. To spread this message is my purpose as a teachers' trainer.

In very clear and direct terms: the student is more important than programs and content.

The author also shows a position of respect regarding the learner's process, while recognising that the teacher needs to know how to conduct the teaching-learning process respectfully, which, for teacher Vicente, seemed something natural, although he was not theoretically conscious of his practice. In an attempt to encourage in the student the development of an individual's own logical reasoning, we believe that he is considering what D'Ambrósio (2005) calls the cycle of life, that is, the student brings in himself an information of his reality, that, in being processed, defines certain actions that return to reality, producing new information, which, processed by the subject, in its turn, will determine new actions. It is this reality, processed individually, in which an action will be generated, that teacher Vicente strives to appear in his way of translating the activity. It is the cycle of life shown in mathematics education, when it is committed to the collective capacity.

Next, we chose to highlight suggestion 3: Take every opportunity to learn from these students. Let us observe the teacher's statement. He says: "*I never lose the opportunity to learn from those students, and then I accumulate background, in the following period I have more information [...] I confess that every period I always enrich more in terms of background.*"

When we analyse the meaning of his statement, especially the expression "accumulate background", we can affirm that this teacher uses his ability for double meaning: while he tries to encourage students to expose their thinking or logical reasoning, so that he can unveil the most valued thing to shape a methodology, he also sees himself as an apprentice, from a process of collective exchange, where teacher-student imbricate their knowledges, giving feedback to each other.

When developing classroom activities making an enormous effort to accomplish something different and innovative, not by any condition, but to establish a bond of knowledge with his student, it is possible to notice that he struggles, according to Freire (1987, p.16), "*The struggle for humanization, for free labour, for de-alienation, for the affirmation of men as people*", which is only justified by the growth as a person and as a professional, considering both the educator and the student.

Perhaps because of our presence in the classroom, at first the students remained a little quiet, showing some mistrust, however the situation was overcome quickly, either by the initiative of the teacher or by one of the students, in a more spontaneous way. This record becomes important so that we can understand how the involvement of the group, of the collective, does not always occur naturally or easily. Sometimes the teacher would put several questions to the students, or even interrupt others, seeking the best way to encourage them. Mission accomplished, done! Immediately the group would get involved with cheerful disposition, giving the classes both a harmonic and a dynamic tone.

We take the opportunity to highlight suggestion 6: Always work with questionings, provocations, motivating questions, that is, a problematised mathematics, which was not an easy task when we heard impatient words from the class. However, teacher Vicente did not give up, and went on insisting that the student's form of reasoning would come in the first place. In a certain class, finding it difficult to work with the concept of area, one of the

students, a professional painter, suddenly realised that he dealt in his profession with what the teacher tried to pass on. He asked to speak, and began: "Teacher, today I did a calculation to find out how much paint I would need to paint a wall. My boss told me not to waste paint. Does it have to do with what you are talking about?" Immediately, teacher Vicente set himself aside and asked the student to explain it. To his surprise, the student used a reasoning that reminded him of his elementary school years, when he had not yet mastered mathematical formulas. After the explanation, the teacher brought from the student's discourse the reasoning that would allow him to share a feedback with the others. It was very interesting, because the class participated in a very positive manner.

We talked with teacher Vicente about this episode, to which he replied: *"maybe other teacher of a vocational discipline would be satisfied just to pass the procedure and demand the result. If the student knew the procedure to build the calculation and generate the result, it would be fine. That is the good student. For him this is good, but not for me, no, because he could perform the procedure mechanically. I have another concern. I tested myself. I took some old material I keep from my school days and checked on how I could solve the question without knowing the formula. What I discovered surprised me: today, I needed to have that detailed methodology to work with the Proeja student. It does not come to my mind. What comes to my mind is that damned formula that does not help this student. I discovered that I needed to go back further, so that I could reach his level, to be able to stay at the same level, to understand his world, to understand what he is seeing, how he sees what I do not see..."*

Teacher Vicente's awareness may be the key to change in order to promote a new methodological strategy for the EJA modality. We are beginning a learning process in relation to youth and adult education. We have a great and promising path ahead of us which, according to Freire (2011):

One of the tasks of the progressist educator is to unveil possibilities, through serious and correct political analysis, regardless the obstacles, to hope, without which we can do little, because we hardly fight, and when we fight, while hopeless or desperate, ours is a suicide fight, it is a purely vengeful melee (FREIRE, 2011, p.11).

For D'Ambrosio (2005, p. 14), "My science and my knowledge are subordinated to my humanism. As a mathematics educator, I try to do what I learned as a mathematician to accomplish my mission as an educator". It is imperative that we open ourselves to the discussions, to assimilate what the other has to say about what he acquired in his experience, otherwise the accumulated efforts will be useless.

#### **4. Final considerations**

The result of our research was that we were able to understand that the teacher's willingness to change can be pivotal for the entire teaching-learning process, being perceived as a necessary feedback to human doing. We argue that learning presupposes both a conscious construction and a reconstruction for changes to occur. In this sense, education in a dialogic and reflective perspective collaborates with the valorisation of the knowledges that emerge from the practice, contributing to the process of self-education.

We must emphasise the fundamental role of the educator in his own educational process, an education that will accompany him, whether consciously or unconsciously, throughout his professional life, from a logic in which the educational professional is formed by teaching, and if this educator can process some transformation from his experience. Then we can consider it as a formative process in the act of doing. Adding that if the same process

of educating while teaching follows intentionality, that is, the awareness of the fact, we may consider the exercise of self-education more likely. Here we consider this differentiation.

The "baits", as we may call the encouraging quests launched in class by teacher Vicente, which helped him to realise that more important than the result is, undoubtedly, the path taken to arrive at such result and the answers that could not be necessarily what they were expected to be are certainly embodied in a methodology that is especially characteristic of this subject, which, in an even intuitively way, has been providing a vast and enriched field for researchers. Vast, because he does not get tired and does not give up, despite the insistent observations of his students, of what he endorsed as an important process of self-education. A process at the same time, enriched, for we could observe in that classroom an articulation of knowledge between the theoretical field and the lived experience, a clear sign of the perceptions of those knowledges.

Assuming the task of pointing out what those knowledges would be, the research allows us to highlight at least the knowledges from experience, housed in the field of the sensible or perceptible, and in the field of common sense. However, when we say common sense, we are not referring to a simple background without a scientific foundation, passed down from generation to generation, but to the background that emerges from science. This knowledge is covered with certainties acquired as a result of what has been lived over the years, and of the experiences lived in the school space as a teacher in the role of educating observing his environment. It should be noted that in his discourse the teacher recognises that he should recover that mathematical reasoning lodged in his origins from his memories, even from the first years of middle school, seen as a possibility of overcoming the obstacles to understand better the reasoning of the Proeja student and, in this way, to work in the effort of conducting a methodology that will meet the needs of the student worker in a broader way.

Turning to the field of methodological knowledge, every effort made in the classes we attended with the purpose of making the learner active will only makes sense if it results in new proposals not of a complete, ready methodology, but of a methodology open to a frank and true dialogue between student and teacher, always determined not to weaken or to be diluted in the teaching-learning-teaching process. Maybe at this point we could discuss on the methodological novelty: this should not contain the intention of a final finishing, it could rather bring many possibilities of renewal insofar it is needed, considering students and educators as subjects of the same process, in equal and at the same time unfinished, terms of interlocution.

We conclude the research by recalling Freire (2011), knowing that our ongoing struggle for a change in educational actions, especially in the EJA modality means to understand that we can no longer deny how urgent new methodological options are, mainly considering that it is not possible to postpone the time of exclusion of EJA's people any longer. Those people desire to overcome another obstacle that life has imposed: the right to access knowledge, acquired in a way that is translated into empowerment of a working class, and whose teacher's role becomes essential in the everyday classroom achievement and struggle.

Understanding the society in which we live as an excluding body by itself, since it does not have inclusive processes for the modality in question, we cannot pretend to be neutral, collaborating with the *status quo*, in an action that contradicts the principles of the working class, of which we are part as education workers. It is our duty to seek to collaborate to the

necessary transformation for a fairer society, and it is for that purpose that we make use of the accumulated knowledges of the praxis.

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