INTERDISCIPLINARITY IN THE LITERACY PROCESS IN PROFESSIONAL EDUCATION OF A SENAI UNIT IN THE STATE OF ACRE

Mariluce da Silva Lima[1], Cleidson de Jesus Rocha[2], Maria Aldecy Rodrigues de Lima[3], Artur Gomes de Oliveira[4] and Sônia Elina Sampaio Enes[5]

ABSTRACT

This study is situated in the scope of the interdisciplinarity required in the literacy process in SENAI's professional education of the SESI SENAI Integrated Unit of Juruá, in the city of Cruzeiro do Sul/AC. The general objective of the research is to analyze the teaching and learning process from the actors involved with professional education at SENAI/CZS, from an interdisciplinary perspective and meaningful learning, with a view to schooling and teaching reading. The study is developed under a qualitative approach, according to methods specific to this tradition, such as documentary analysis and field study, with the use of interviews and participant observation. The subjects of the research are professors and students of professional courses of the SESI/SENAI system. The data analysis takes place according to the guidelines of Laurence Bardin (2004), of what the author defines as content analysis, and the categories constructed in the analysis are analyzed with the help of authors such as: Fazenda (1979; 2002; 2003; 2004; 2013; 2014), Kleiman (1995; 1996; 2002; 2003), Japiassu (1976; 2006), among others. The article is organized in 2 parts, as follows: 1) Interdisciplinarity as a guiding approach to teaching and learning strategies; 2) Interdisciplinary approach in the training of the reader of professional education at SENAI in Cruzeiro do Sul. The results indicate that the teachers carry out the interdisciplinary methodology indicated in the pedagogical documents of the institution, and that the

[1] Master in Humanities and Languages Teaching – UFAC
Degree in Pedagogy from UnB
Trainer at SESI-SENAI and in the municipal network of Cruzeiro do Sul-AC
LATTES: http://lattes.cnpq.br/3572173699408334
ORCID: https://orcid.org/0009-0007-5451-7290
[2] Dr. in Philosophy from UGF-RJ
Postdoctoral internship at FFLCH-USP
Associate Professor at the Center for Education and Letters - CEL - UFAC
LATTES: http://lattes.cnpq.br/8732336683063093
ORCID: https://orcid.org/0000-0002-1245-0434.
[3] Dr. in Education from UFRN
Postdoctoral internship at the Paulo Freire Chair at UFPE
Associate Professor at the Center for Education and Letters – CEL-UFAC.
LATTES: http://lattes.cnpq.br/8470380326040678
ORCID: https://orcid.org/0000-0003-1187-7783
[4] Master's student in Humanities and Language Teaching – UFAC; Degree in Pedagogy from UFAC; Teacher of the state education network – SEE-AC.
LATTES: http://lattes.cnpq.br/5222401420838702
ORCID: https//orcid.org/0009-0002-7515-5448.
[5] Dr. in Education from UFPR
Adjunct Professor at the Center for Education and Letters – CEL-Ufac.
LATTES: http://lattes.cnpq.br/7135656537768209
ORCID: https://orcid.org/0000-0002-9250-1894.

developments of the processes of acquisition of reading and writing skills are more fruitfully developed when present in the various disciplines of the professional training courses.

Keywords: Interdisciplinarity, Literacy, Reading, Professional Education.

INTRODUCTION

This work seeks to explore how the teaching and learning process of Senai students from the Integrated Unit of Juruá takes place, seeking to verify the effectiveness of the interdisciplinary strategy, and analyzing to what extent it can favor the acquisition of reading and writing skills. It is a study of how the resource of reading is used in the teaching process, with a focus on professional education, since teaching is articulated with training for work. It is known, from the numbers contained in the basic education evaluation documents (Inep, 2021), that the student finishes regular education with reading skills below the desired level, without being able to consolidate information that is explicit in the body of a text. Therefore, based on the problem of the insufficiency of desirable skills at the end of basic education, we seek to answer the following question: What is the feasibility of interdisciplinarity in teaching and learning in the formation of proficient readers in professional education?

This research deals, therefore, with how the literacy process takes place and its relationship between theory and practice in the Professional Education of the Juruá Integrated Unit of Senai. To try to answer the aforementioned problem, the general objective is "To analyze the teaching and learning process from the actors involved with professional education (SENAI/CZS) from the interdisciplinary perspective and meaningful learning with a view to schooling and teaching reading".

To this end, the following specific objectives were outlined: a) to identify the main characteristics of interdisciplinarity as a pedagogical didactic support in the teaching and learning process; b) to contextualize the reading process as one of the fundamental factors in the formation and development of skills; c) understand the teaching and learning processes of professional education and the application of the learning situations used in the classroom, focusing on the significant learning[6] of students.

The formation of these skills is defined by Kleiman (1995) as literacy, which she conceptualizes as a "set of social practices that use writing as a symbolic system and as a technology, in specific contexts, for specific objectives" (Kleiman, 1995, p. 19). For this author, the context of literacy greatly influences the acquisition of reading skills. She notes that, in the school context, some students learn and others do not. This is because the

---

[6] The notion of meaningful learning adopted is the one developed by Ausubel, who understands that meaningful learning happens when someone assigns meanings to knowledge based on interaction with their previous knowledge. (SENAI, 2019, p. 94)

phenomenon of literacy goes beyond the world of writing, as there are several literacy agencies, such as the family, the church, the street, the workplace, etc., and the school is only the place of technical systematization of literacy guidelines from these various fields (Kleiman, 1995).

There is a need for the school and the family to work in an aligned way to develop useful skills in students for life, both professional and personal. Kleiman (1995) points out that the school is the main literacy agency in almost all societies, developing a specific type of skill. Thus, the author continues: "the type of skill that is developed depends on the social practice in which the subject engages when he uses writing" (Kleiman, 1995, p. 25). In addition to training literate people, the school also contributes to the formation of the ability to verbalize knowledge, as it develops the practice of valuing not only knowledge, but knowing how to say.

The literate person needs to see oral and written language as a process of complementation, not a process of rupture, which underlies school practice. For these reasons, it is necessary to redirect the teaching of writing in school, prioritizing what is common, having the support of the adult and the book, which is essential in this process.

It is the assumption of this work the idea that in order to have quality teaching, it is necessary to have teachers and students as protagonists of the teaching and learning process. But, in order to have responsible and critical students, we need teachers committed to an active education and who know how to develop meaningful activities that can be lived and applied on a daily basis. According to Luckesi (2011, p. 77), "the human being is a "learner" being, and in order to learn, he needs that, in fact, the one who helps him has a firm and clear decision to invest in him, whatever the cost.

It is known that reading skills are worked on and developed in students throughout regular education, and are not a specific function of professional training courses. From this perspective, training readers is not a task restricted to language teachers, but should be shared by all teachers.

It is important that teachers, within their areas of expertise, make efforts to develop integrated activities that contribute to improving the reading performance of their students. It is in this sense that interdisciplinarity emerges as a viable alternative to the formation of competent reading students, that is, a subject that brings together multiple possibilities to learn to read the world in a conscious and critical way.

The work is divided into 02 sections, organized as follows: the first part deals with "Interdisciplinarity in technical-professional training", presenting the main characteristics of interdisciplinarity as a pedagogical didactic support in the teaching and learning process and in section 2, we address the issue of interdisciplinary in the training of the reader of professional education at Senai in Cruzeiro do Sul", where we present and discuss the two categories established in the content analysis, namely: the first category is entitled *SENAI as a technical training institution for the world of work* and the second, *Components of Senai's professional training: on subjects, methodologies and didactic-pedagogical project.*

INTERDISCIPLINARITY IN TECHNICAL-PROFESSIONAL TRAINING

The interdisciplinary approach only becomes possible where several disciplines come together based on the same objective. In the sense attributed by Nicolescu (1999), transdisciplinarity is a concept of education that comprises knowledge in a plural way. It is a more open current of thought that seeks to respond to the traditional method of dividing disciplines. Thus put, transdisciplinarity, while breaking the artificial division of school disciplines, corresponds to transversal education. (Nicolescu, 1999). Thus, the notion of interdisciplinarity that we defend for technical-professional training is aligned. Interdisciplinarity is what escapes the sectarian views of the various branches of knowledge, breaking the boundaries between one discipline and another, seeking to understand the phenomena and acquire knowledge in a holistic and contextualized way.

The interdisciplinary approach is not about eliminating the disciplines, but rather about making them communicative with each other, conceiving them as historical and cultural processes, making them necessary for updating, through the teaching and learning process. According to Fazenda (2002), interdisciplinary thinking is based on the premise that no form of knowledge is complete in itself. It therefore attempts a rational dialogue with other forms of knowledge, allowing itself to be interpenetrated by them. Expanded through dialogue with scientific knowledge, watertight disciplinary knowledge tends to a greater dimension that, although utopian, may be able to allow the enrichment of our relationship with the other and with the world.

In general, interdisciplinarity strives to integrate the contents of history with those of geography, chemistry with biology, or more than that, to "integrate with a certain enthusiasm, the programs of all the disciplines and activities that make up the curriculum of a given level of education" (Bochniak, 1998, p. 21). Interdisciplinarity is, therefore, a link

between the understanding of disciplines in their most varied areas, important for covering themes and contents, allowing innovative and dynamic resources in which learning is expanded.

Interdisciplinarity does not dilute the disciplines, on the contrary, it maintains their individuality, but integrates them from the understanding of the multiple causes or factors that intervene in reality, and works with all the languages necessary for the constitution of knowledge, communication and negotiation of meanings and systematic recording of results (Brasil, 1999, p. 89). From the school perspective, interdisciplinarity does not intend to create disciplines or knowledge, but to use the knowledge of various disciplines to solve a problem or understand a certain phenomenon from different points of view.

Interdisciplinarity in vocational training requires skills related to the forms of intervention requested and the conditions that contribute to its best exercise. In this case, the development of the necessary skills requires the combination of different disciplinary knowledge, whether practical and/or didactic. Disciplinary knowledge is understood to be that of experience, technical knowledge and theoretical knowledge interacting dynamically without any linearity or hierarchy that subjugates the participating professionals.

This practice of interdisciplinarity permeates or should permeate both the processes of training students and teachers, so that we have a society with critical and reflective people, because it is a strategy that, by its nature and effects, determines or can determine the type of society we want to form. Therefore, Perrenoud *et al.* (2007) point out:

> The conception of the school and the role of teachers is not unanimous. The different positions on teacher training can mask more fundamental divergences. Unfortunately, we cannot defend the hypothesis that all States wish to train reflective and critical teachers, intellectuals and artisans, professionals and humanists. (Perrenoud *et al.,* 2007, p. 15)

Teacher training is inherent to the values of a given society or even school. Senai works based on the idea of competency training , which occurs through the teaching process. Competence is defined by Perrenoud (2001) as:

> [...] the ability to effectively face a family of analogous situations, mobilizing consciousness, in an increasingly rapid, pertinent and creative way, multiple cognitive resources: knowledge, skills, micro-competences, information, values, attitudes, perception, evaluation and reasoning schemes. (Perrenoud, 2021, p. 30)

In this way, educators need to be clear about the objectives of the teaching process, so that the results are achieved more quickly and efficiently. Teachers are protagonists of

the process and therefore the need for learning mediation is imposed . Freire (2000a, p. 76) points out that education should favor the development of the "ability to learn, not only to adapt, but, above all, to transform reality in order to intervene in it." Therefore, "training has no reason to address only reproduction, as it must anticipate transformations" (Perrenoud *et al*., 2007, p. 17). It is essential that the initial training of teachers is based on experiences lived on a daily basis.

The gap between the reality of the profession and what is taken into account in training causes numerous disappointments. Although the National Common Curricular Base (BNCC) provides for 10 competencies that involve knowledge, scientific thinking, cultural repertoire, communication, digital culture, etc., countless other competencies not understood as a curricular component are also developed in a transdisciplinary way, reaching all areas of knowledge. Today, teachers are invited to work with the development of skills, but they have not been instructed about their development. This disparity between education and reality causes dissatisfaction, even more so when they are required to make teaching plans based on the development of these skills, with the objective of reaching the formation of a competent being.

It is known that the school floor is full of tensions that the teacher faces, such as the lack of education and even the violence of the students, their rejection of the teaching work, their passive or active resistance to the school culture. On this subject, Perrenoud *et al.* (2007) reflect as follows:

> It is also known that the heterogeneity of school audiences and the difficulty of instructing them is accentuated by migratory movements, family transformations and modes of production, uncontrolled urbanization, and economic crises. Do the training plans and contents prepare for such realities? (Perrenoud, 2007, p. 15)

The training plans do not contemplate the real lives of teachers and students, and as a result, teachers need to deal with several situations not foreseen in the training and still need to have good results. Nowadays it is not only necessary to master the content and then know how to transmit. Perrenoud *et al.* (2007, p. 18) argues that "it is urgent to create bases for a didactic transposition based on the effective practices of a large number of teachers, respecting the diversity of conditions for the exercise of the profession".

Another necessary factor in competency-based teacher training is the link between theory and practice. Both should have equal importance in the training of students who want to leave school ready for the job market. Theoretical training helps the student to pass

the exams and obtain the diploma, while practical training helps the student to stay in a profession. On theory and practice, Perrenoud *et al.* (2007) say:

> It is necessary to combat this dichotomy and affirm that education is one, theoretical and practical at the same time, as well as reflective, critical and identity-creating. It happens everywhere, in classes and seminars, in the field and in the training devices that lead the different types of trainers to work together: accompaniment of professional activities, moderation of a group analysis of practices or common reflection on professional problems. (Perrenoud *at el.,* 2007, 23)

In the process of training teachers' skills, theory and practice must go hand in hand. Each teacher must feel responsible to, little by little, perform both functions, without losing focus on the purpose that each one has in the formation of individuals.

It is noted that in the learning process not only a set of cognitive operations comes into play, as the construction of knowledge is always crossed by the affectivity of those who produce it. That is why teacher training is so important, because it is from it that the creativity of producing means for knowledge to be built throughout the teaching process comes from. Thus, the use of technological means must be based on knowledge, and having coordinators and advisors always willing to instruct makes all the difference in the training of students.

INTERDISCIPLINARY APPROACH IN THE FORMATION OF THE READER OF PROFESSIONAL EDUCATION AT SESI/SENAI IN CRUZEIRO DO SUL

This section deals with the four categories constructed from content analysis. It aims to explain them and relate the meanings of the theme of the study with theoretical discussions and with the perspectives of the practice of professional education developed at the Sesi/Senai Unit of Cruzeiro do Sul, in the interior of Acre. The results presented here result from the participant observation carried out as a source of data during the research, from the researcher's experiences within the institution and from the voices of the research participants (students and teachers) on the issues presented to them in the interviews, as well as from the set of guidelines contained in the institution's documents, such as the Senai Methodology of Professional Education – MSEP (SENAI, 2019) and others.

The arrangement of the categories obeys the order in which they were constructed in the exercise of content analysis: 1) Senai as an institution of technical training for the world of work; 2) The issue of professional performance guiding the formation of Senai; 3) Components of SENAI's professional training: on subjects, methodologies and didactic-

pedagogical project; 4) Technical-professional profile and pedagogical practice in technical-vocational courses at Senai.

FIRST CATEGORY: SENAI AS A TECHNICAL TRAINING INSTITUTION FOR THE WORLD OF WORK

Professional and Technological Education (EPT) is an educational modality provided for in the <u>Law of Guidelines and Bases of National Education</u> (LDB) (Brasil, 1996), which defines the purpose of professional education as having the mission of preparing "for the exercise of professions", contributing so that citizens can enter and act in the world of work and in life in society. It covers qualification, technical and technological qualification, and postgraduate courses, organized in such a way as to provide continuous and articulated use of studies. EFA also provides for integration with the different levels and modalities of education and the dimensions of work, science and technology. Among the various possibilities, the articulation of EFA with the modality of youth and adult education, on a preferential basis according to the LDB, and also with basic education at the secondary school level, in the articulated form of offer (integrated, concomitant or intercomplementary-concomitant in form and integrated in content), and in the subsequent form, stand out as examples.

Professional education, as it has been discussed in this work, is the learning model focused on the development of competencies and technical skills to meet the demand of the labor market. Institutions such as Senai offer courses for young workers and adults, regardless of education, with the objective of professional qualification and requalification, based on a methodology designed and implemented in the institution's units.

In view of this conception, the LDB situates professional and technological education at the confluence of two of the fundamental rights of the citizen: the right to education and the right to work. These two dimensions concern the reality of young people and adults, whose horizon of opportunities for participation in productive and social life is dependent on the set of information, skills and knowledge available to them. EFA is, therefore, a modality that provides two fundamental aspects of social life, which are education and professionalization. Education, in this modality, has a specific trait, which is to provide conditions for generic insertion in the world of work.

In the state of Acre, professional education has in SENAI – Regional Department of Acre (SENAI-DR/AC), the main institution responsible for its development, having been

created in 1975, when the Regional Department of Amazonas, then with jurisdiction in the State of Acre, installed in Rio Branco the Professional Training Center Cel. Auton Furtado, currently called Escola Senai Cel. Auton Furtado. Since its implementation in the state, Senai has fulfilled the mission of training qualified labor for the labor market.

SENAI is an entity that is part of the FIEAC System, of private law, non-profit, created, maintained and managed by the industry, with the purpose of providing professional education services and technical and technological assistance to workers in the industry and similar activities.

In the 1990s, technological innovations demanded new challenges from SENAI-DR/AC in the areas of Professional Education and Technological Development. As a result, on May 15, 1992, the Mustafa Zacour El-hindi Wood and Furniture Technology Center – CETEMM was created. With the evolution of technologies and innovations that are incorporated into industries, this Center, on July 29, 2016, was renamed Senai Institute of Wood and Furniture Carlos Takashi Sasai, with the mission of acting in technology transfer and innovation to increase the competitiveness of Acre's industry.

In the 2000s, changes in the productive world due to the development of new technologies and new work practices led SENAI-AC to rethink its performance, adopting current methodologies and diversified technologies, appropriate to the new moment of development that the State has been going through. These changes have led SENAI to adopt different approaches and strategies for professional education, considering a context in which work is seen in its multiple dimensions: technical, cultural and social. The new horizon of training undertaken by Senai is based on the understanding that education is the great driver of development in its various dimensions and, therefore, must expand to reach the largest possible number of people. This thought mobilized the efforts for the installation, in 2011, of the Sesi-Senai Juruá Francisco Loureiro Jota Integrated Unit, in the municipality of Cruzeiro do Sul, in an action of integration of the institutions that are part of the Acre Industry System.

With the installation and expansion of its units, the demands of companies and the community in general for professional education are now met, both in Alto Acre and in the Juruá Valley by Sesi/Senai, working for the training of qualified professionals and promoting services more focused on local needs and industry demand.

To support the decision to install new units or expand existing ones, the SESI/SENAI system will consider the results of the survey of demand for professional education,

scenario studies, technological trends, Work Map and economic, demographic, social and educational indicators, as well as technical and financial feasibility studies.

The Sesi/Senai Integrated Unit is composed of several institutions: Social Service of Industry (Sesi); National Service for Industrial Learning (Senai); Federation of Industry of the State of Acre (Fieac); and Euvaldo Lodi Institute (IEL). To meet Senai's demands, it has a staff of 11 employees. In 2023, the goal was 3,983 enrollments, with an expected increase. It should be noted that Senai does not have permanent teachers, and therefore, to meet all the demand, it is resorted to hiring extra-staff teachers. These situations generate technical and pedagogical difficulties, since the allocation of teachers suffers frequent turnover, which makes more perennial pedagogical practices unfeasible. The training of each new staff implies new training workshops to be able to meet all the annual demand.

SENAI adopts a differentiated work dynamic, for which the following are essential: preparation of the professionals involved, teachers, pedagogical coordinators, time and space for planning and evaluation, and sharing of activities, always aiming at an interdisciplinary, contextualized, integrative teaching practice of "knowledge", "know-how" and "knowing how to be". What is missing are permanent professionals for these actions. The Unit relies on pedagogical coordination to support teaching action, to enhance the achievement of expressive and quality results.

To ensure the success of the actions of the SENAI Unit, we perceived, in participant observation, that the pedagogical team works effectively to combat student dropout and in favor of the commitment of teachers. The intention is to provide students with a creative space, construction of meaningful activities that reach them in the most real way possible. The fight against school failure is great, as there are many variables that contribute to this action and it is up to teachers and the pedagogical coordination team to advise students in various ways to reduce dropout in courses.

The purpose of Professional Education for SENAI is to lead young people and adults to the permanent development for productive life and for the exercise of citizenship, contributing to the social and economic development of the country, focusing on the interest of industry (Senai, 2019). From the perspective of the process for the development of competencies required by the nature of work, professional education aims to allow people to assume professional activities, such as employees, self-employed workers or entrepreneurs, in their different forms.

The voices of the students interviewed in this research account for the recognition of the nature and validity of the training received, as demonstrated in the following excerpts:

> My academic trajectory was good, encountering some difficulties. But when I met Senai, I saw a range of opportunities to grow professionally. [...] The insertion of the Senai Education Methodology (sic) is promising, bringing teaching by competency, differentiating it from the methodology currently applied based on content exposure (Student 1).

There is recognition of the importance of the training received at the institution and the method by which teaching activities are developed. The student can distinguish between the traditional teaching method and the one that is based on the formation of competence, which is typical of the Senai institution. Student 2, in his speech, brings his previous academic experience, making the distinction between this and the one he found at the Senai Unit. This is what the student says:

> I studied the Letters/Portuguese course at Ufac, with professors trained in the area and mostly at the University itself, 20 years ago (sic). But when I started studying at Senai I noticed a big difference in the way of teaching and learning" (Student 2).

This statement rehearses a comparison between the process of academic training in a licentiate course with that of professional courses. It is worth noting that studies such as those by Sacrini and De Marco (2018) show that it is still very common, in humanities courses, for classes to be worked on in an expository way, in which the professor assumes the exposition of the contents, orally, from a set of references that contribute to the explanation of themes and contents. In professional courses, according to the student, "the Senai Methodology is concerned with training its students, preparing them for the job market, where they will be able to carry out their activities in the professional field with competence" (Student 2). The two perspectives of teaching, which are frontally distinguished as a procedure, in reality seek to fulfill the same purpose, which is to train a qualified professional to work in their specific fields.

The fact that teacher training courses still adopt explanatory schemes based on theoretical foundations in the area does not mean that teachers are not seeking to competently train their students. The distinction between teaching methods cannot slip into the annulment of one or the other. In our understanding, as training for the world of work presupposes the assimilation and sedimentation of practical skills, the nature of knowledge takes on a different aspect from the theoretical training of humanities courses.

The practical character of training for work cannot renounce theoretical, conceptual, historical, socio-philosophical elements, etc. There is no solid formation disregarding the great deeds of the human spirit over time. And these deeds are recorded in literature, in the arts, in the pages of history. For this reason, the theme of this work permeates the understanding of how the practice of reading in professional courses takes place. The students' answers point out that "in class, reading is used as a foundation, [...] because through the reading done, it is described what the worker will be able to accomplish in the professional field. [...] Through it we learn many positive and motivating things for our professional training" (Teacher 2).

Student 1 says that "through it [reading] we learn many positive and motivating things for our professional training". This student also adds that

> Most [students], because they do not have the habit of reading, will find (sic) difficulties at the time of interpretation, but little by little we are able to solve the activities proposed by the teacher. [...] But a large part of us students do not understand the importance of reading for our professional success. (Student 1)

Asked if they can understand the use of interdisciplinarity in the concepts applied in the classroom, the students replied: "Yes. We can have a broader view of the themes presented and develop critical analyses on different subjects" (Student 1); and "Yes, because interdisciplinarity aims to promote the integration of the contents of different disciplines" (Student 2). In these statements, it is perceived that reading is a resource commonly accepted as a source of knowledge production in professional courses, and that it occurs in an interdisciplinary way. They also denote the difficulties faced in the practice of reading and interpreting texts, associating these insufficiencies with the lack of perception about their usefulness in the world of work.

This aspect deserves consideration, as the relationship between reading and its practical usefulness has been a keynote in the present times. Although technical advances have built tools through which all kinds of texts circulate that people have easy access to, reading needs to be understood as something very broad. It cannot be considered merely as an interpretation of the signs of the alphabet with a view to an immediate or practical purpose. This is because reading produces meaning, that is, it arises from the experience of each one, it is put into practice in the understanding of the world in which the subject is inserted.

The learning and practice of reading is linked to the process of general formation of a person and to their social place. Therefore, due to the insufficiencies of the basic education systems, and the lack of identity perception of individuals, it makes them go through the times and processes of formation, without consolidating the practice of reading as a regular habit. Classrooms after basic education, whether in professional or academic courses, thus prove to be full of difficulties in relation to reading and writing.

SECOND CATEGORY: COMPONENTS OF SENAI'S PROFESSIONAL TRAINING: ON SUBJECTS, METHODOLOGIES AND DIDACTIC-PEDAGOGICAL PROJECT

A fundamental component of training, whether regular or professional, is the issue of literacy. In the professional education developed at Senai, we perceive through participant observations that students, when faced with a large and well-contextualized text, cannot understand what is being requested in the proposed activity. This difficulty stems from the fact that many are unable to read and interpret, much less create conditions and possibilities to produce new knowledge adapted to their experience. This reality does not happen to the whole class, but it happens frequently. On the other hand, we found in the observations students that, although they have difficulties in reading and interpretation, they remain persevering in overcoming difficulties and obstacles, managing to advance in the development of their capacities. In these cases, we consider that it is up to the teacher to take advantage of the knowledge they have of themselves and their desire to succeed to develop the desired capacities.

Also in the participant observations, we saw that the teaching and learning process requires the professional to develop the know-how, which is so fundamental for the personal and professional formation of the students. Advancing to the condition that students recognize their own identities is one of the most difficult tasks for teachers. This challenge, in our view, is installed for two different reasons: the first, the personality of the human being begins to be built in the family, in the living spaces and later in the regular school and then in the vocational school. In other words, it is a long, non-linear process that is based on internal, subjective aspects, which are not always perceptible by the training agent. Another aspect is the identity issue itself. Identities, especially in current times, go through deep crises, which make us speak of liquid identities (Bauman, 2001), which are ephemeral and fluid.

We are going through a time when the force of the avalanche of data and information that currently circulates through digital devices explodes the sense of identity, making it difficult for people to know who they are. Hall's central argument (2005, p. 7) is that "the old identities, which for so long have stabilized the social world, are in decline, giving rise to new identities and fragmenting the modern individual, hitherto seen as a unified subject". It is about the consequences of the shakes in the frames of reference, which gave individuals a sense of stability, but which, due to the changes that are taking place, are in decline, installing an identity crisis never seen before. We also have as a trigger for these crises the issue of class identity, which according to Marx (2007) is the great problem that makes changes not occur. If individuals do not recognize their social place, they will not seek to alter the social structure, keeping things, themselves, and society as stagnant.

In the vocational education analyzed, we understand that the fact that SESI/SENAI has teachers trained in licentiate courses makes this process even more difficult, considering that the institution works with technical teachers, that is, people who do not have training to teach classes and, therefore, many of them do not have the skills to provide activities that develop the expected skills in students. According to Scallon (2015, p. 115), "throughout the approaches, the know-how in the company goes through personality, moral qualities, character, tastes and interests." These are skills that must be worked on throughout life and in professional education, in an integrated way with the specific capacities of each course. Knowing how to be involves confidence in oneself to face situations of uncertainty or to postpone the solution of a problem. Therefore, the student needs to have confidence in himself and security to make lifelong decisions that guarantee him to act when he is faced with a new activity or an activity that presents challenges.

When we talk about know-how, Scallon (2015) exemplifies:

> The clinical physician must evidently possess a whole baggage of knowledge and know-how of a cognitive order when examining a patient and formulating a diagnosis. But it also needs to show respect for the patient: this patient-doctor relationship, as medical education experts call it, depends on know-how, just as the doctor must demonstrate thoroughness and concern for accuracy when seeking additional information about the possible causes of the disease to be treated. (Scallon, 2015, p. 126)

It is noted that in professional training knowledge is mixed and is inherent to the process. The Senai Methodology of Professional Education is based on three types of knowledge, and the know-how is called socio-emotional competence, which must be developed concomitantly with other knowledge. In the world of work, what is perceived is

that people are hired in a certain company for developing the specific skills of an occupation, even if they have not developed socio-emotional skills, desired in any occupation. What can be seen is that the vocational school is still responsible for developing all the skills that the world of work requires in the short time that the student will spend in professional education. The main point of support for the development of socio-emotional competence in the researched institution is the use of the interdisciplinary approach, through which an effort is made for this competence to be developed.

As for the functionality of the courses, some measures are necessary for the provision of training. Thus, the participant observation assures us that the Sesi/Senai Integrated Unit, through the pedagogical coordination, requests in a timely manner the hiring of professionals for the courses as well as the consumables to carry them out. These technical measures follow a smooth flow; what presents itself as a complicating factor are the purchases of permanent materials, which are not always found in the stores of Cruzeiro do Sul. Another difficulty encountered is when requesting permanent material that requires the installation of bidding processes, because teachers do not know how to specify the products and therefore do not participate in the purchase process. This is a very common management problem in the unit.

Regarding the pedagogical aspect, the unit promotes a training process for teachers, who need to know the MSEP to work in professional courses. This training is not a guarantee that all teachers will have a robust learning situation and that they will be able to awaken in students strategies to develop the skills so desired in the world of work. What is noted is that teachers, due to the short time between training and the beginning of activities, are unable to build and apply meaningful and attractive learning situations for students. This perception, however, is contradicted by the teachers in the interviews, in which they claim to know and validate the MSEP as an excellent tool for pedagogical guidance.

The MSEP methodology, mentioned above, is the result of the work of a group of professionals linked to Senai and its last version was built in 2019, considering the "main technological, social and educational transformations and their impacts on the world of work to develop a methodology capable of guiding the process of updating Senai's training proposal. (Senai, 2019, p. 13) The main assumptions that served the last update of the MSEP were:

> Harmony with the world of work and between the phases of the methodology: definition of the Professional Profile, elaboration of the Curriculum Design and development of the Teaching Practice; Student protagonism; Competence of the

teacher in planning and developing the student's skills and protagonism; SENAI's leading role in Professional Education; Creation of conditions for development and innovation of the industry; Recognition by SENAI as excellence in professional and technological education. (Senai, 2019, p. 13).

These premises are complemented, in our view, with the interdisciplinary approach, which should permeate the teaching action in the treatment of contents, especially those that have reading as a source for their construction and sedimentation. Thus, we think that the MSEP, whose main objective is to provide means to train professionals capable of ideally performing the functions related to their occupation in the market, should receive training based on an interdisciplinary approach, which provides them with conditions to develop socio-emotional skills and abilities that are so fundamental in the formation of a competent person.

The MSEP aims to "raise a reflection that favors the teacher to promote professional training in which there is space for dialogue, questioning, creativity and the shared construction of knowledge" (Senai, 2019, p. 15), ensuring that teachers and students keep alive the interest in continuing education, as an impetus for personal and professional transformation, through professional training in which teachers and students renew their interest in continuing education.

Regarding how teachers evaluate their knowledge of the Senai Methodology, we had the following answers: Professor 1 says he recognizes that "the people who work at Senai are highly qualified professionals. I noticed the commitment, the organization, the transparency, the rigidity in the deadlines and fulfillment of responsibilities, and also the regimental rules of the Institution". The professor understands that the capacity of the professionals derives, in addition to the training acquired, also from the knowledge of the pedagogical and normative procedures of the institution. "I understand that it is the best way to conduct work that can contribute to better results in student performance," says the professor, referring to the importance of knowledge of MSEP and also of the institution's dynamics. "So, in view of this, I believe I have fit into the way the company works, both in the internal regulations and with the good relationship with the professionals who make up the company's staff", he concludes.

Teacher 2 considers his knowledge of the MESP satisfactory. According to him, since he started teaching at the institution, he has been receiving "training" and participating in workshops and courses focused on the Senai methodology of teaching and learning, having, with this, sought to improve himself and put it into practice in the classes of

technical and qualification courses. In addition, Professor 2 informs that he acted as an elaborator and technical reviewer of questions for the SisBia platform, "where the Senai methodology is applied in the student evaluation mechanisms".

Teacher 3 says that he evaluates his knowledge about the MSEP as good, thanks to the teaching workshops and the monitoring by the coordination. And teacher 4 says that the "methodology is fantastic, as it always seeks innovation and goes *(sic)* according to the progress of the market and the world".

The speeches of the participating teachers endorse the position of Senai, which understands that the full appropriation of this methodology does not depend only on the understanding of the technical guidelines contained in this document, but that the institution, through its staff, must adopt a differentiated work dynamic, for which some conditions are essential, among which the following stand out:

> Preparation of the professionals involved to deal with the recommended Methodology: Teachers, Pedagogical Coordinators, Curriculists, Methodological Coordinators, among others; Time and space for collective planning and evaluation, sharing activities and experiences, research, contact with the external environment, aiming at an interdisciplinary, contextualized, integrative teaching practice of "knowing", "knowing how to do" and "knowing how to be"; Support for the educational process, through the provision of creative spaces, libraries, workshops and laboratories adequately equipped and accessible; [...] (Senai, 2019, p. 14).

Regarding the importance of this methodology for professional practice, the professors participating in the research expressed themselves as follows: For Teacher 1, the Senai Methodology is responsible for the commitment of teaching professionals. He says he realized that the fulfillment of deadlines and quality of the service provided, as well as the discipline in the conduct of employees, advisors and students stems from the assimilation of the methodology, "because this is the one that comes closest to the reality of the job market, that is, its internal regulations are basically a 'simulation' of what students will find in the job market". Teacher 1 considers that his family and academic upbringing had a "practical, objective and disciplinary bias, it was surprising and, therefore, I believe it fit in so well". As seen, the contact with the MSEP made the teacher in question improve his vision regarding the importance of discipline, meeting deadlines, responsibility for tasks and the way of "understanding that students, sometimes, are without a lighthouse, without a leadership, and we advisors need to seek them out more, to be a reference of respect, trust, quality, compliance with rules, deadlines and tasks". The professor ends his explanation with an example of the theoretical-practical character of the methodology:

> When students are absent, the educational counselor and/or employees need to call, send messages and understand the reason for the absence of those students, to try to help and not let them give up, thus being a way to show the student that they are important and that we are here to receive and help them in the best possible way. (Teacher 1)

Teacher 2, on the other hand, considers the Senai Methodology to be of great relevance in the practice of vocational education, due to the fact that it adopts a teaching and learning model based on andragogy, aimed at teaching young people and adults, "where we can apply dynamic teaching methods and techniques aimed at application in the reality of the professional". The teacher in screen says that

> teaching and assessment based on Learning Situations, for example, consist of a very useful and valuable method to apply in the classroom, since it engages students and stimulates their learning, making these students protagonists of their learning, giving meaning to the contents studied in their professional performance and thus facilitating the involvement and increasing the interest of students. (Teacher 2)

Professor 3 considers the MSEP "of paramount importance, since in order to apply knowledge it is necessary to obtain learning practices that are compatible with each course and students". And Professor 4 argues that the importance of the MSEP is justified "because it always seeks the market in progress and its information and advanced methodologies (sic), seeking even more innovations".

The teachers' responses demonstrate a clear view of the normative bias of the MSEP. They describe their effects on guiding teachers' practice and training students. However, there is a silencing in relation to how the methodology can boost students' general education initiatives. Despite being a technical-normative tool, the MSEP also has an interdisciplinary aspect, as it bets on the dialogue between different types of knowledge as a key to the education of students. Listening to the teachers and analyzing the methodological proposal of Senai's professional education, we understand that dialogue should be understood as a red thread, which runs through the entire educational itinerary of the students. This mechanism takes place in the intertwining of disciplines, and also in the strategies that students can build, in contact with readings, authors, debates, as a way to support classes and expand knowledge.

As previously discussed with the studies of Martins (2006), the act of reading implies extending one's vision of things, of the world and of the narratives that surround the reader. In this way, reading is, above all, dialoguing with the signs and their senses, it is opening

oneself to the other and to the world. Because of this, the fourth question of the interview brought the question: "Do you usually use reading as the foundation of your classes?" To this question, we had the following answers: Teacher 1 says that he uses reading

> Constantly! It does not improve a student's performance if there is no ability to understand the extent of oral communication, body language and writing, without him practicing reading. Working on practice is important, but reading is what prepares the theorist to be a practically safe subject of positive actions. Therefore, I use reading as one of the foundations of my classes and I build value in reading as a basis for knowledge, and the consequence of this is the development of communication as a whole and the ability to communicate assertively. (Teacher 1)

Teacher 2, on the other hand, understands that reading is a valid and fundamental instrument in vocational education. Thus, he says: "whenever necessary, I use this methodology in class, because I understand that the complete professional must have the ability not only to know how to perform a technical task, but also to be a good communicator and also a multiplier of knowledge" (Teacher 2). Endorsing Martins' (2006) position, Professor 2 argues that

> Reading not only enriches the vocabulary, writing and communication of the professional but also develops their ability to interpret, something of paramount importance for professionals in technical areas who sometimes need to read and interpret manuals and reports to perform their tasks. (Teacher 2)

This practical function of reading corresponds to the notion of literacy, defended here by Kleiman (1995), for whom a person who knows the function of writing, although not a fruitful reader, is a literate person. Reading and literacy are, therefore, concepts that permeate the horizon of professional technical training, even though the terms are not described in the answers collected.

For Teacher 3, reading is a primordial factor for knowledge. Teacher 4, on the other hand, understands that reading "is of paramount importance for the students, if they understand it fully". Although the answers of these last two teachers do not deepen the functions of reading in the training processes, both make it clear that reading is a factor that broadens horizons and also serves self-knowledge, since it activates the senses, ideas and sensitivity.

FINAL CONSIDERATIONS

The present work was motivated by the concerns evidenced by several educators from Cruzeirenses about the low performance in reading manifested by a significant

number of young and adult students who attend professional education in the municipality. These students have difficulty developing the basic skills required for this type of learning, with critical or very critical performance in reading. These reading difficulties manifested in professional education certainly do not originate in vocational training, but in previous formative experiences. According to the Professional Education Evaluation System (SAEP) (Idap, 2020), student results are not satisfactory, as the average is always below adequate.

This work analyzed the feasibility of interdisciplinarity as a didactic-pedagogical support for reading in the professional education of young people and adults, with a bias towards the interdisciplinary approach as a possibility of cultural formation of the human being. To this end, it had the following specific objectives: a) to identify the main characteristics of interdisciplinarity as a pedagogical didactic support in the teaching and learning process; b) to contextualize the reading process as one of the fundamental factors in the formation and development of skills; c) understand the teaching and learning processes of professional education and the application of the learning situations used in the classroom, focusing on the significant learning[7] of students.

The work was built through qualitative research, from the field study, using as the main instrument of data construction the semi-structured interview, participant observation and document analysis. Throughout the course of the research, bibliographic studies supported the understanding of the phenomenon studied, which is the developments of professional education in Sesi/Senai, of the Cruzeiro do Sul Unit. The study brought the voice of the subjects involved in the teaching and learning process in professional education – with teachers and students addressing the experiences of the school floor, connected to the market sphere – as well as the normative documents that guide and sustain pedagogical practices within the institution.

One of the possible syntheses of the study is to affirm that interdisciplinarity is a reliable pedagogical approach to contribute to the teaching and learning process of students of technical courses at the Juruá Unit, considering that teachers use the Senai Methodology of Professional Education to guide the work throughout the course, considering the adequacy of this methodology to the purposes of the modality taught.

---

[7] The notion of meaningful learning adopted is the one developed by Ausubel, Novak and Hanesian (1980), who understand that meaningful learning happens when someone attributes meanings to knowledge based on interaction with their previous knowledge.

The study demonstrated that teachers of vocational courses are able to use the interdisciplinary approach to develop reading skills in students, even though this is not the main responsibility of qualification courses. The importance of reading in professional training processes is highlighted, because as we work with curricular units, there is a need to integrate basic, technical and socio-emotional knowledge in the formation of a more confident and protagonist human being with a firm identity, knowing how to respect differences.

The Sesi/Senai Integrated Unit of Juruá has been striving to contribute to society with the training of qualified professionals as the labor market demands, assuming the great challenge of this endeavor. The study points to the need to implement a management model that knows how to mobilize, bringing material and personnel resources to ensure that students have attractive classroom spaces. What is needed is a trained teaching staff that knows how to mobilize resources, while at the same time knowing how to rescue in students the knowledge acquired in elementary school, which is the basis of training for any profession.

The research carried out does not end the subject, but opens opportunities for further reading and for other investigations on the subject. There is a need to train literate individuals. For this, it is necessary to break the paradigms of conservative and fragmented education, contributing to the construction of innovative and modern education.

REFERENCES

1. Bardin, L. (2004). Análise de conteúdo. São Paulo: Edições 70.

2. Bauman, Z. (2001). Modernidade líquida. Rio de Janeiro: Jorge Zahar.

3. Bochniak, R. (2011). O questionamento da interdisciplinaridade e a produção do seu conhecimento na escola. In I. C. A. Fazenda (Org.), Práticas interdisciplinares na escola (pp. xx-xx). São Paulo: Cortez.

4. Bochniak, R. (1992). Questionar o conhecimento: interdisciplinaridade na escola. São Paulo: Loyola.

5. Bochniak, R. (1998). Questionar o conhecimento: interdisciplinaridade na escola (2nd ed.). São Paulo: Loyola.

6. Brasil. (1999). Parâmetros Curriculares Nacionais: ensino médio. Brasília: Ministério da Educação.

7. Brasil. (1996). Lei nº 9.394, de 20 de dezembro de 1996. Estabelece as diretrizes e bases da educação nacional. Brasília: Diário Oficial da União, 23 dez.

8. Fazenda, I. C. A. (Coord.). (2011). Práticas interdisciplinares na escola (12th ed.). São Paulo: Cortez.

9. Fazenda, I. C. A. (Org.). (2002). Dicionário em construção: interdisciplinaridade (2nd ed.). São Paulo: Cortez.

10. Fazenda, I. C. A. (Org.). (2004). Novos enfoques da pesquisa educacional (6th ed.). São Paulo: Cortez.

11. Fazenda, I. C. A. (Org.). (2013). O que é interdisciplinaridade? (2nd ed.). São Paulo: Cortez.

12. Fazenda, I. C. A. (1979). Integração e interdisciplinaridade no ensino brasileiro: efetividade ou ideologia? São Paulo: Loyola.

13. Fazenda, I. C. A. (2003). Interdisciplinaridade: qual o sentido? São Paulo: Editora Paulus.

14. Fazenda, I. C. A., & Godoy, H. P. (Org.). (2014). Interdisciplinaridade: pensar, pesquisar, intervir. São Paulo: Cortez.

15. Freire, P. (2000). Pedagogia da autonomia: saberes necessários à prática educativa (15th ed.). São Paulo: Paz e Terra.

16. Hall, S. (2005). A identidade cultural na pós-modernidade. Rio de Janeiro: D&P.

17. Inep. (2018). Sistema de Avaliação da Educação Básica – SAEB: Evidências da edição 2017. Brasília: MEC. Disponível em

https://Portal.mec.gov.br/index.php?option=com_docman&view=download&alias=941
61-saeb-2017-versao-ministro-revfinal&category_slug=agosto-2018-
pdf&Itemid=30192. Acesso em: 01 ago. 2021.

18. Japiassu, H. (1976). Interdisciplinaridade e patologia do saber. Rio de Janeiro: Imago.

19. Japiassu, H. (2006). O sonho transdisciplinar e as razões da filosofia. Rio de Janeiro: Imago.

20. Kleiman, Â. B. (1996). Leitura: ensino e pesquisa (2nd ed.). São Paulo: Pontes Editora.

21. Kleiman, Â. B. (1995). Modelos de letramento e as práticas de alfabetização na escola. In Â. B. Kleiman (Org.), Os significados do letramento: uma nova perspectiva sobre a prática social da escrita (pp. 15-61). Campinas, SP: Mercado de Letras.

22. Kleiman, Â. B. (2002). Texto e leitor: aspectos cognitivos da leitura. Campinas: Pontes.

23. Kleiman, Â. B., & Moraes, S. E. (2003). Leitura e interdisciplinaridade: tecendo redes nos projetos da escola. Campinas: Mercado das Letras.

24. Luckesi, C. C. (2011). Avaliação da aprendizagem: componente do ato pedagógico. São Paulo: Cortez.

25. Martins, M. H. (2006). O que é leitura? São Paulo: Brasiliense. (Coleção Primeiros Passos; 74).

26. Marx, K., & Engels, F. (2007). A ideologia alemã. São Paulo: Boitempo.

27. Nicolescu, B. (1999). O manifesto da transdisciplinaridade. São Paulo: Triom.

28. Perrenoud, P. (2001). A pedagogia na escola das diferenças: fragmentos de uma sociologia do fracasso (2nd ed.). Porto Alegre: Artmed.

29. Perrenoud, P., et al. (2007). As competências para ensinar no século XXI: a formação dos professores e o desafio da avaliação. Porto Alegre: Artmed.

30. Sacrini, M., & De Marco, V. (2018). Reflexões sobre o aprendizado formal em humanidades com base no projeto "Práticas de leitura e escrita acadêmicas". Estudos Avançados, 32(93).

31. Scallon, G. (2015). Avaliação da aprendizagem numa abordagem por competências. Curitiba: Editora Universitária Champagnat.

32. Senai. (2019). Metodologia SENAI de educação profissional. Brasília: SENAI/DN. Disponível em https://senaiweb.fieb.org.br/areadocente/assets/Midia/2019/Livro_Msep_2019.pdf. Acesso em: 08 ago. 2022.