



Integrated Upper Secondary Education: Reflections on Teachers' Conceptions and Perspectives

Ana Kelly Arantes^{1*}, Sandra Soares Della Fonte² and Denilson Junio Marques Soares³

¹Instituto Federal de Minas Gerais, Formiga, Minas Gerais, Brasil. ²Universidade Federal do Espírito Santo, Vitória, Espírito Santo, Brasil. ³Instituto Federal de Minas Gerais, Ouro Preto, Minas Gerais, Brazil. *Author for correspondence. E-mail: ana.arantes@ifmg.edu.br

ABSTRACT. This study investigates teachers' conceptions of Integrated Secondary Education (ISE) within the Federal Institutes of Education, Science and Technology in Brazil, highlighting their theoretical and pedagogical underpinnings. The research adopts a cross-sectional, descriptive design and employed an electronic questionnaire administered to 1,077 in-service teachers across the country's 38 Federal Institutes. The findings indicate that, at the theoretical level, teachers tend to align with non-critical perspectives, a position that becomes relativized when they define ISE itself. In this case, responses tend to situate themselves within a broader field of social disputes and controversies, revealing tensions between critical approaches oriented toward social emancipation and perspectives aligned with market demands. It was also found that, albeit with varying intensities, teachers tend to value specific elements that make up ISE, which nevertheless do not represent the proposal in its entirety. When problematized, such limitations may become a starting point for the development of pedagogical practices that conceive ISE as a pathway toward overcoming capital and the duality between a school oriented toward doing and one oriented toward thinking.

Keywords: education; integrated secondary education; educators.

Ensino médio integrado: reflexões sobre concepções e perspectivas de seus docentes

RESUMO. A pesquisa investiga as concepções de ensino médio integrado (EMI) pelos docentes dos Institutos Federais de Educação, Ciência e Tecnologia, destacando as suas vinculações teórico-pedagógicas. O estudo, de corte transversal e natureza descritiva, utilizou um questionário eletrônico aplicado a 1077 docentes em atividade, distribuídos entre os 38 Institutos Federais do país. Os dados indicam que, em termos teóricos, os docentes possuem um alinhamento não-crítico, posição relativizada quando definiram o EMI. Neste caso, as respostas tendem a um campo mais aberto de controvérsias e disputas sociais, evidenciando a tensão entre abordagens críticas, voltadas para a emancipação social, e perspectivas convergentes ao mercado. Também se constatou que, com intensidades diferenciadas, os docentes dos IFs tendem a valorizar aspectos pontuais que compõem o EMI, mas, de modo algum, representam a totalidade da proposta. Caso seja problematizada, essa limitação pode se transformar em ponto de partida para a efetivação de práticas pedagógicas de um EMI visto como travessia rumo à superação do capital e da dualidade entre uma escola para fazer e outra para pensar.

Palavras chave: educação; ensino médio integrado; docentes.

Educación Secundaria Integrada: reflexiones sobre concepciones y perspectivas de sus docentes

RESUMEN. La investigación analiza las concepciones sobre la Educación Secundaria Integrada (ESI) por parte de los docentes de los Institutos Federales de Educación, Ciencia y Tecnología de Brasil, con énfasis en sus fundamentos teórico-pedagógicos. El estudio, de corte transversal y naturaleza descriptiva, utilizó un cuestionario electrónico aplicado a 1.077 docentes en ejercicio, distribuidos en los 38 Institutos Federales del país. Los datos indican que, en términos teóricos, los docentes presentan un alineamiento no crítico, posición que se relativiza cuando se les solicita definir la ESI. En este caso, las respuestas tienden a situarse en un campo más amplio de controversias y disputas sociales, evidenciando la tensión entre enfoques críticos, orientados hacia la emancipación social, y perspectivas más cercanas al mercado laboral. También se constató que, con diferentes niveles de intensidad, los docentes tienden a valorar aspectos puntuales que conforman la ESI, aunque estos no representan la totalidad de la propuesta. Si se

problematizan, tales limitaciones pueden convertirse en un punto de partida para la implementación de prácticas pedagógicas que conciben la ESI como una travesía hacia la superación del capital y de la dualidad entre una escuela para hacer y otra para pensar.

Palavras chave: educación; educación secundaria integrada; docentes.

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Introduction

Officially established by Law No. 11,892 (2008), the Federal Institutes of Education, Science, and Technology (Institutos Federais de Educação, Ciência e Tecnologia – IFs) are, in part, heirs to complex historical experiences, ranging from the former Schools of Apprentice Artisans to Agricultural Schools, Federal Technical Schools, and Federal Centers for Technological Education (Cefets) (Cunha, 2000; Lima, 2004; Kunze, 2015; Conciani & Figueiredo, 2015). This historical legacy was combined with a broad provision of higher education, basic education, and vocational education, a feature that has endowed the IFs with a distinctive and multifaceted institutional identity. Accordingly, they are characterized as multicurricular and multicampus institutions, offering educational pathways that range from upper secondary education (integrated with technical education, in either the subsequent or concurrent modalities) to undergraduate and graduate programs.

Despite this diversified scope, the founding legislation of the IFs places particular emphasis on Integrated Upper Secondary Education (IUSE), to which at least 50% of institutional enrollment must be allocated (Law No. 11,892, 2008). From a strictly legislative standpoint, IUSE can be defined as a modality that integrates vocational education with regular upper secondary education, within the broader framework of Vocational and Technological Education. Beyond this legal characterization, however, and in line with Ramos (2008), IUSE is understood here as an educational project that seeks to combine comprehensive human formation with preparation for the world of work, moving beyond a merely market-oriented approach (Warde, 1977; Frigotto et al., 2005). Its aim, therefore, is the total or omnilateral formation of individuals, drawing explicitly on Marxist theoretical foundations (Marx, 1985a; Della Fonte, 2020).

From this perspective, IUSE is guided by principles articulated within a critical and revolutionary horizon. While it draws support from progressive legal and institutional frameworks in Brazil, its existence remains subject to social and political setbacks and threats. Consequently, rather than constituting a stable state policy, IUSE emerges as a field of struggle.

Recognizing the relevance of this terrain, the present article examines selected aspects of a broader research project focused on the conceptions of IUSE held by teachers working in the Federal Institutes. In advancing this discussion, we do not attribute to teachers alone either the success or failure of the critical potential that IUSE may assume. Teachers are but one of the constitutive subjects of the IFs among several others. Nevertheless, their conceptions signal theoretical, political, and practical orientations that inform and guide their educational work. Reflecting on teaching within basic education thus requires engaging with these conceptions, insofar as the current configuration of IUSE results from the interplay of objective and subjective historical determinations.

As a specific analytical focus within this broader investigation, this article examines the theoretical foundations of education to which the participating teachers most closely align their professional practice, their understanding of schooling, and their characterization of IUSE. This approach is justified by the fact that such conceptions may shape teaching praxis in relation to educational policies, institutional engagement within the Federal Institutes themselves, and the various educational projects directed toward students enrolled in IUSE programs.

The article is organized as follows: the first section details the characteristics of the research conducted, including procedures and instruments for data collection, sample characterization, and the theoretical framework underpinning the analysis; the subsequent section presents and discusses the empirical findings, beginning with teachers' theoretical-pedagogical proximities and then addressing their understanding of IUSE; finally, the concluding section synthesizes key reflections and outlines the challenges identified through the study.

The Broader Research Context

The overarching research project, from which the partial findings discussed in this article are drawn, adopts a cross-sectional, non-experimental descriptive design (Plano Clark & Ivankova, 2015) and is based on the analysis of teachers' responses. Currently, there are 38 Federal Institutes (IFs) in Brazil, distributed across all states, with some federative units hosting more than one institute, as is the case in Minas Gerais, Rio Grande do Sul, and Rio de Janeiro¹, among others. In addition, as previously noted, the IFs operate as multicampus institutions and are embedded within a broader network known as the Federal Network of Vocational, Scientific, and Technological Education. This network encompasses not only the Federal Institutes but also the Federal University of Paraná, Cefet-RJ and Cefet-MG, technical schools affiliated with federal universities, and Colégio Pedro II. According to the Ministry of Education (2024), these institutions together comprise more than 685 units/campuses nationwide².

In this investigation, the criterion adopted was not campus-level representativeness but institutional representativeness. Accordingly, responses were obtained from 1,077 in-service teachers from all existing Federal Institutes in the country. Data were collected using a questionnaire designed to capture teachers' conceptions and perceptions regarding Integrated Upper Secondary Education (IUSE). The instrument comprised 20 closed-ended items and one open-ended question and was developed and validated with attention to both content validity and internal structure.

The questionnaire was organized into three analytical axes: (i) teachers' personal and professional profiles; (ii) the theoretical foundations underpinning each teacher's professional practice; and (iii) issues related to IUSE. The instrument was administered online, and participants were recruited through voluntary participation. As a result, the sample was non-randomized, which led to uneven levels of participation across the different Federal Institutes, despite the fact that all 38 institutes were represented in the study.

Regarding the predominant profile of the teachers who responded to the questionnaire, the sample is composed mainly of male teachers aged between 30 and 49 years. This finding represents an inversion of the national profile of upper secondary education teachers, among whom women predominate (National Institute for Educational Studies and Research Anísio Teixeira, 2021). The respondents are highly qualified: 88.81% hold a doctoral degree or are currently enrolled in a doctoral program. This result indicates that students enrolled in IUSE programs within the Federal Institutes have access to teachers with high levels of formal academic training.

Most of these teachers were hired from the late 2000s onward and can thus be considered products of the policies that created and regulated the Federal Institutes. They have accumulated substantial institutional experience, with more than nine years of service, and work in IUSE programs teaching both general education and technical subjects.

Frigotto (2018) highlights the central role of professional qualification among the multiple factors that contribute to the quality of education offered by the Federal Network of Vocational, Scientific, and Technological Education, which includes the Federal Institutes:

In the case of the teaching staff, the level and quality of their training are crucial, as is the distribution of their time between classroom activities and time allocated to study, preparation of materials, supervision of projects and final course monographs, participation in meetings, and time for professional development (Frigotto, 2018, p. 144).

Considering the complexity of these activities, teachers at the Federal Institutes fulfill the role of intellectuals, insofar as they assume, as Martins (2011, p. 140) argues, multiple tasks—particularly three that are dialectically articulated: scientific-philosophical, educational-cultural, and political functions.

For Gramsci (2001, p. 19), “[...] the school is the instrument for the formation of intellectuals at different levels.” Accordingly, teachers at the Federal Institutes can be understood as intellectuals *par excellence*, responsible for the formation of new intellectuals. This activity is organically linked to historical dynamics, which implies that the intellectual function is inseparable from political direction, as it unfolds within struggles for hegemony among social classes.

When teachers were asked about the theoretical foundations of their work and their conceptions of IUSE, the aim was to capture indications of the political horizon of their intellectual practice—that is, the social position they occupy within the constellation of social forces that sustain economic and ethical-political domination.

¹ For the exact location of the 38 Federal Institutes, see data from the Ministry of Education (2024).

² As this research involved human subjects, the project was submitted to Plataforma Brasil for ethical clearance and was approved on March 19, 2021, under protocol number 42480821.2.0000.5542.

Teachers' Theoretical–Pedagogical Proximities

Teachers participating in the research were asked to choose three alternatives, among nineteen statements, that best approximated the theoretical references guiding their professional practice. The results are presented in Figure 1.

The three most frequently selected alternatives are situated within the broad field of non-critical educational theories, a finding that calls for further reflection.

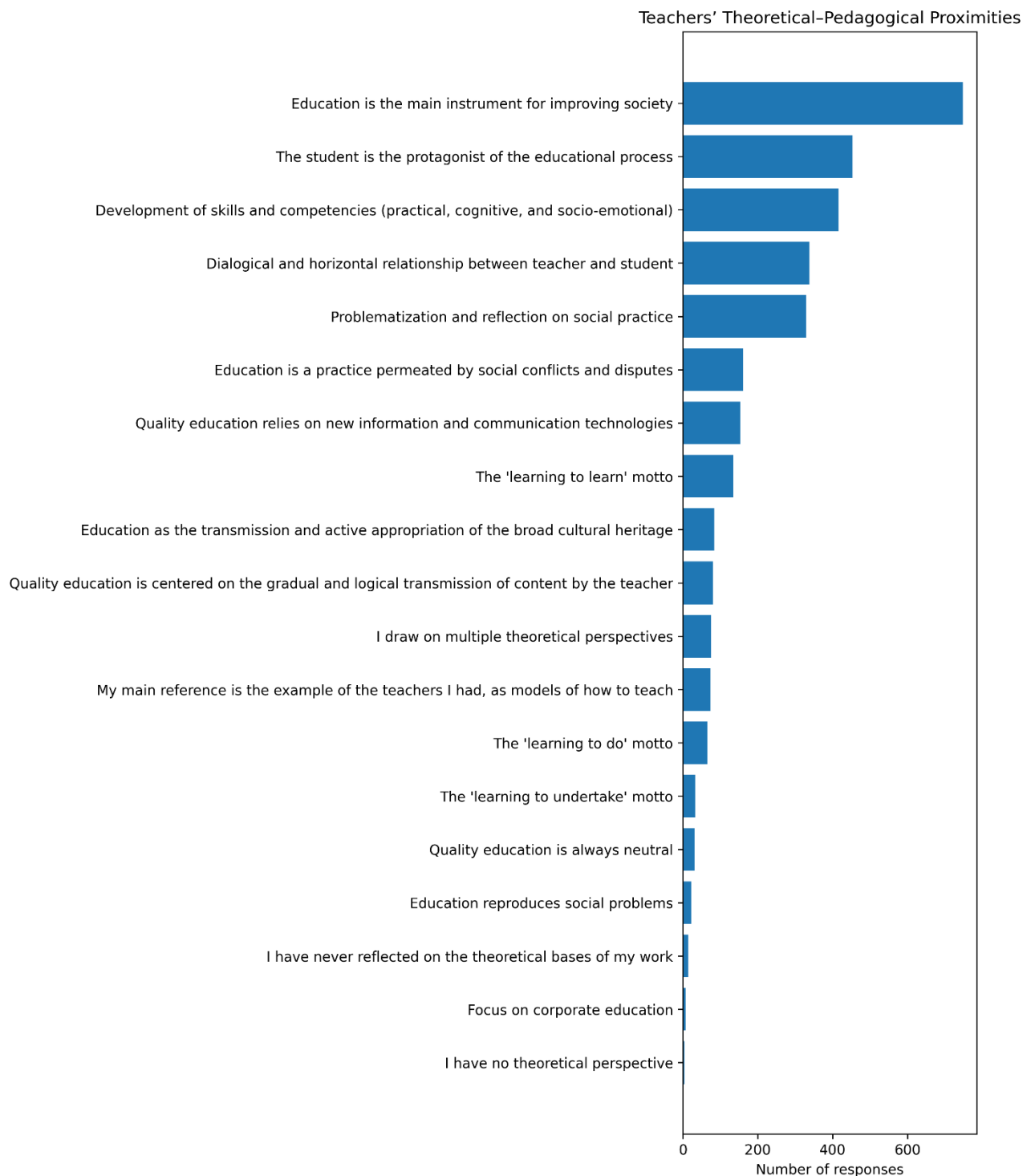


Figure 1. Teachers' theoretical foundations of professional practice.

Source: The authors (2024).

With 748 selections, the statement 'education is the main instrument for improving society' was the most frequently chosen. At first glance, this statement highlights the importance attributed to education and its

role in social transformation. However, according to Saviani (1999), such an understanding is characteristic of non-critical educational theories, as it attributes to education a redemptive function and overestimates its capacity to resolve social contradictions. This view treats education as if it were autonomous from the social totality in which it is produced. Although education plays a significant role in social struggles, it cannot be understood as the primary force capable of transforming society. As Mészáros (2005, p. 45, emphasis in the original) argues, “[...] formal education is not the main ideological apparatus of capital, nor is it capable, by itself, of providing a radical emancipatory alternative.”

With 453 selections, the second most frequently chosen option by the participants states that the student is the protagonist of the educational process. Following the approval of Law No. 13,415 (2017), which introduced the reform of upper secondary education in Brazil, this discourse has become widely disseminated, gaining resonance in the National Common Curricular Base for Upper Secondary Education (*Base Nacional Comum Curricular* [BNCC], 2018). The document establishes that schools must ensure that “[...] students are protagonists of their own schooling process, recognizing them as legitimate interlocutors regarding curriculum, teaching, and learning” (Ministry of Education, 2018, p. 463).

Although it appears to be a recent and innovative discourse, this claim is situated within the framework of *Escola Nova* reactions against the centrality of the teacher and their role as a transmitter of cultural heritage organized in a logical and gradual sequence—characteristic features of traditional pedagogy. A more traditional discourse seems to be considerably eroded among teachers in the Federal Institutes (IFs). As shown in Figure 1, among the nineteen options presented, the association between quality education and the logical and gradual transmission of content ranks tenth in terms of theoretical preference.

Thus, IF teachers appear to signal a rejection of more traditional educational traits by attributing the centrality of the educational process not to the teacher but to the student. This displacement constitutes one of the contrasting aspects of *Escola Nova* in relation to traditional pedagogy, as noted by Saviani (1999, pp. 20–21):

It can therefore be understood that this way of conceiving education, in opposition to traditional pedagogy, shifted the axis of the pedagogical question from intellect to feeling; from the logical to the psychological; from cognitive content to methods or pedagogical processes; from the teacher to the student; from effort to interest; from discipline to spontaneity; from directiveness to non-directiveness; from quantity to quality; from a pedagogy of philosophical inspiration centered on the science of logic to a pedagogy of experimental inspiration based primarily on contributions from biology and psychology. In short, it is a pedagogical theory that considers learning *how* to learn to be more important than learning itself.

In contrast to *Escola Nova*, a critical conception of education does not attribute protagonism to any single subject, as it understands educational work as a network of relationships. In this sense, there is an interrelation among students themselves; between students and teachers, as well as all other adults who contribute to the functioning of the school institution; and between students and systematized knowledge, “[...] for which teachers essentially serve as mediators” (Snyders, 1996, p. 69).

The defense of student protagonism by IF teachers may also be related to the fourth most frequently selected alternative: ‘dialogical and horizontal relationships between teacher and student’ (338 indications). However, these statements are conceptually distinct: the latter, situated within the critical tradition and inspired by Freire, places teacher and student on equal footing, whereas the former designates the student as the primary subject of the educational process.

According to Gramsci (2001), despite the seemingly advanced character of experiences grounded in active schooling and the emphasis placed on students, such approaches entail a regression, as they presuppose a form of spontaneism that jeopardizes projects aimed at the formation of subordinate classes by undermining the intentional direction of educational work by the teacher. As Martins (2018, p. 1006, emphasis in the original) explains:

The educator’s authority is therefore required to intervene in the formative process, stimulating learning and seeking, by starting from common sense, to reach the philosophical conception necessary for ethical-political autonomy—conditions for overcoming subalternity. The methodological orientation of the Unitary School presupposes greater intervention at the starting point of formation and greater autonomy at its endpoint [...].

The third statement most frequently selected by teachers—education aimed at the development of skills and competencies—also belongs to the non-critical theoretical field of education, particularly in its contemporary reformist expression. It underpins current educational regulations such as the BNCC and the

upper secondary education reform introduced by Law No. 13,415 (2017) and revised by Law No. 14,945 (2024). Its diffusion in the educational sphere is closely linked to neoliberal reforms disseminated globally since the 1990s, through which institutions such as the World Bank have promoted the alignment of education with the flexible demands of capitalist sociability, emphasizing employability and economic development (Decker & Evangelista, 2019).

As Saviani (2008) argues, these reforms articulate neoproductionist principles with neoconstructivism and with renewed *Escola Nova* orientations, particularly through the *learning to learn* motto. From this perspective, schooling is displaced “[...] from teaching centered on disciplinary knowledge to teaching defined by the production of competencies that can be verified in specific situations and tasks” (Ramos, 2009, p. 301).

The discourse of skills and competencies also aligns with other alternatives selected by teachers, such as the *learning to learn* motto, mentioned 135 times. In this context, the formation of a polyvalent worker is emphasized, valuing adaptability, flexibility, and continuous readiness to learn in a scenario of structural unemployment (Kuenzer, 2011; Saviani, 2008).

Attention is also drawn to teachers who indicated that they had never reflected on the theoretical foundations of their practice. Although only 14 respondents selected this option, the finding raises concern, as the absence of systematic theoretical reflection may signal the emptying of the teacher’s intellectual function.

Similarly, the association of quality education with neutrality received the endorsement of 31 teachers. This discourse has gained visibility in Brazil, exemplified by the *School Without Party* movement, which advocates an education allegedly free of ideological influence (Frigotto, 2017). Such neutrality, however, is illusory, since teaching as an intellectual activity is inherently embedded in struggles for hegemony.

While the teachers’ primary choices reveal the predominance of non-critical theoretical foundations, they are interwoven—albeit with lower frequency—with critical perspectives, such as ‘dialogical and horizontal relationships between teacher and student’ (338), ‘problematization and reflection on social practice’ (330), ‘education as a practice permeated by social conflicts and disputes’ (161), and ‘education as the transmission and active appropriation of the broad cultural heritage’ (83). When grouped together, these critical assertions total 912 selections, a significant number, though still lower than the combined total of the three most frequently selected non-critical alternatives (1,617).

The conception of Integrated Secondary Education

Teachers were asked to select the two alternatives they most closely associated with Integrated Secondary Education (ISE). The responses are presented in Figure 2.

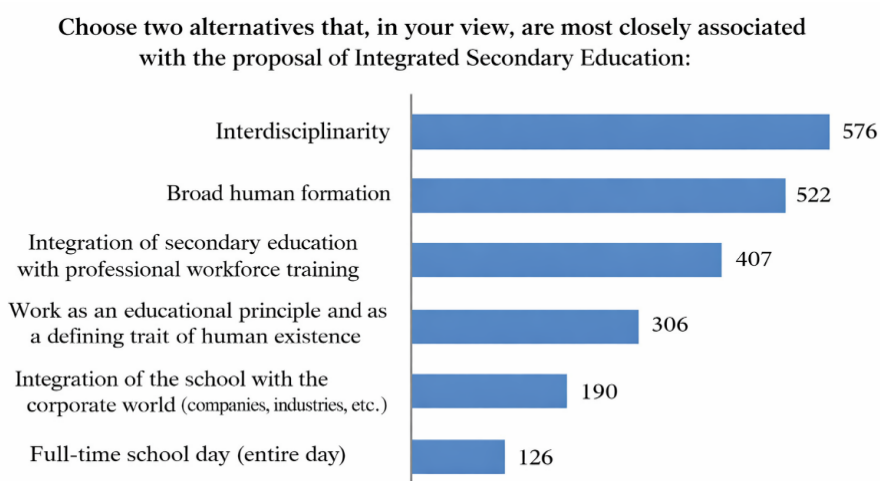


Figure 2. Approaches to Integrated Secondary Education.

Source: The authors (2024).

As can be seen in Figure 2, the main results regarding what, according to the teachers, best characterizes Integrated Secondary Education (ISE) are interdisciplinarity, broad human formation, and the integration of secondary education with professional workforce training. Unlike the theoretical foundations discussed

earlier, these indications are, at times, crossed by subtleties that require additional considerations. For this reason, we chose to discuss them separately in the following sections.

Interdisciplinarity

Interdisciplinarity was identified as a primary characteristic of ISE. More precisely, 576 teachers associated the conception of ISE with interdisciplinarity.

This is a shifting terrain: “[...] behind the apparent consensus, there is a dissensus regarding the concept of interdisciplinarity” (Mangini, 2010, p. 32). Follari (1995) argues that the defense of interdisciplinarity fluctuates between antagonistic societal projects. In the mid-1960s, in the European context, the debate on this theme was linked to demands for new forms of knowledge and a new university (Feitosa, 2019). However, this critical potential was weakened by the crisis of capital in the 1970s (Mangini & Miotto, 2009), when this principle unfolded along two fronts: interdisciplinary collective work involving different sectors of companies; and an individual perspective in which workers occupy diverse functions, develop multiple competencies, and must qualify themselves accordingly (Mueller, 2006).

Given this malleability in aligning with divergent social interests, it becomes evident that interdisciplinarity is neither an obvious nor a consensual issue. Its defense as a means of overcoming a fragmented view of the world or a specialized stance may serve the goal of polyvalent training. After all, as Marx (1985a) already observed in the nineteenth century, the individual worker who performs a single operation throughout their life was a fundamental feature of manufacturing capitalism. With the advent of large-scale industry, “[...] the worker thereby loses all character of specialty” (Marx, 1985b, pp. 134–135). Mechanization demands a worker with functional fluidity, capable of moving across various branches of production and handling diverse instruments. Certainly, the historical content of this polyvalent formation has diversified over time, but it is easy to perceive that a certain conception of interdisciplinarity is beneficial to this formative objective.

When transposed into pedagogical practice, interdisciplinarity tends to be understood as overcoming the fragmented treatment of knowledge through partnerships and dialogue among teaching contents, fields of knowledge, and their specialists. In the specific context of this article, there is a particularity: interdisciplinarity is viewed as defining ISE. As Costa (2012) notes, the understanding of integrated education could be limited to a curricular project focused on organizing school contents, for which the mere juxtaposition of general education and vocational education, or of technical disciplines with those of the common core, would suffice. The core of ISE would then reside in the elevation of interdisciplinarity as a principle of curricular organization, to be implemented through the will, initiative, and collaborative work of teachers, technical staff, and educational managers.

We emphasize that, under Marxian and Gramscian inspiration, ISE assumes an ethical-political commitment to social transformation, to the construction of a form of sociability that goes beyond capital, and to the formation of a new human being, no longer fragmented in their capacities and abilities, as highlighted by Frigotto and Araújo (2018, p. 249):

[...] the utopia of an integral formation that is not satisfied with the socialization of fragments of systematized culture and that understands access to a formative process, including schooling, which promotes the development of broad physical and intellectual capacities, as a right of all.

From this perspective, interdisciplinarity is subordinated to the broader debate on integration. According to Ramos (2014), integration is not merely about adding vocational education to basic education; it encompasses complex philosophical meanings, referring to the linkage with fundamental dimensions of human life (work, science, and culture), to the relationships between practical-transformative human action, the cultural universe, and the various forms of systematized knowledge that are sometimes materialized in technology. Thus, understanding integration solely in didactic interdisciplinary terms undermines the scope of the ISE project.

If, on the one hand, integrated education cannot be reduced to the realm of exclusively didactic decisions, on the other hand, it cannot dispense with such decisions:

Although we argue that integrated education should not be reduced to a pedagogical project, much less to a didactic project or a specific type of curricular design, these dimensions are real and necessarily must be the object of concern and labor of scholars and educators who commit themselves to social emancipation (Frigotto & Araújo, 2018, p. 257).

Among the various critical possibilities for understanding interdisciplinarity, we highlight the effort to conceive it as an ontological necessity situated at the level of knowledge production and as one of the principles of school curriculum organization. Frigotto (2008) and Frigotto and Araújo (2018) develop reflections in this direction. For Frigotto (2008), since reality is organized as a complex totality, attempts to apprehend it must consider the dialectical relationship between the whole and its parts in order to grasp its multiple determinations and historical refractions. Openness to disciplinary dialogue thus becomes an imperative to avoid a linear view of reality (Frigotto & Araújo, 2018).

The transposition of this ontological and epistemological imperative into school practice impacts pedagogical and curricular arrangements. Within an expanded conception of integration, Frigotto and Araújo (2018) argue that curricular organization is guided by the following principles: commitment to social transformation, contextualization of formative contents, and interdisciplinarity.

As one of the principles of school curriculum organization from a critical perspective:

Interdisciplinarity, understood as the principle of maximizing the potentialities of each science, of understanding their limits, but, above all, as the principle of diversity and creativity. Interdisciplinarity does not take disciplinary fragmentation as a pathology. This concept of interdisciplinarity presupposes that it is within a dynamic totality that particular constructs become true (Frigotto & Araújo, 2018, p. 259).

The limits of the questionnaire administered to IF teachers did not allow us to capture what they understand by interdisciplinarity when they indicate it as a defining alternative of ISE. The issue remains contested. On the one hand, it may reduce ISE to a merely didactic-curricular matter of 'bringing together' general and technical disciplines, thereby emptying the political-pedagogical horizon of ISE. On the other hand, interdisciplinarity may be understood as one of the mediating aspects of this broad formation (Ramos, 2014), as one of the relationships that enter pedagogical practice in the process of human formation through the school institution.

Broad human formation

With 507 selections, the second most frequently chosen alternative by teachers in defining ISE was 'Broad human formation'. At first glance, this result may be viewed positively, as it associates the understanding of secondary education with the idea of comprehensive human formation, an immediate counterpoint to restricted or specialized training. However, it is necessary to clarify what this formation consists of. Once again, the issue is porous and, as with interdisciplinarity, the debate does not unfold on firm ground.

We indicate possible ways of apprehending what teachers mean by broad human formation. To this end, we interrelate this result with other data presented in Figure 2. We articulate two alternatives that define ISE and share a business-oriented bias: 'integration of secondary education with professional workforce training,' the third most frequent category, and 'integration of the school with the corporate world', the fifth alternative. When combined, these categories reach 597 occurrences, a figure that exceeds even the most frequently selected alternative of interdisciplinarity (576 references). In other words, the defense of secondary education aligned with the corporate world surpasses even the emphasis on interdisciplinarity. Moreover, this finding may point to one of the understandings of broad human formation.

As noted, within the framework of capital, broad human formation becomes synonymous with polyvalence, versatility, and worker fluidity to move across different branches of production. However, this versatility acquires specific historical contents. In contemporary times, worker training is no longer aimed at employment, but at employability, given that there are not enough jobs for all. Securing employment becomes conditioned upon competencies and skills related to dealing with the unpredictability of unemployment, task flexibilization, outsourcing, and informality—in short, within a context of the destruction of labor and social rights (Antunes, 2020).

The competency-based model emphasizes the individual capacity to mobilize knowledge in order to solve work-related problems. It is in this sense that the BNCC, for example, claims to be concerned with integral education: "Integral education must encompass all dimensions of human development, both in the cognitive, academic, and intellectual spheres and in physical, social, emotional, and cultural development" (Law No. 13,415, 2017). This approach, however, prepares individuals to accept precarious conditions of employment or unemployment, adapting them to the prevailing social logic through a restricted and utilitarian education (Silva, 2015).

If we consider the weight teachers attribute to interdisciplinarity as a defining feature of ISE, we may infer a meaning of broad human formation as a response to the problem of curricular hierarchy within ISE—more

specifically, to the supremacy of technical areas or disciplines over those of a general education nature. From this perspective, integral formation serves as the foundation for proposals of an integrated curriculum or even for interdisciplinary actions deemed necessary for the development of all human dimensions of students.

This conception introduces elements of advancement in relation to a strictly business-oriented and corporate perspective. However, as Arantes (2022, p. 140, author's emphasis) observes:

[...] it is a generic defense of an integral human being (without necessarily electing human labor as an educational principle) whose highest point of 'integration' lies in interdisciplinary work and the non-hierarchization of school knowledge—an approach that may represent progress and even be necessary, but which does not encompass the full meaning of integration.

Broad human formation may also be related to the fourth most recurrent option indicated by teachers in defining ISE: 'work as an educational principle and as a defining trait of human existence'. Unlike the generic conception of human formation, this alternative reflects a formative perspective inspired by Marxism, grounded in omnilaterality and in work as a human action that transforms nature, as explained by Della Fonte (2020, pp. 131–132):

In a strategic project of the working class, a pedagogy of Marxian inspiration and communist orientation takes human emancipation as its guiding principle: against unilateral formation, it proposes the emancipation of every human being and of the human being in their entirety, without hierarchy among human faculties and capacities; faculties and capacities cultivated and valued in their diversity and complementarity.

In his proposal of a unitary school that overcomes the duality between vocational training (for the subaltern classes) and general education (for the ruling class), Gramsci reaffirms the Marxian position in defense of a creative and unitary formation of the human being:

[...] the dialectical unity between theory and practice (praxis) is not a mere technical or professional characteristic that is 'learned by doing', but rather a revolutionary and integral conception of the human being, society, and the world, which carries the theoretical-practical principle of hegemony and aims to transform 'from top to bottom' the economy, politics, philosophy, science, culture, education, power relations, and to construct free and associated personalities, capable of realizing the 'great politics: the creation of new States' (Q 13, §5, p. 1564) and of democratically and integrally directing society (Semeraro, 2017, p. 33, author's emphasis).

As can be observed, the theme of human formation may take on different political connotations, a fact that can impact the very way Integrated Secondary Education (ISE) is conducted within the Federal Institutes.

Final considerations

In this article, we analyzed the theoretical foundations of education to which teachers working in the Federal Institutes (IFs) most closely relate their professional practice and their understanding of Integrated Secondary Education (ISE), considered the flagship of these institutions. We recognize that teachers' conceptions may either foster pedagogical practices aligned with the broad horizon of struggle against the unilateral character of human formation under capitalism or, conversely, empty or simplify this horizon.

Regarding the theoretical orientations of their work, teachers selected, respectively, the following statements: 'Education is the main instrument for improving society'; 'The student is the protagonist of the educational process'; and 'Development of skills and competencies (students' cognitive and socio-emotional practices)'. All of these alternatives fall within the scope of non-critical educational theories. In this way, they sustain a salvationist view of education, disconnecting the school from social contradictions; they attribute success or 'social maladjustments' to individuals and their supposed protagonism in educational work and in life more broadly; and they convey a business-oriented perspective, assigning to the school the task of developing multiple and polyvalent skills and competencies.

The more evident alignment with the non-critical theoretical field is relativized when IF teachers define ISE, as they predominantly opt for interdisciplinarity, followed by the idea of broad human formation and, in third place, the integration of secondary education with professional workforce training. With the exception of the third statement, the first two indications lead to controversies and are subject to dispute.

We also found that, with varying degrees of intensity, IF teachers tend to value specific aspects that compose ISE, but which by no means represent the proposal in its entirety. As demonstrated, the association of ISE with interdisciplinarity and broad human formation illustrates this tendency. When taken in isolation, each of these elements becomes insufficient, as it fails to capture the complexity involved in defending

integration within ISE. At the same time, if problematized, this limitation may become a starting point for the implementation of pedagogical practices that conceive ISE as a pathway toward overcoming capital and the duality between a school oriented toward doing and one oriented toward thinking (Frigotto et al., 2005).

Through these choices, teachers make evident what we stated in the introduction of this article: ISE constitutes a field of dispute. This becomes particularly apparent when they confront debates on interdisciplinarity and broad human formation—themes whose theoretical alignments and defenses signal distinct societal projects.

Thus, the high level of formal academic qualification of these teachers is traversed by social conflicts. Any project aimed at strengthening ISE must take these contradictions into account, among many others. The universe of teachers' conceptions discussed here and their theoretical-political oscillations do not diminish the social role of the Federal Institutes. After all, despite any limitations they may face, the professional education integrated with secondary education offered by the Federal Network of Professional, Scientific and Technological Education (RFEPCT), including the IFs, represents—according to Lima and Maciel (2022)—resistance to a formative model subservient to market interests. In this sense, the Federal Network “[...] is proof that the public system can be better than the private one in ensuring the provision of high-quality professional and secondary education” (Lima & Maciel, 2022, p. 12).

Data availability

We inform that the data used in this research were made publicly available through the following link: https://sappg.ufes.br/tese_drupal/tese_16988_Tese%20final%20Ana%20Kelly%20Arantes.pdf

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INFORMATION ABOUT THE AUTHORS

Ana Kelly Arantes: Social Worker at the Federal Institute of Minas Gerais, Campus Formiga. PhD in Education from the Federal University of Espírito Santo.

ORCID: <http://orcid.org/0000-0003-1170-3994>

E-mail: ana.arantes@ifmg.edu.br

Sandra Soares Della Fonte: Professor at the Federal University of Espírito Santo. PhD in Education from the Federal University of Santa Catarina and PhD in Philosophy from the Federal University of Minas Gerais. Faculty member of the Graduate Program in Education at the Federal University of Espírito Santo.

ORCID: <http://orcid.org/0000-0002-9514-7202>

E-mail: sdellafonte@gmail.com

Denilson Junio Marques Soares: Professor at the Federal Institute of Minas Gerais, assigned to the Mathematics Area Coordination. PhD in Education from the Federal University of Espírito Santo. Leader of the Research Group “Analysis and Modeling of Educational Data” (GrAMDE).

ORCID: <http://orcid.org/0000-0003-3075-3532>

E-mail: denilson.marques@ifmg.edu.br

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Associate Editor in charge::

Maria Terezinha Bellanda Galuch (UEM)

ORCID: <https://orcid.org/0000-0001-5154-9819>

E-mail: mtbgaluch@uem.br

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