

ARTICLE

FINANCIAL EDUCATION IN INTEGRATED HIGH SCHOOL: BUILDING A TRANSVERSAL CURRICULUM BASED ON GENERATIVE THEMES

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ABSTRACT: The present study aimed to establish, from the generating themes, thematic networks that would enable the transversal organization of financial education in the curriculum of the technical course in information technology integrated with high school education at Campus Sena Madureira, at the Federal Institute of Acre (IFAC). In order to obtain the generating themes and to constitute the thematic network, the methodological procedures of the Freirian thematic approach dynamics were adopted. The breadth of disciplinary involvement denoted that there were traces of harmonic correlation between the generating themes and financial education as a transversal school thematic axis, which expanded the possibility of offering financial education under dialogical, problematizing, and critical-transforming perspectives. From the investigation of the generative themes, a thematic network was organized that made possible the transversal insertion of financial education in the integrated high school curriculum, configuring itself under a critical-reflective perspective, from the perspective of multidisciplinary and transversal teaching. The contents proposed by the thematic reduction offered a potential and important contribution to the elaboration and implementation of integrative projects, as these are articulators of different fields of knowledge. Finally, the dynamics of Freire's thematic approach were validated as an appropriate method for the transversal insertion of financial education from a critical-transforming perspective, from which it becomes possible to carry out school education based on omnilateral, unitary, and polytechnics.

Keywords: Financial education. Integrated high school. Freirian thematic approach. Transversality.

EDUCAÇÃO FINANCEIRA NO ENSINO MÉDIO INTEGRADO: CONSTRUINDO UM CURRÍCULO TRANSVERSAL COM BASE EM TEMAS GERADORES

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RESUMO: O presente estudo objetivou constituir, a partir dos temas geradores, redes temáticas que possibilitassem a organização transversal da educação financeira no currículo do curso técnico em informática integrado ao ensino médio do Campus Sena Madureira, no Instituto Federal do Acre (IFAC). Para obter os temas geradores e a constituir a rede temática, foram adotados os procedimentos metodológicos da dinâmica de abordagem temática freiriana. A amplitude de envolvimento disciplinar denotou haver traços de correlação harmônica entre os temas geradores e a educação financeira como eixo temático escolar transversal, o que ampliou a possibilidade de oferta da educação financeira sob perspectivas dialógicas, problematizadoras e crítico-transformadoras. A partir da investigação dos temas geradores, organizou-se uma rede temática que viabilizou a inserção transversal da educação financeira no currículo do ensino médio integrado, configurando-se sob uma perspectiva crítico-reflexiva, a partir da ótica de ensino multidisciplinar e transversal. Os conteúdos propostos pela redução temática ofereceram potencial e importante aporte à elaboração e implementação de projetos integradores, já que estes são articuladores dos diferentes campos do conhecimento. Por fim, validou-se a dinâmica de abordagem temática freiriana como um método adequado à inserção transversal da educação financeira sob uma perspectiva crítico-transformadora, a partir da qual se torna possível realizar uma formação escolar que tenha por base os princípios omnilaterais, unitários e politécnicos.

Palavras-chave: Educação financeira. Ensino médio integrado. Abordagem temática freiriana. Transversalidade.

LA EDUCACIÓN FINANCIERA EN LA ESCUELA SECUNDARIA INTEGRADA: CONSTRUYENDO UN CURRÍCULO TRANSVERSAL BASADO EN TEMAS GENERALES

RESUMEN: El presente estudio tuvo como objetivo establecer, a partir de los temas generadores, redes temáticas que permitan una organización transversal de la educación financiera en el plan de estudios del curso técnico en tecnologías de la información integrado con la educación secundaria en el Campus Sena Madureira, en el Instituto Federal de Acre (IFAC). Para obtener los temas generativos y una constitución de la red temática, se adoptaron los procedimientos metodológicos de la dinámica del enfoque temático freiriano. La amplitud de la implicación disciplinar denotó que existían rastros de correlación armónica entre los temas generadores y la educación financiera como eje temático transversal de la escuela, lo que amplió la posibilidad de ofrecer educación financiera bajo perspectivas dialógicas, problematizadoras y crítico-transformadoras. A partir de la investigación de los temas generativos, se organizó una red temática que posibilitó la inserción transversal de la educación financiera en el currículo integrado de bachillerato, configurándose bajo una perspectiva crítico-reflexiva, desde la perspectiva de la docencia multidisciplinar y transversal. Los contenidos propuestos por la reducción temática ofrecieron un potencial e importante aporte para la ejecución e implementación de proyectos integradores, ya que estos son articuladores de diferentes campos del conocimiento. Finalmente, se validó la dinámica del enfoque temático de Freire como un método adecuado para la inserción transversal de la educación financiera desde una perspectiva crítica-transformadora, desde la cual se hace posible realizar una educación escolar basada en principios, unidades y politécnicos omnilaterales.

Palabras clave: Educación financiera. Bachillerato integrado. Enfoque temático freiriano. Transversalidad.

INTRODUCTION

Financial education presents itself as an extremely important mechanism for improving the capacity and quality of consumers' financial decisions. Its implementation directly reflects on the general economic performance of society, as consumer behavior is directly related to problems with a country's levels of personal indebtedness, economic development, and investment capacity (CAMPOS; TEIXEIRA; COUTINHO, 2015).

The constant financial interference practiced by the consumer population has generated considerable levels of apprehension on the part of public authorities, especially those that define educational policies at a national level. As a result, financial education is an increasingly present alternative in the context of public educational policies, especially with a focus on combating the lack of financial self-control, which has driven more dynamic actions about the insertion of the theme in the sphere of basic education, such as its inclusion among the transversal themes foreseen in the new Common National Curriculum Bases (BNCC) (BRASIL, 2018).

Given this situation, schools emerge as important promoters of financial education, as institutions capable of offering it to a large number of people, minimizing the existing discrepancies concerning the control of personal finances (OECD, 2019).

In the context of Professional and Technological Education (EPT), from the creation of Federal Institutes of Education (IF's), which value training based on omnilateral, unitary, technological, or polytechnic education (FRIGOTTO, 2018), the insertion of education gains importance from the perspective of autonomous education of students, preparing them for their insertion in the world of work and to deal safely and consciously with the relations of consumption, savings and investment, present in contemporary life.

Also within the EPT, particularly in the integrated high school curriculum, financial education can be addressed through educational practices that value transversal approaches, whose pedagogical activities seek to contribute to raising awareness for a more mature and financially disciplined consumption (THEODORO; GINDRO; COLENCI JUNIOR, 2010; BRITO et al, 2012).

In the transversal teaching proposal, the contents of financial education must be introduced through the different disciplines, each one of them dealing with a certain subject according to its specificities, representing a vast educational potential. The possibility of transition between different types of knowledge articulates several disciplines from different areas, implying new attitudes towards this same knowledge, in a perspective of critical and collaborative learning construction (GALLO, 2001).

Thus, as a transversal theme, financial education must be configured as a longitudinal axis, which function is to structure the entire system of traditional subjects, which would be in a transversal axis. Thus structured, both financial education (longitudinal axis) and the system of traditional subjects (transversal axis) would act according to a common axis, in which knowledge would be subordinated to the context experienced by students, manifesting itself in different ways around the same curricular structure of subjects (SOUZA, 1998).

From the perspective of critical education, a strategy to promote transversal education, which objective is the integral development of students, is through the investigation of generating themes and the process of thematic reduction, through the methodology of the Freirian thematic approach. This is because it enables the integration of a specific thematic approach to various political, economic, historical, and cultural issues in which students are inserted (FREITAS; MEIRELLES, 2017).

Given this, the following question was insinuated: How to establish, from generative themes, thematic networks that enable the transversal organization of financial education in the curriculum of the technical course in information technology integrated with high school education at Campus Sena Madureira? The present study aimed to establish, from the generating themes, thematic networks that would enable the transversal organization of financial education in the curriculum of the technical course in information technology integrated with high school education at Campus Sena Madureira, at the Federal Institute of Acre (IFAC).

Seeking to meet the object of the proposed research, the investigative works were developed in one of the educational units that make up the network of basic, technical and technological education institutions at IFAC, the Campus Sena Madureira. This unit is located in Sena Madureira, a city located

approximately 140 km from the capital Rio Branco, which started its activities in 2010. Currently, it is committed to offering integrated, subsequent, and higher technical courses and has an infrastructure consisting of large classrooms, a library, laboratories, a cafeteria, ample parking, an auditorium, a swimming pool, and a multi-sports court (IFAC, 2021).

THE GENERATING THEMES AND THE FREIRIAN THEMATIC APPROACH

The Freirian educational methodology has its conception based on dialogic bases, on the problematization of the situations experienced, and the awareness of people who live and hang out in the community (FREIRE, 1989).

Such teaching practice, once linked to the generative themes, is capable of providing an education that liberates, emancipates, and contributes to the formation of a more conscious and critical position of individuals, inspiring them to have a proactive and responsible behavior in cultural, social, political and economic aspects of the society in which they live (TORRES, 2010).

Freire's educational curriculum design is based on awareness, problematization, and dialogue around reality and contradictory experiences lived by students in their real context of culture and social trajectory. Finally, its philosophical proposal is to inspire individuals to participate responsibly in the economic, social, political, and cultural processes of the world in which they live (MIRANDA; PAZINATO; BRAIBANTE, 2017).

Because of this, for the curricular organization of contents based on the reality experienced by students, the school curriculum must be built from generative themes, which must include the limit-situations⁴, obtained through a process of investigation and thematic reduction, in addition to coding⁵ and decoding⁶ of the students' speeches (FREIRE, 1967; 1987).

This process, which had its conception focused on popular education, based on the writings contained in the Freirian work *Pedagogia do Oprimido* (FREIRE, 1987), was systematized for the school reality, specifically for the teaching of Science, by Demétrio Delizoicov (2008). Since then, it has been understood as a dynamic of the Freirian Thematic Approach (TORRES, 2010, FREITAS; MEIRELLES, 2017), and was later systematized by Silva (2004), in his studies on interdisciplinarity.

According to Silva (2004), the methodological challenge is to establish paths aimed at enabling organizational moments that result in the implementation of educational practices aimed at building a critical popular curriculum, constituted through interdisciplinary projects, via generative themes.

It is a movement that aims to overcome conventional pedagogical practices, seeking, above all, the collective construction of the curriculum, the achievement of autonomy, and the emancipation of students. For this, it is always necessary to start from the significant speeches of the community in order to reach contextualized practices, through problematizing rationality, which is necessary for the construction of the critical popular curriculum (SILVA, 2004).

Following the example of transposition of the Freirian thematic approach to the use of science education by Delizoicov (2008), Freitas and Meirelles (2017), used the aforementioned methodology, but using it in the context of Environmental Education for integrated secondary education, concluding that this method enables the organization of critical curricula, based on contextualization and problematization, allowing the integration of knowledge and the transversality of the environment theme through the investigation of the generating themes.

In addition, other studies that address the methodology for obtaining generative themes have contributed to the critical training of students and teachers in recent years, such as the works of Torres

⁴A term used by Freire to refer to the limited understanding of situations of oppression experienced by the people and that, because they are naively limited to a minimalist and uncritical perception of the situation that surrounds them, they are unable to circumvent it.

⁵A term that refers to the critical apprehension/understanding of the entire set of existential situations experienced by the people.

⁶A term that refers to the critical analysis of the codified situation, representing an interaction movement between the subject and his concrete existential situation, in which he is inserted.

and Maestrelli (2011; 2012), Demartini (2017), Miranda, Pazinato, and Braibante (2017) and Novais et al. (2017).

Given this, it is through the Freirian thematic approach methodology that this study proposes to organize, in a transversal way, a curriculum in financial education based on the investigation of generating themes and their thematic reduction within the scope of EPT, especially in integrated high school of the Sena Madureira Campus.

METHODOLOGICAL PROCEDURES

This study is structured based on the qualitative approach (MINAYO, 2016) and the nature of applied research (GERHARDT; SILVEIRA, 2009). To obtain the generating themes and the constitution of the thematic network, the methodology of the dynamics of the Freirian thematic approach was adopted, based on the assumptions of Freire (1987), Silva (2004), and Delizoicov (2008).

To meet the object of this study and start data collection, invitations were sent to all students and teachers of the 3rd year group of the technical course in information technology integrated with high school at Campus Sena Madureira/IFAC, to collaborate with this research. To students and their parents or guardians, the invitation is made through a messaging app, via smartphone.

As for the Freirian thematic approach method, this required the investigation of the generative themes. For this, the first four steps listed by Delizoicov (2008) were adopted in the Freirian Thematic Approach dynamics, associated with moments II to IV systematized by Silva (2004) in his proposal for the construction of the interdisciplinary curricular praxis by the generator theme. Thus, the thematic investigation followed the following steps:

Stage I - preliminary survey of the students' local reality: comprises a survey of socio-economic and historical-cultural conditions. This step was carried out through two questionnaires: the first, applied to students via google forms; and the second, applied to their respective parents or guardians, via email. The questionnaire applied to students contained 21 questions, while the one applied to their parents or guardians consisted of 15 questions, both consisting of open and closed questions about aspects related to the socio-economic life of the research participants.

Stage II – analysis of situations and choices of encodings: in this stage, moment II of Silva (2004) was used, which included the rescue of significant speeches, represented by explanatory limits related to conflicts, problems, needs, contradictions, and social difficulties of students, in addition to characterizing and selecting generating themes and counter-themes.

Stage III – decoding dialogues: this stage was delineated from activities to problematize the significant speeches obtained in stage II, thus contributing to the process of critical analysis of the encodings and validation of the students' significant speeches as generative themes.

The problematization was carried out from activities consisting of the exhibition of comic strips⁷, cartoons⁸ and pictures, taken from the internet⁸ and accompanied by the presentation of problem situations based on the significant speeches of the participants. The problematization activities were presented in two distinct but complementary moments.

At first, the problem-solving activities were carried out through the presentation of three problem-solving situations, made available via google forms, being analyzed and answered remotely by the students. In the second moment, the same problematic situations of the first moment were presented, however, starting now from the dialogue between researcher and students, in an activity carried out through video conference.

Stage IV – thematic reduction: this is the moment of elaboration and order of the programs and curricular contents, which were used to understand the significant situations contained in the generating themes. This stage had the collaboration of the group of professors who teach in the 3rd year

⁷It is a textual genre composed of a sequence of comics in which, in most situations, it presents itself critically on certain issues and social values. It is usually found in print and electronic newspapers and magazines or on some websites.

⁸It is an atextual genre that expresses a critical view of the facts through caricatures, which may or may not contain subtitles and speech clouds, generally using humor.

of the technical course in information technology integrated to the high school of the Campus Sena Madureira/IFAC, above all, among those who were willing to contribute to the process.

RESEARCH OF THE GENERATING THEMES AND CONSTITUTION OF THE THEMATIC NETWORK

After conducting a previous consultation about the interest in participating in this research and the subsequent manifestation of the consulted segments, confirmation and effective collaboration of approximately 62% of the teachers, 41% of the students, and 38% of the parents or guardians in the process of investigation of the generative themes was obtained.

Next, the procedures used in the process of elaboration and thematic reduction carried out in collaboration with the research participants will be described.

Survey of the local reality of students

As for the reality of the students who participated in this research, these are young people aged between 17 and 19 years old who still live with their parents. As for the family nucleus, most households, approximately 64% of them, are composed of 4 people or more.

About 93% of students claimed to have joined IFAC due to the quality of education and infrastructure provided by the institution. Also declaring that they do not have income from employment, internship, or similar activities; despite 21% of all students claiming to receive an allowance from their parents. All students who participated in the survey claimed to be public school graduates.

Still, the collected data reveals that a significant portion (46%) of the students' families receive gross income between 1 and 1.5 monthly minimum wages, which the main source of income in the family budget comes from the parents of these students. Approximately 71% of students receive assistance in school at the institution where they study, which reveals a situation of predominant family socio-economic fragility, justifying the need for the financial support received.

Part of the students lives in neighborhoods far from the central area of the city, where there are usually problems with paving infrastructure, public lighting, crime, and, in some cases, subject to flooding from rivers in the region, that often reach their homes.

Identification of significant situations

After completing the stage corresponding to the preliminary survey of the local reality, the speeches that were given by the students and their parents or guardians were analyzed, which resulted in the selection of eight statements that expressed possible anxieties, tensions, conflicts, and other situations that seemed significant to the researcher.

This set of significant speeches, taken as generative themes, expressed several possible situations, especially regarding issues involving the use of financial resources such as expenses, costs, income, and other socio-economic aspects involving students and their families, as can be seen in Box 1.

Box 1 - Significant speeches obtained in the thematic investigation stage.

Speech 01: <i>"I keep (money) to use in some important situation, like helping to buy food"</i> (student).
Speech 02: <i>"I keep it, but then I spend it on food, accessories, clothes... sometimes the parents need it too"</i> (student).
Speech 03: <i>"Yes, studying and graduating from some college to work in the future"</i> (student).
Speech 04: <i>"I'll be living alone, so I'm thinking about getting a part-time job to support myself while I study"</i> (student).
Speech 05: <i>"My biggest difficulties are the high cost of products, especially in food"</i> (student's mother).
Speech 06: <i>"I believe that for a father or mother of a family, one of the biggest difficulties that may be faced is the issue of food, bills and payment slips can always wait a little longer, but feeding the children becomes more important than everything"</i> (student's mother).
Speech 07: <i>"I don't know, because everything they (the children) want, I buy, for this reason, I have a lot of debts"</i> (mother of a student).
Speech 08: <i>"I say I can't (afford it), but I always find a way to buy"</i> (student's mother).

Source: Research Data (2021).

The set of speeches presented here expresses the organizational synthesis of the significant speeches of the research participants, which should guide the systematization of the pedagogical dynamics to be implemented through the educators' critical view (SILVA, 2004). Otherwise, it is based on this set of statements that the dialogue between the worldviews of students and educators must be established, the result of which must be the problematization of situations that express contradictions and conflicts.

Problematization of significant speech

In order to validate the significant speeches as generative themes, some problematization activities were carried out, which involved the presentation of comic strips, cartoons, and images to students, all of them with the theme of financial education as a backdrop.

Activity I consisted of questioning the following speech:

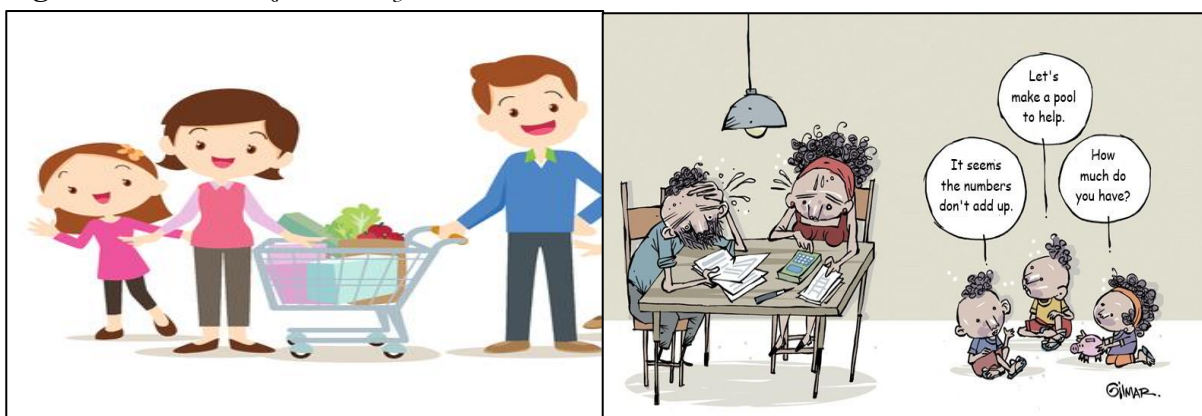
Speech 01: *"I keep (money) to use in some important situation, like helping to buy food"* (student).

This speech was considered significant because it involves one of the most important social issues of our time, the precariousness of work, which makes full family support unfeasible and further aggravates the lack of family planning, especially the economically most vulnerable, culminating in the manifestation of financial difficulties. This prematurely pressures young people to search for alternative sources to make up the family income at the expense of studies, showing the social vulnerability in which they are inserted, unlike the reality experienced by young people whose families enjoy better socio-economic conditions.

As an explanatory limit, it was considered important that the parents/guardians are not able to meet all the necessary expenses to support the home, which puts pressure on the children to feel the obligation to contribute financially to the parents, in matters involving domestic support.

Thus, to problematize the situation contained in the selected speech, an image and a cartoon were used (Figure 1), as follows:

Figure 1 – *Problematization activity I*



Source: Images taken from the internet. Available at: <https://br.depositphotos.com/117918884/stock-illustration-cute-family-shopping-at-market.html> and <http://gilmaronline.blogspot.com/2018/01/charge-impostos.html> . Accessed on: may 19, 2021

This figure, on the reader's left, intends a situation in which the family, composed of three members, apparently does not have problems with basic sustenance, especially about the purchase of food. The situation represented by the opposite side (reader's right), on the other hand, refers to financial difficulties faced by another family, this time composed of five people, and the children, observing the situation of financial fragility faced by the parents, seek to help in some way, even without having sufficient resources or the necessary means for this.

To encourage discussions about the situations presented in Figure 1, the following statements were presented to the students for further discussions:

- a) Parents are the only ones responsible for providing for the home and children.
- b) Children must collaborate with their parents in supporting the home.

Regarding the first statement, the students predominantly expressed that the responsibility for sustaining the house belongs to the parents, and good family and financial planning allows families to approach the situation presented on the left side of Figure 1, in a context of greater financial stability, especially with the consumption of basic goods for sustenance such as food and housing.

On the other hand, when discussing the second statement, the students revealed that the involvement of younger people in containing extra expenses and unnecessary expenses is essential, and they should even seek alternative sources of income such as internships, employment as a young apprentice, or even open their own business, contributing to the family's livelihood. Due to the lack of financial resources, it is observed that young people, pressured by the state of financial deprivation, take upon themselves the duty of collaborating with the family support, as observed in Speech 02.

Speech 02: *"I keep it, but then I spend it on food, accessories, clothes... sometimes the parents need it too"* (student).

The analysis of the situation presented turns out to reveal a contradiction in the view of the young students since, at the same time that they attribute the full family support to the parents' responsibility, they claim part of this responsibility for themselves, despite still being in a physical, cognitive, emotional, social and moral values development phase (FERREIRA; FARIAS; SILVARES, 2009). At this time, young people should fully dedicate themselves to basic studies, leisure, and professional training, having work as an educational principle and not being linked to work due to the need for sustenance, due to their socio-economic precariousness (RAMOS, 2014).

It is important to highlight that part of the debts incurred by some families come from the unnecessary consumption of young people, such that parents, to meet their children's wishes, give in to what the young people ask for, corroborating speeches 07 and 08, as follows:

Speech 07: *"I don't know, because everything they (the children) want, I buy, for this reason, I have a lot of debts"* (mother of a student).

Speech 08: *"I say I can't (afford it), but I always find a way to buy"* (student's mother).

This situation reveals a social fragility, as low-income families do not have full financial conditions to support their children in their basic needs such as food and education, despite continuing to incur debts due to the wishes of the children. Due to the lack of family financial planning, their social conditions are aggravated by the lack of employment, or its precariousness, and by the also precarious educational and professional training, contributing to the fact that, at an early age, young people need to enter the labor market to help support their familiar livelihoods.

Activity II consisted of the problematization of speeches 03 and 04, which answers came from a question made to students about the existence of strategies for achieving a stable source of income and subsequent formation of financial wealth, after completing high school.

Here are the speeches:

Speech 03: *"Yes, studying and graduating from some college to work in the future"* (student).

Speech 04: *"[...] I think about getting a part-time job to support myself while I study"* (student).

From these speeches, a problematization was carried out based on strips (Figure 2) that present two situations about job offers based on minimum qualification requirements for the job.

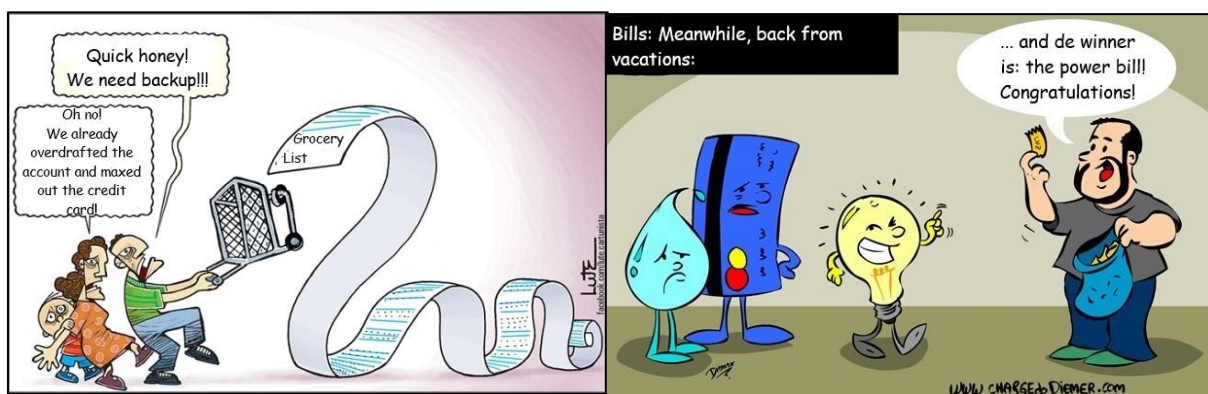
Speech 06: “My biggest difficulties are the high cost of products, especially in food” (student's mother)

According to what was exposed in the first speech, the priority is to buy food for the children, leaving aside the other expenses, bills, and costs that are also necessary to support the family over the months. The second speech ratifies the first and brings an important element as to the justification for going through such difficulties, which is the high cost of food.

For these reasons, the statements were considered significant, as they disregard important elements such as low education - which leads to precariousness and uberization⁹ of work - and the generalized increase in prices caused by inflation.

Thus, to carry out the problematization of speeches 05 and 06, two cartoons were presented to students, which represent situations of domestic financial difficulties, as shown in Figure 3.

Figure 3 - Problematic activity III



Source: Images taken from the internet. Available at: <https://br.pinterest.com/pin/470063279861798725/>. and <http://chargedodiemer.blogspot.com/2013/02/contas-de-fevereiro.html>. Accessed on may 20, 2021.

After the presentation of Figure 3, two statements were made available for discussion by the students, as shown below:

- The main financial difficulty that parents have today when it comes to providing for the home, is related to the purchase of food for themselves and their children.
- The priority is to buy food for the children. The rest of the bills can always wait a little longer.

After analyzing the elements contained in the speeches of the students, in general, it was observed that the issue of food, despite being a priority, is not the only one that afflicts family members in terms of livelihood. Other difficulties were also attributed as essential elements, such as rents, energy, water, and other costs of basic goods that, currently, are constantly affected by inflation, due to the current national economic instability¹⁰.

In addition, other important elements were identified as aggravating the financial precariousness of families, such as issues of low income, precarious employment, indebtedness due to lack of financial organization, and unregulated consumption. Such elements were detected from the answers given by the students, when asked about what would be the biggest difficulties faced by the parents, in the support of their families. As a result, the following responses were obtained:

⁹For many specialists, uberization has become synonymous with precarious work. This is because, by having their services contracted informally, people who find work through applications do not have labor rights or guarantees, such as 13th salary, paid vacation, sick leave, and other social security benefits.

¹⁰IPEA – Instituto de Pesquisa Econômica Aplicada. Institute of Economic Applied Research. **Ipea indicator records high inflation for all income groups in May**. Published on the IPEA portal on 06/14/2021. Available at: https://www.ipea.gov.br/portal/index.php?option=com_content&view=article&id=38089&catid=3&Itemid=3. Accessed on: 06/14/2021.

- ✓ *“The financial organization, as there is never anything left”.*
- ✓ *“The biggest difficulty might be the children... maybe the child asks for something and the father goes and ends up giving in and, he goes and buys and then realizes that he shouldn't have done that. There is also 'the' person not knowing how to manage their money correctly and this makes it very difficult”.*
- ✓ *“It's the financial organization and maintaining an income, as not everyone has a regular income. There are self-employed jobs that don't have a regular monthly income compromising the family's income, others have but don't organize themselves”.*

It is also observed that the second speech presented here refers once again to the significant speeches 07 and 08, a situation in which parents, despite having a limited budget, end up increasing their often unnecessary debts to meet the children's desire for consumption.

Definition of the generating themes and the counter themes

After completing the problematization activities with the students, the significant speeches obtained were analyzed using the schematic table¹¹ (Box 2) developed by Stuaní (2008 apud TORRES, 2010) based on elements of the dynamics of Silva (2004), in which the explanatory limits of the students to the questions raised were placed to, then, confirm such speeches as generative themes.

Based on the elements present in the students' “worldview” (explanatory limits), the educator-researcher's worldview (counter-themes) was defined regarding the generative themes that, according to Silva (2004), behave as a “compass” that guides the search for more comprehensive solutions for understanding and transforming the local reality, allowing the appropriation and reconstruction of knowledge necessary to overcome the problem-situations experienced.

Box 2 - Schematic table for analysis of significant speeches

Meaningful Speeches (Generating Themes)	Survey participant's worldview (Explanatory limit)	Elements present in the worldview of research participants	Educator's Worldview (Counter themes)	Elements present in the educator's worldview
<p>Speech 01: <i>“I keep (money) to use in some important situation, like helping to buy food” (student).</i></p> <p>Speech 02: <i>“I keep it, but then I spend it on food, accessories, clothes... sometimes the parents need it too” (student).</i></p>	Parents/guardians are not able to meet all the expenses of the home and, therefore, the children feel the obligation to help.	<p>Financial reserve.</p> <p>Restriction of the family budget.</p> <p>Need for budget complementation.</p>	The precariousness of work makes full family support unfeasible which, aggravated by the lack of family planning, prematurely pressures young people to search for alternative sources to make up the family income to the detriment of studies.	<p>Precarious work</p> <p>Family planning</p> <p>The job market for young people.</p> <p>Social inequality</p> <p>Education.</p>
<p>Speech 03: <i>“Yes, studying and graduating from some college to work in the future” (student).</i></p>	Academic training is a sufficient condition for obtaining a job and, consequently, for the formation of financial assets.	<p>Education.</p> <p>The job market for new graduates.</p> <p>Formation of financial assets.</p>	A good university education depends on the students' financial conditions. While students from more privileged classes have full time to devote themselves to studies, low-income students tend to be subject to precarious occupations to supplement their income and thus complete their studies at college with low performance, having	<p>Professionalizing education.</p> <p>Precariousness/uberization of work.</p> <p>Distribution/concentration of income and social inequality.</p>

¹¹The model given by Geovana Mulinari Stuaní to teacher Juliana Torres (2010), based on an interview carried out in 2008.

			difficulties getting jobs in the future.	
Speech 04: “[...] I think about getting a part-time job to support myself while I study” (student).	To obtain financial conditions to attend a college outside the place where he/she resides, it is enough for the student to get a job whose hours are compatible with the hours of the school period.	Education. Employment Income.	The need for low-income students to have to work to supplement the family's income can hinder good academic performance. This can compromise their professional qualification and, consequently, make it difficult for them to enter the labor market, which already has limited job vacancies.	Education. Distribution/concentration of income. Social inequality Precariousness/uberization of work.
Speech 05: “I believe that for a father or mother of a family, one of the biggest difficulties that may be faced is the issue of food, bills, and payment slips can always wait a little longer, but feeding the children becomes more important than anything else” (student's mother).	The essential thing, to support the family, is only the purchase of food. The rest of the accounts/debts are of secondary importance.	Cost of living Family income Employment Food.	The insufficiency of income to cover all domestic expenses is a reflection of social inequalities such as the precariousness of work, abusive prices of basic consumption items, and a generalized rise in the prices of essential consumer goods, the educational insufficiency of the less privileged, and the lack of jobs.	Labor. Social inequality Precarious employment Inflation. Education.
Speech 06: “My biggest difficulties are the high cost of products, especially food” (student's mother)	The high costs of household products, including food, are what harm the family's livelihood.	Cost of living Family income Employment Food.	The main difficulties found in family support are caused by the low income earned by its members who, due to low education and professional qualification, end up occupying precarious jobs, underemployment. The precariousness of work, added to low income, lack of financial and family planning and inflation end up making it difficult for low-income families to support themselves, who often do not have their own home.	Education. Precarious employment. Labor. Social inequality Family and financial planning. Inflation. Housing
Speech 07: “I don't know, because everything they (the children) want, I buy, for this reason, I have a lot of debts” (mother of a student).	Consumption The high volume of debt exists because parents cannot resist the demands and desires of their children to consume, who live happy and satisfied with having everything they want.	Debt. Consumerism Social statement through consumption.	To satisfy their children's desire for consumption, parents end up compromising their family support, acquiring debts that they will have difficulties in repaying, often falling into default. The lack of planning and attitudes and the establishment of consumption limits compromise the financial behavior of the children, who will have their critical development impaired concerning education for responsible consumption.	Conscious Consumption Family income Debt. Financial planning Education. Social weakness. Young people's immaturity/low self-esteem

<p>Speech 08: <i>"I say I can't (afford it), but I always find a way to buy"</i> (student's mother).</p>	<p>Despite not having financial conditions, parents sacrifice to give all the best to their children.</p>	<p>Debt. Default Consumerism Social affirmation through consumption.</p>	<p>By meeting their children's desire for unnecessary consumption, parents end up taking on debts that they will not be able to pay or will pay them with losses to the family's support. This attitude leads to unnecessary indebtedness, default, and difficulty in obtaining basic consumer products, which can compromise the entire family's financial structure.</p>	<p>Conscious Consumption Debt. Default Income and family support. Young people's immaturity/low self-esteem</p>
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Source: Research Data (2021).

The thematic reduction process

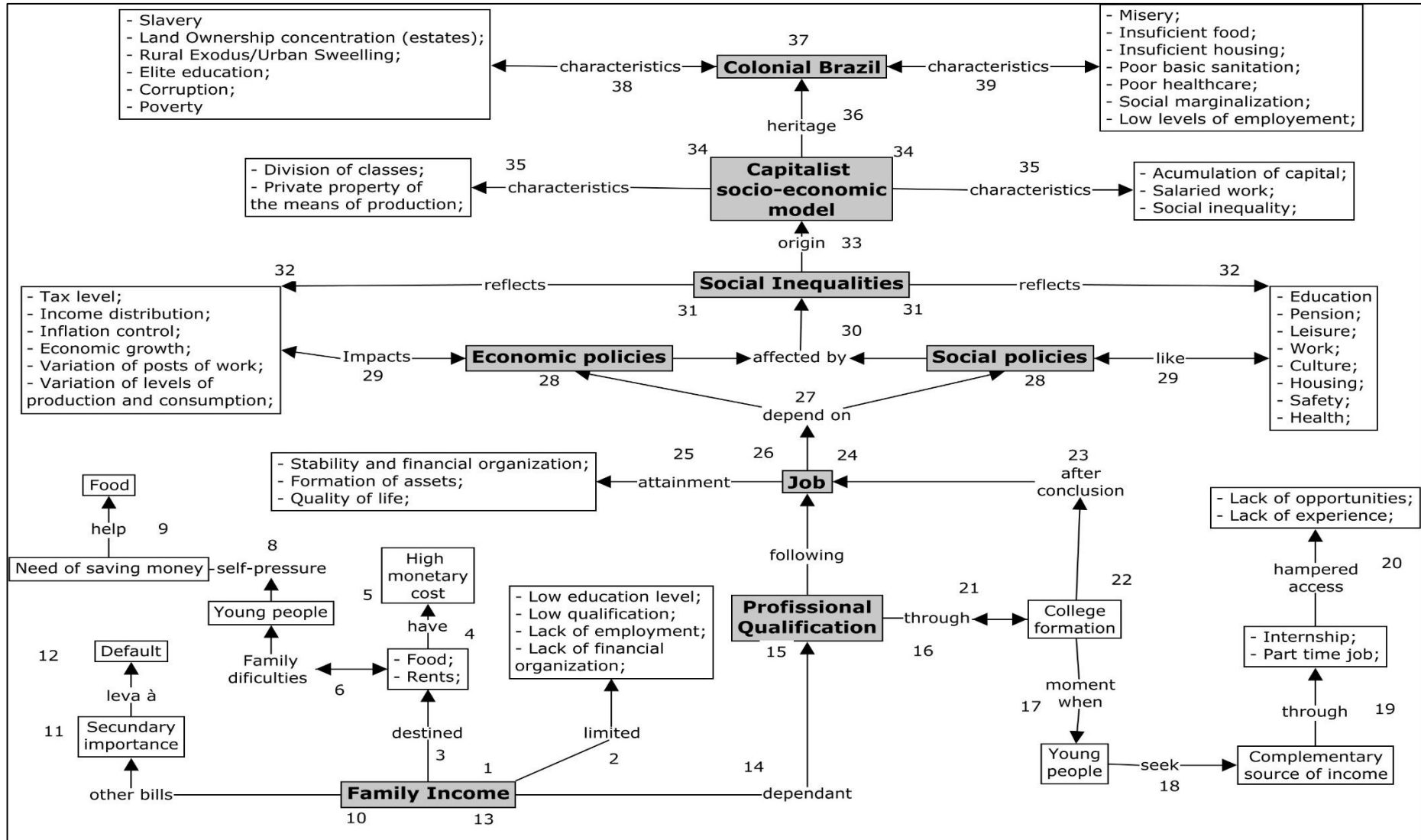
After validating the speeches as generative themes and defining their respective counter-themes, it was necessary to build a thematic network that, constituted from the elements present in the worldview of the research participants, enabled the organization of content for the transversal teaching of financial education.

Organizing the thematic network

The systematization of the thematic network allowed the elements found in the students' worldview to be constituted in a connected way so that the researcher started his analysis starting from the local dimension and then proceeding to the analysis of the micro and macro levels of social organization.

Thus, the construction of the network started from the base-top structuring logic (SILVA, 2004), in which the chain of ideas is represented by Arabic numerals arranged along the network, suggesting a sequence of reading and, consequently, of apprehension of the content therein, as presented below:

Figure 4 - Thematic Network



Source: Research Data (2021).

It is about “[...] a dynamic and participative systematization of sociocultural and political representation [...]” which, conceived in the form of a network, starts from a problematizing political-pedagogical process and not just as a cognitive technique for the selection of content (SILVA, 2004, p. 334).

The organization of content via generating themes

After completing the investigation, problematization and validation procedures of the speeches as generative themes, which involved the process of encoding, problematizing and decoding the students' concrete existential situation, the organization of the contents for financial education was carried out via generative themes, a step that included the process of thematic reduction.

In the case of this particular work, the proposal of thematic reduction took financial education as its core element, in which learning contents were prepared by the group of teachers who teach in the 3rd year of the technical course in information technology integrated into the high school of the Sena Madureira Campus/ IFAC, especially with the participation of those who work in the areas of Physical Education, Geography, History, Information Technology, Mathematics, Portuguese, Psychology, and Sociology.

Given the breadth of aspects that involved the generative themes found and the specificity of the subject dealt with, which is financial education, it became convenient to define only one generative question: *“What socio-economic, political, geographic, social and historical factors contribute to social disparities and what are the possible ways to mitigate the financial vulnerability conditions of families?”*

That said, it is advisable to make available the school schedule with the selection of learning contents and respective pedagogical intentions for the approach of financial education from generative themes, as shown in Box 3.

Box 3 – Content program for the transversal insertion of financial education

Area of Knowledge	Contents	Pedagogical intentions
Physical Education	<ul style="list-style-type: none"> - Consumerism and capitalism: what is superfluous and what is priority/essential?; - The influence of consumption of sports products related to sports personalities; - The influence of sports brands on the consumption of young people in the municipality of Sena Madureira. 	<ul style="list-style-type: none"> - Identifying forms of consumption practiced because the media and advertisements encourage them; - Identify superfluous products and essential products in your purchases/spending; - Realize that the sports industry creates strategies to sell “branded” products that are more expensive than other similar products with the same quality and that meet the objectives.
Geography	<ul style="list-style-type: none"> Population growth -Structure of Acre population; - Living conditions and social inequality of the population of the municipality of Sena Madureira. 	<ul style="list-style-type: none"> - Analyze the increase in the Brazilian population and the decrease in quality of life; - Select arguments for or against the changes imposed by new technologies on social life and the world of work; - Know the population structure of Acre.
	<ul style="list-style-type: none"> - The organization of the Brazilian economic space; - Colonial heritage: economic archipelago; - Industrialization and national and regional integration. 	<ul style="list-style-type: none"> - Understand the classification of Brazil as an emerging or peripheral country and the historical process responsible for this situation; - Identify inequalities in access to technology between the different nations of the world and relate them; - Identify records on the role of techniques and technologies in the organization of work and social life; - Observe the consequences suffered by the Brazilian people as a result of this historical process in Brazil.
	<ul style="list-style-type: none"> - Industrialization and economic development; - Spatial location and concentration of industries 	<ul style="list-style-type: none"> - Compare and establish the similarities and differences between Brazil and other countries. To narrow down these similarities and differences among the regions of Brazil and its states, especially the State of Acre;

	<ul style="list-style-type: none"> - Spatial location and dispersion of industries. 	<ul style="list-style-type: none"> - Understand the fact of the lack of industries in Acre and, consequently, the lack of employment in other sectors; - Know the new trend in the dispersion of industries in Brazil and the possible aptitudes of Acre for new investments.
	<ul style="list-style-type: none"> - Primary activities in Brazil: The Brazilian agricultural space; - The agrarian structure in Brazil, Acre, and aspects relevant to the municipality of Sena Madureira. 	<ul style="list-style-type: none"> - Identify the inequalities in access to technology among the different nations of the world and relate them to the situation of the sector in Brazil and the northern region; - Understand the past historical process in Brazil that resulted in the problems experienced by small producers in Acre; - Know the causes of rural problems in Brazil and the consequences of the increase in food prices in Acre.
History	<ul style="list-style-type: none"> - Between temporalities and territorialities: the historical formation of Sena Madureira; - Ways of life of riverside communities and rubber tappers in the region; - Northeasterners and their influence on the culture of local populations. 	<ul style="list-style-type: none"> - Compare the different temporalities that coexist in the city of Sena Madureira and analyze how the populations deal with them; - Understand the interests of different subjects who went to the Purus region at the beginning of the 20th century; - Identify the social and ethnic origin of these subjects and their contributions to the formation of local culture.
Information Technology	<ul style="list-style-type: none"> - Study on the labor market in the IT area: professionalization, qualification, employment, and income. 	<ul style="list-style-type: none"> - Know the IT job market at a local and global level; - Understand the role of IT professionals for the development of Economy 4.0; - Understand the need for professionalization and qualification to adapt to the world of work.
	<ul style="list-style-type: none"> - The IT and computing market; - Consumption and digital marketing among young people and teenagers. - Big Data; - The use of ICT's for financial management; - Computational tools for financial organization. 	<ul style="list-style-type: none"> - Understand how information technology and technology can help to develop financial education and increase income; - Know and use basic computer tools that can help in the financial organization.
Mathematics	<ul style="list-style-type: none"> - Percentage: Rule of three applied to the percentage calculation; - Percentage representation of debts, to the salary received; - Percentage possibilities of applying the salary to savings; - Mathematical logic in the purchase of goods at the supermarket; - Operations involving the purchase of goods; - Interest - Discounts and capitalization. - Amortization; 	<ul style="list-style-type: none"> - Develop the student's ability to (a) understand and make financial calculations present in everyday situations; - Contextualize the contents of Commercial and Financial Mathematics to the students' reality.
Portuguese Language	<ul style="list-style-type: none"> - Difference between consumerism and consumption; - Financial awareness. - Financial planning; - Division of money and debt planning; - Conceptions of Capitalism and capitalist culture. 	<ul style="list-style-type: none"> - Know the basic concepts of consumption and consumerism and differentiate between them; - Work on communicative aspects in verbal and non-verbal language; - Organize textual communication on posters. - Structure of the poster, the pamphlet in the communication process in verbal and non-verbal language; - Structure and organization of professional curriculum; Lattes resume - Formal and technical aspects of the job interview; - Capitalism and its culture present in the literary works of Machado de Assis;

		- Identify regional economy and culture from regional music, poetry, and short stories.
Psychology	- Financial behavior (vices, deviations, risks, consumerism); - Studies on financial profiles of young people and adolescents; - Family organizational structure; - Vision of the future (professionalization and job market for young people and teenagers).	- Know the principles that generate the lack of financial organization; - Understand the importance of family financial organization; - Plan the professional future according to the demand of the labor market.
Sociology	- The capitalist mode of production and its socio-economic foundations: a contextualized view based on global and local reality.	- Analyze the implications for social life arising from the different processes of production and circulation of wealth; - Recognize the mechanisms inherent to forms of social organization in the process of production and reproduction of socio-political-economic structures.
	- State, social regulation, and economic, social, and cultural problems.	- Understand how the State acts in the regulation of life in society (mainly the economic aspects of income production); - Analyze the relationships established between the State and social transformations; - Identify how States face economic, social, and cultural problems.
	- The forms of organization of power, economy, and work in the face of globalization.	- Understand how new technologies impact the economic foundations of society: production process, work, instruments, means, relations, and modes of production; - Understand the role of globalization in economic and labor processes.

Source: Research Data (2021).

The learning contents arranged in the work plan proposed by Box 3 represent the effort of the teaching group to seek the systematization of contents relevant to financial education, starting from different areas of knowledge, observing the elements brought by the generating themes and respective thematic network defined in research.

Thus, such curricular organization was carried out from an integrative perspective, in which the inclusion of financial education was proposed to reach, transversely, the different school subjects. Thus, financial education came to be presented as a core element of the approach, around which the various disciplinary areas were organized and which, according to Gallo (2001), ends up attributing new meanings to the school subjects themselves.

It is important to emphasize that the proposed transversality model does not intend to create a new disciplinary component, but rather to seek to reduce the rigidity of knowledge that exists between the different disciplines of the technical course in information technology integrated into high school education at Campus Sena Madureira. In this sense, transversality in financial education sought to present itself as a “[...] meaning axis of the educational process [...]”, capable of moving between the disciplinary knowledge that configures the traditional curriculum (GALLO, 2001, p. 22).

It is a process of resizing curricular subjects that must be subordinated to the most urgent educational needs of students and consider, as a starting point for learning, their socio-cultural and socio-economic context (SOUZA, 1998).

This process can be associated with the concept of integration and humanization, in which the subjects' relationship with the environment does not simply depend on "being in it", as an object or something static, but also on being "with it", in an interaction movement and active participation in everyday transformations. It is a symbiotic relationship between man and concrete reality in which, the more one intervenes in it, the more dynamic, humanized, and molded to their own wills this reality becomes, which leads to the path of liberation referred to by Paulo Freire (1967).

Corroborating Freire's liberating pedagogy, Young (2007) and Sacristán (2013) additionally observe that, for the student, the path to intellectual liberation must be followed through curricular integration among the various school disciplines. Above all, it must occur through dialogic teaching,

based on the analysis of the social context and reinforced by scientific knowledge that helps to understand the social reality experienced by students.

Similarly, the perspective of curricular integration based on polytechnic, omnilateral and unitary training bases serves as a guiding thread to broaden the understanding of the reality in which students are inserted, enabling them to intervene in it critically (RAMOS, 2008).

Thus, the school must undertake a critical pedagogy, capable of taking into account the ethical aspects of knowledge and the social relations to which students are inserted while addressing the historical and spatial context of the community's daily life (SANTOMÉ, 1998).

Therefore, it is in this sense of critical, transversal, polytechnic, omnilateral, and unitary education that the investigation and thematic reduction present in this study was proposed.

FINAL CONSIDERATIONS

In summary, this study sought to establish, from the generative themes, the transversal organization of financial education in the curriculum of the technical course in information technology integrated with high school education at Campus Sena Madureira. To this end, procedures inherent to the dynamics of Freire's thematic approach were carried out, which enabled the successful construction of a thematic network contextualized with the situations experienced by students, in which the axis of meaning of the educational process revolved around the theme of financial education.

The investigation process of generating themes required a critical-investigative posture from the teacher-researcher, moving away from the conservative standards of the educational routine characterized by the search for syllabus contents in predefined teaching materials. Mainly, it required the realization of a theoretical-methodological deepening that would enable a path towards the apprehension of the socio-economic reality of the students, whose process demanded observation, questioning, reflection and action.

As a result of this process, a thematic network was created aimed at organizing the curriculum around the generating themes, which enabled the transversal insertion of financial education in the curriculum of integrated secondary education, in the *locus* of study. This insertion was configured under a perspective that permeates the elementary aspects of financial education, thus enabling students to carry out critical reflections on their living conditions and those of their families, from a multidisciplinary and transversal teaching perspective.

Still, regarding the investigation process of the generative themes, it is important to highlight the plurality of disciplines that contributed to the constitution of the thematic network and the programmatic contents articulated from it, especially, highlighting the areas of Physical Education, Geography, History, Information Technology, Mathematics, Portuguese, Psychology, and Sociology, as shown in Box 3.

In this way, the syllabus resulting from the thematic reduction (Box 3), as they were elaborated from a thematic intersection perspective among several subjects and curricular contents, offers a potential and important contribution to the elaboration and implementation of integrative projects, as they have, according to Rosa (2020), the ability to articulate different fields of knowledge.

Finally, the dynamics of Freire's thematic approach was validated as an appropriate method for the transversal insertion of financial education from a critical-transforming perspective, being possible, also, through dialogic processes of obtaining the generative themes and thematic reduction, a school education that has for a base the principles of omnilateralism, the unitary school, and polytechnics.

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Author 1 – Data collection and analysis; writing, advisor of the research process.

Author 2 – Review of partially collected data; final writing review.

Author 3 – Review of partially collected data, monitoring or the methodological paths, final writing review.

DECLARATON OF CONFLICT OF INTEREST

The authors confirm that there are no known conflicts of interest associated with this publication.