



## Os desafios do Ensino na Educação Profissional: ampliando a discussão

The challenges of Teaching in Professional Education: broadening the discussion

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### Resumo

Muito se discute sobre os chamados novos cenários de aprendizagem, tanto no que se refere à sala de aula, ao cenário formal da educação, como também ao cenário não-formal, no âmbito do mundo do trabalho, no caso da educação profissional. Neste artigo, as editoras deste dossiê temático Ensino e Educação Profissional, apresentam os mais diversos manuscritos, ora publicados neste início do ano de 2022. Os artigos são identificados pelos seus títulos e autores. Ensino e Educação Profissional são conceitos que se entrelaçam nos Institutos Federais de Educação, Profissional e Tecnológica, e diversas das pesquisas deste Dossiê, encontram neste locus o seu espaço de discussão. Criar caminhos diferentes, desenvolver práticas pedagógicas para que os processos de aprendizagem sejam cada vez mais atrativos, no entanto mais do que isso, condizentes com a realidade posta na atualidade, e efetivos em sua totalidade é o grande desafio da pesquisa em Educação Profissional hoje, e que é aqui apresentado. Desejamos ótima leitura a todos os leitores.

**Palavras-chave:** Ensino. Pandemia. Educação profissional.

### Abstract

*A lot is discussed about so-called new learning scenarios, both in terms of the classroom, the formal educational scenario, and the non-formal scenario, in a context of the work world in the case of professional education. In this article, the editors of this thematic dossier Teaching and Professional Education, present the most diverse manuscripts, now published in the beginning of 2022. The articles are identified by their titles and authors. Teaching and Professional Education are concepts intertwined in the Federal Education, Professional and Technological Institutes, and much of the research in this Dossier find their space for discussion in this locus. Creating different paths, developing pedagogical practices so that the learning processes are increasingly attractive, but more than that, consistent with the reality presented today, and effective in its entirety is the great research challenge in Professional Education today, presented herein. We wish all readers a great read.*

**Keywords:** Teaching. Pandemic. Professional education

## Introduction

Teaching and Professional Education are concepts intertwined in the Federal Education, Professional and Technological Institutes, but certainly not only in these institutions, also permeating universities and non-formal teaching spaces. Created at the end of 2008, by law 11,892, of December 29<sup>th</sup> (BRASIL, 2008), these institutes indicate in their guidelines teaching, research, and extension verticalization. Because of this, this Dossier presents numerous research in the Vitória/Ifes, Teixeira de Freitas/IF Baiano, Santana/IFAP and União da Vitória/IFPR *campi*, among others, as the locus of the most diverse themes. This includes Inclusive Architecture Teaching in the Context of Professional and Technological Education (FRAGA; PIRES; FREITAS, 2022), in which researchers analyze the implementation of an extension project in the distance teaching mode of Inclusive Architecture, aimed at students enrolled in the Technician in Buildings integrated in High School and in Architecture and Urbanism at the Espírito Santo Federal Institute of Professional, Scientific and Technological Education.

Yes, a lot of discussion on so-called new learning scenarios is observed, both in terms of the classroom, in the formal setting of education, as well as in the non-formal setting, in the context of the work world in the case of professional education. With increasing changes (not necessarily advances), especially in the technology field, but also in public policies and in society's understanding of nature, human relations, laws, labor relations and the economy, educational processes were directly affected, or, at least, should have been.

Readers found several articles discussing these new scenarios in this thematic dossier Teaching and Vocational Education, by Revista Educitec, both in the area of mathematics, with *A look at mathematics in integrated education: related studies* (SONZA; FAGAN, 2022), to a study that brings discussions concerning secondary education integrated to professional education alongside a view on the subject of mathematics, based on publications involving the topic, or discussing Field Class teaching in *Instrument of Environmental Education: a practice in Professional Education* (FERREIRA; FERREIRA; MOURA NETO, 2022). In that case, the authors identified that field class activity verification comprises a way to build a learning environment with increased interactivity, motivation, and participation, allowing for student protagonism, modifying ideas and immobilized teaching forms. Furthermore, we also indicate a topic as expensive as *Integrating Pedagogical Practices: the link between integrated secondary education and comprehensive education* (CARDOSO; et al, 2022), in a study demonstrating that integrative practices, if implemented in Integrated High School, can lead to important integral student formation and, in this way, to a social change for the construction of emancipating the subjects of its history.

However, the most important issue that involves the aforementioned parentheses is a certain resistance in the field of professional education to understand that the school that forms in and for work is not, and cannot, be isolated from the reality that is it



imposes on the life of those who learn for the work world. If reality brings about changes, even if they conflict with the socio-economic-environmental perspective that we understand to be fairer, it must still be studied so that we can intervene and propose truly structural changes. Simply ignoring reality and continuing to live a nineteenth-century education, looking at it in a very self-critical way, can have serious consequences for us, and our institutions.

## **Teaching in Professional Education: broadening the discussion**

The history of science is a fertile field for research and classroom issues. Understanding, or seeking to understand, the historical moment in which some significant scientific events occurred in the lives of societies is what the authors demonstrate in the article *Use of the History of Mathematics as a Pedagogical Resource in Integrated High School* (SANTOS; BARROS, 2022). In Brazil, we have great scholars on the subject, such as professors Ubitaran D'Ambrosio in ethnomathematics and Roberto de Andrade Martins, from Unicamp, concerning the approach to the history of physics and teaching.

Regarding a topic not widely discussed, the article *The use of Libraries in Professional and Technological Education and the Promotion of Reading: Possibilities for Extension Curricularization* (TRAVERSIN; LESKE; PINTO, 2022), offers the readers of this Dossier this expensive theme to Federal Institutes in last decade, as, when analyzing the question proposed at the Paraná/União da Vitória Campus Federal Institute of Education, Science and Technology, it became clear that the development of activities to encourage reading can present positive results concerning the involvement of the internal and external communities. This, in turn, enables the development of proposals that arouse interest in reading in a dynamic and attractive manner, also contributing to the development of extension activities and to the implementation of extension curricularization.

Travelling from the history of mathematics to the library space, new contemporary society dynamics, technological work world revolutions and the presence of these technologies in people's daily lives imply in a different role for professional education teachers (MALDANER, 2017). Recently, threats such as educational wrecking, notes, often justified, of our pedagogical weaknesses, especially related to the distance from the work world reality, pedagogical and technological backwardness, resource depletion and lack of support from society, have been plaguing the reality of those who work and live professional and technological education, and this must also be recorded in our intellectual productions.

For this reason, there is an article in this Dossier that discusses *Work-Based Learning: Contributions to Professional Education in Health* (BEZERRA; CARVALHO; LOPES, 2022), which presents and discusses the fundamentals of Work-Based Learning (ABT or WBL de Work-Based Learning), a teaching strategy that has been consolidated as a research field in the education and health fields in Europe, the United States of



America and Australia, and another on the *Analysis of the impact of the Student Assistance Policy on the permanence of PROEJA students at the Federal Institute of Amapá – Santana Campus* (SANTOS, 2022), which demonstrated that students still relate student assistance with help, support or as a favor, de-characterizing it from a form of conquered right and linking it once more to the benefit of the State. In other words, the fact that guarantees such as transport, food, health are the State's duty to guarantee is not yet recognized. Thus, that study reveals that student assistance programs are still punctual and insufficient to guarantee student permanence and success at the institution, which must be altered to become a more effective policy.

But after all, what changes would we be able to and should promote in the context of Professional Education research? We could begin with teaching and learning processes. The so-called 21<sup>st</sup> century education no longer fits the idea of formal learning scenarios in which liberal values such as uniformity, hierarchy and individuality are maintained, as opposed to diversity, active learning, and collaborative work in learning communities (MCCONNELL, 2006). Does this mean a pedagogical revolution? We think not. Even as it has been established for a long time in the literature that such “revolutions” should have taken place within our academic circles since the mid-twentieth century. John Dewey and his vision of democracy and education (DEWEY, 1959), Paulo Freire and his proposal for emancipatory and libertarian education (FREIRE, 1989), Lev Vygotsky and his defense of collaborative learning and sociocultural theory (VYGOTSKY, 1991), as well as, more recently, Jean Lave and Etienne Wenger and their defense of the notion of learning fundamentally as a social process with students participating in practical communities (LAVE; WENGER, 1991) and Demerval Saviani, with his critical historical pedagogy in which students becomes aware of the historical social constraints of their educational process (SAVIANI, 2005), all point to and converge to the criticism of the teacher-centered, individualistic model, which ignores the interurrences of the social world - and of the work world - in the learning and teaching process, proposing changes in the relationship between those who teach and those who learn (SZELEI; TINOCA; PINHO, 2020). Yet, the resistance remains.

In Professional Education research, we find the curriculum theme in the article *Curriculum and teaching approaches for Physics in the Integrated Technical Course in Buildings at the Federal Institute of Bahia based on the Theoretical Bases of the EPT* (SOUZA, 2022), which results in a proposition for 1<sup>st</sup> year Physics, applying a teaching approach to Science, Technology and Society. This incorporates the structuring axes of Professional and Technological Education, *i.e.*, work, science, technology and culture, aiming at the formation of a critical and autonomous subject that strengthens an education that does not discriminate the type of education to be offered, whether regarding the public that attends it or its purpose, of higher education continuity or immediate professional insertion.

It seems very plausible to interpret that it currently makes no sense to think of classical lectures in lecture halls full of students, each carrying their own cell phone connected



to the internet, in which unlimited access to all lectured content is and will be available to them at the time they wish to procure it and believe that this model still applies as it did in the 90s. In this not-so-new scenario it is also quite plausible to expect any of these students to think that, as interesting as the content or the speaker may seem, if they want to do anything else thing at that moment, they can, and that later, when they are interested, a brief search will allow access to what was said.

The recent scenario is not at all classic. On the contrary, it comprises a global pandemic scenario, which is why this matter was discussed in the article *Student Assistance Policies, in the Context of the Covid-19 Pandemic, for Student Permanence* (CUNHA; et al, 2022). In this study, the authors demonstrate that the IF Baiano Public Policy for Student Assistance has improved and is in its third version but must reinvent itself due to the pandemic context. Thus, student assistance, despite many obstacles, has met its aims, contributing to student inclusion, permanence and success. Still on the pandemic theme, the study *Professional and Technological Training in Times of Pandemic: an analysis of the Practiced Curriculum in two Technical Chemistry Courses* (REIS; NOVAES; SÁ, 2022) discusses laboratory practices during non-face-to-face pedagogical activities, revealing strategies such as the use of video classes, simulators and homemade experimental practices.

There are still fellow professors who are indignant because students currently no longer take notes in their notebooks. They don't even have notebooks any more, they use their cell phones/tablets at every slide change and in a click everything is solved, recorded for the time the student is willing to assess or really requires that information. Of course, technology has something to do with it, but is this a tragedy or an opportunity for redemption? After all, the encyclopedic responsibility of the teacher in being the only absolute knowledge holder has always been very heavy for us. The need for affective detachment imposed on teacher-student relationships is still cruel, especially in moments of evaluative delight. Yes, let's see learning 2.0 as an opportunity! A chance to promote human professional education also in its construction stage. In this Dossier, the article *Mediation of educational practices in professional education with Digital Information and Communication Technologies: considerations from the historical-cultural theory* (SILVA; FELICIO, 2022) discusses this theme, in which the educational practice supported by new technologies suggests new methodologies that meet student needs and provide an integral development of each one of them. Thus, the role of the other and technology-mediated relationships must contemplate intersubjective and intrasubjective aspects that will be thought of and associated in a strategic way by teachers being aware of their role in the development of a school culture that favors autonomy and respect for social and cultural knowledge, constructed as a starting point for the enculturation and integral development of its students.

Continuing the teaching theme, the article *The Perception of Teacher Autonomy: A Case Study in the Scope of the Professional Master's Degree in Chemistry in the National Network - PROFQUI* (GONZAGA; PAIVA; EICHLER, 2022) seeks to present



the views of basic education Chemistry teachers in the process of continuing education in the Professional Master's Chemistry Degree Program inserted within the National Network (PROFQUI) on school decisions that influence their professional performance. This issue permeates all teachers, not just only the chemistry, mathematics or physics teachers that this Dossier addressed regarding questions of this nature.

## Final considerations

The truth is that the model we use is content- rather than context-bound. Curricula are linked to what needs to be learned and not how it should be learned (WHEELER, 2009), and technology presents content in a much more clear, accessible and affective way than school, than us! If the teacher's work can be replaced by a machine, have no doubt, it will be. But the question is: is it the teacher's job to convey content? We then move on to the idea, which is not new either, of teaching not centered on the teacher but on the student. The possibilities range from more dynamic classes with practical activities to curricula fully thought out in an active way with investigative problems and cases directly related to what should be taught and learnt, in situations where the teacher's responsibility is to create learning contexts (FARIAS; SILVA; DIAS, 2021; LOPES; FILHO; ALVES, 2019; LOPES; HAUSER-DAVIS; OLIVEIRA; PIERINI et al., 2020). The creation of different paths, as presented in the article *Discussing gender and sexuality through comic books and electronic games: a path to comprehensive education* (TEIXEIRA; DUARTE FILHO, 2022), the development of pedagogical practices so that the learning processes are increasingly attractive, but more than that, consistent with the current reality, and effective in their entirety is the great challenge of research in professional education today. To leave the standardized content behind and allow the opportunity for personalization and flexibility, so that different students can learn in different ways, but so they can actually learn (COMARÚ; PIERINI; LOPES; COUTINHO, 2019) and thus, seek the construction of a set of future-oriented educational perspectives – and the reality that we want. And that is what we wanted to convey when we thought about this special dossier by Educitec. We hope that the articles presented herein will join the movement of those who want to contribute to the changes required to build professional education in the 21<sup>st</sup> century.

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