

## Graduate students' and master's students' perceptions regarding the educational product in a professional graduate program

Percepções de egressos e mestrandos acerca do produto educacional em um programa de pós-graduação profissional

Percepciones de graduados y maestros sobre el producto educativo en un programa de graduado profesional

**Andrea Perosa Saigh Jurdi** - Universidade Federal de São Paulo | Santos | SP | Brasil. E-mail: [ajurdi@unifesp.br](mailto:ajurdi@unifesp.br) | Orcid: <https://orcid.org/0000-0002-1111-5562>

**Rosangela Soares Chrigner** - Universidade Federal de São Paulo | Santos | SP | Brasil. E-mail: [chrigner@unifesp.br](mailto:chrigner@unifesp.br) | Orcid: <https://orcid.org/0000-0003-1257-5496>

**Karina Franco Zihlmann** - Universidade Federal de São Paulo | Santos | SP | Brasil. E-mail: [karina.zihlmann@unifesp.br](mailto:karina.zihlmann@unifesp.br) | Orcid: <https://orcid.org/0000-0001-9822-7518>

**Dafne Komora Tambeiro** - Universidade Federal de São Paulo | Santos | SP | Brasil. E-mail: [dafne.tambeiro@unifesp.br](mailto:dafne.tambeiro@unifesp.br) | Orcid: <https://orcid.org/0009-0001-0727-7278>

**Maria Cristina Mazzaia** - Universidade Federal de São Paulo | São Paulo | SP | Brasil. E-mail: [mcmazzaia@unifesp.br](mailto:mcmazzaia@unifesp.br) | Orcid: <https://orcid.org/0000-0001-5259-577X>

**Abstract:** Educational products (EP) have been a structuring aspect in investigations and interventions proposed by professional master's or doctoral research. The aim is to present and discuss the results of research carried out on the perceptions of master's students and graduate students from the Master in Health Sciences Teaching Program (PPGESC) - professional format on the processes of constructing EP. A questionnaire with closed- and open-ended questions was used. And 46.8% of master's students and 17.7% of graduate students enrolled between 2017-2020 answered the questionnaire. For 53.8% of graduate students and 29.8% of master's students, EP emerged after the results obtained from the research. Regarding the definition of EP, 32.4% of master's students defined it as a resource to be developed with expectations of intervention in professional practice. In relation to the types and nature of the EP prepared, professional training courses were most cited (27% of master's students and 34.6% of graduate students). The heterogeneity of conceptions and conduct regarding EP construction and implementation stood out. Limitations of this study refer to the difficulty in accessing PPGESC graduate students and the need for a monitoring instrument. It is expected to contribute to improving the EP preparation process within professional teaching programs.

**Keywords:** professional graduate programs; self-evaluation; educational product.

DOI: <http://dx.doi.org/10.1590/S1414-40772023000100045>

**Resumo:** Os produtos educacionais (PE) têm sido um aspecto estruturante nas investigações e intervenções propostas pelas pesquisas de mestrado ou doutorado profissionais. Pretende-se apresentar e discutir os resultados de uma pesquisa realizada sobre percepções de mestrandos e egressos do Programa de Pós-Graduação Ensino em Ciências da Saúde – Mestrado Profissional (PPGESC) sobre os processos de construção do PE. Foi utilizado questionário com perguntas fechadas e abertas. Responderam ao questionário 46,8% dos mestrandos e 17,7% dos egressos matriculados entre 2017-2020. Para 53,8% dos egressos e 29,8% dos mestrandos, o PE surgiu após os resultados obtidos com a pesquisa. Em relação à definição do PE, 32,4% dos mestrandos definiram como um recurso a ser desenvolvido com expectativas de intervenção na prática profissional. Em relação aos tipos e natureza dos PE elaborados, foram mais citados cursos de formação profissional (27% dos mestrandos e 34,6% dos egressos). Foi evidenciada a heterogeneidade de concepções e condutas sobre a construção e implantação do PE. As limitações do estudo referem-se à dificuldade em acessar os egressos do PPGESC e à necessidade de um instrumento de acompanhamento. Espera-se contribuir para aprimoramento do processo de elaboração dos PE no contexto dos programas profissionais da Área de Ensino.

**Palavras-chave:** programas de pós-graduação profissionais; autoavaliação; produto educacional.

**Resumen:** Los productos educativos (PE) han sido un aspecto estructurante en la investigación e intervención propuesta por la investigación profesional de maestría o doctorado. El objetivo es presentar y discutir los resultados de una encuesta realizada sobre las percepciones de estudiantes de maestría y graduados del Programa de Postgrado en Docencia en Ciencias de la Salud - Maestría Profesional (PPGECs) sobre los procesos de construcción de los PE. Se utilizó un cuestionario con preguntas cerradas y abiertas. El 46,8% de los estudiantes de maestría matriculados y el 17,7% de los egresados matriculados entre 2017-2020 respondieron el cuestionario. Para el 53,8% de los egresados y el 29,8% de los estudiantes de máster, el PE surgió tras los resultados obtenidos en la encuesta. En cuanto a la definición del SP, el 32,4% de los estudiantes de máster lo definieron como un recurso a desarrollar con la expectativa de intervenir en la práctica profesional. En cuanto a los tipos y naturaleza de los programas de desarrollo profesional desarrollados, el 27% de los estudiantes de máster y el 34,6% de los titulados mencionaron los cursos de formación profesional. Se evidenció la heterogeneidad de concepciones y comportamientos en relación a la construcción e implementación del SP. Las limitaciones del estudio se refieren a la dificultad de acceso a los graduados del PPGESC y a la necesidad de un instrumento de seguimiento. Esperamos contribuir para el perfeccionamiento del proceso de elaboración de productos educativos en el contexto de los PE del área de enseñanza.

**Palabras llave:** programas profesionales de posgrado; autoevaluación; producto educativo.

## 1 Introduction

One of the discussions involving professional graduate programs has been regarding understanding the importance of technical production. This concern involves the teaching area, for which technological or educational product (EP) development can present different formats. EP need to be developed based on real needs presented by graduate students as well as applied in response to these needs (Rizzatti *et al.*, 2020).

In view of this, EP have been, in addition to being a requirement of professional graduate programs, a structuring aspect in the investigation and intervention proposed by master's or doctoral research (Batista *et al.*, 2021).

In accordance with Rôças' and Bomfim's (2018) ideas, EP in the teaching area must be developed from a socio-historical context and serve as a product that enables dialogue and professors, and can be changeable, created and recreated, generating new possibilities for intervention. The authors also emphasize that the preparation of an EP starts from the problematization of professional practice, and can be considered intentionally planned investigative trails that articulate theory and practice. Furthermore, it is known that the Coordination for the Improvement of Higher Education Personnel (CAPES - *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*) teaching area aims that the knowledge produced is applied and, if possible, reapplied in professionals' work contexts and in educational processes (Brasil, 2019).

However, there is still not enough consensus among professors and researchers in professional graduate programs regarding EP preparation, assessment and validation, which leads to the need to provide reasoned discussions about construction processes, broad forms of dissemination and access as well as their social impact.

Zaidan, Reis e Kawasaki (2020) raise relevant questions about the role of EP, and ask what place the product should occupy in the research process. The authors carried out a careful reflection based on the experiences of a professional master's program in education, and realized that developing an EP requires intentionality in guidance, which starts from constructing a dissertation's methodological procedures. It is often expected that the research carried out will "naturally" lead to EP preparation as an outcome. However, in general, it is possible to observe dissertation construction prioritization in a way that is disjointed from the product, which ends up being prepared "in a hurry" at the end of the process. Another fact that can make it difficult to think about the process of preparing an EP during the master's degree process refers to supervisors' training: most of them are carried out in academic programs, leading them to prioritize the research process and dissertation construction, establishing little dialogue and focus in relation to the final EP.

From Normative Ordinance MEC 17, published on December 17, 2009, the creation of new courses submitted to CAPES was standardized and regulated as well as monitoring of professional courses in progress (Brasil, 2009). In this regard, the teaching area held monitoring seminars to understand the dimensions of applied research and EP development as the main production of a professional program (Rizzatti *et al.*, 2020). In these seminars, many aspects were discussed, and it was found that the difficulty in recording these productions both in CAPES and in the *Curriculum Lattes* generated failures in EP identification and dissemination.

For Rizzatti *et al.* (2020), one of the achievements of the teaching area was the development of a Technical Production Classification, which made it possible to record the production of various educational materials on the *Sucupira* Platform, consolidating and allowing EP qualification and assessment in the 2013-2016 quadrennial (Brasil, 2016; Rizzatti *et al.*, 2020).

In addition to EP classification, we are also interested in validation and assessment processes. Based on this, Zihlmann and Mazzaia (2022) proposed the Educational Product Validation Form study and improvement in professional graduate studies, as proposed by the CAPES teaching area. The authors identified needs to improve the proposed form so that it could be used to allow, among other aspects, the appropriate registration of EP. In this regard, several changes were proposed in the validation instrument, highlighting that there is no appropriate space to record EP's titles and specific authors, especially considering that these elements are distinct from dissertation. Furthermore, at the heart of the difficulty in registering EPs in CAPES systems (e.g., *Sucupira* Platform), there is a need to explain that dissertation and EP are documents with different proposals, with different scopes and, therefore, different registration processes.

This article aims to present and discuss the results of research carried out by the Self-Assessment Committee (CAA) of the Master in Health Sciences Teaching Program (PPGECS) - professional format referring to PPGECS master's students' and graduate students' perceptions on EP construction processes.

## 2 Method

This is a descriptive, inferential and quantitative study, considering the purpose of this method to quantify the elements that describe a set of data or situations, in addition to investigating possible relationships between the variables (Almeida; Freire, 2008, p. 23)

### 2.1 On the research setting

The *Universidade Federal de São Paulo* PPGECS started its activities in 2003. The core objectives of PPGECS are to research and produce scientific knowledge that contributes to the growth of the thematic field of teaching in health sciences as well as

from this knowledge develop interventions that induce advances and transformations in researched practices, in addition to providing technical, creative and potentially transformative qualifications for professors and technicians for teaching in this area.

PPGECS operates in an *intercampi* format, integrating simultaneous classes linked to the São Paulo *campus* (at the Center for the Development of Higher Education in Health (CEDESS - *Centro de Desenvolvimento do Ensino Superior em Saúde*)) and the Baixada Santista *campus* (at the Institute of Health and Society (ISS - *Instituto Saúde e Sociedade*)).

There are three lines of research included in the aforementioned program (Batista *et al.*, 2021). Line 1, "assessment, curriculum, teaching and training in health", comprises studies on assessing the teaching-learning process, designs and strategies for planning and developing curricula in health and professor training. Line 2, "continuing health education", develops studies on the processes of planning, developing and assessing professionals' education in different contexts, with continuing education as its axis. Line 3, "health education in the community", has the scope of investigations and experiences in the field of planning, development and assessment of educational processes aimed at promoting health as well as prevention, protection and care at individual and collective levels from emancipatory education's perspective.

At the beginning of its work, CAA established goals and objectives based on the last four-yearly program assessment carried out by CAPES in 2017, in which some aspects for improving the program were highlighted. Among the aspects and dimensions that required improvement and enhancement were the EP produced from dissertations defended in the program, as it was mentioned that they had presented a "regular to medium" impact in terms of community's demands and needs, requiring resizing.

The next step was to continue CAA's work by collecting information that aimed to identify professors', master's students' and graduate students' perceptions about the program's structure, pedagogical proposal, knowledge about EP and the program's social impact. To this end, three questionnaires were created in Google Forms® aimed at professors, master's students and graduate students, respectively, with closed- and open-ended questions. The form link was sent via social media to participants, and made available on the PPGECS website. This data collection took place between December 2021 and April 2022.

The questionnaire, which was addressed to master's students and graduate students, was divided into five sections, namely: (1) identification: enrollment unit, year of entry into the program, place of work of students; (2) about the graduate program structure: questions about the collection, communication, physical space, equipment and technological resources; (3) about the PPGECS pedagogical proposal: questions about discipline content, workload, integration between disciplines and which disciplines helped to think and prepare EP and the research; (4) on professor performance: questions relating to content mastery, methodologies used and assessment processes; (5) specifically about EP: with open- and closed-ended questions that included product description, definition, the moment in which it was discussed and developed and the place that EP occupied in the research process. The data obtained were compiled in an Excel® spreadsheet, composing a database that was consulted for preparing this study.

The research project was approved by the university's Research Ethics Committee in January 2022, under CAAE (*Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration) 52312321.0.0000.5505.

## 3 Results

### 3.1 Participant characterization

A total of 37 master's students answered the questionnaire (46.8% of the total enrolled) with the following characteristics: 59.5% were from the CEDESS unit, São Paulo *campus*; and 40.5% from ISS, Baixada Santista *campus*. Entrants in 2019 were 62.2% of the sample, and 37.8% enrolled in 2020.

Regarding the employment status of master's students, 54.1% worked in public service; 32.4% in private service; 5.4% self-employment; 5.4% in the public and private sector; and 2.7% were retired. As for the city where they worked, 37.8% worked in the metropolitan region of Baixada Santista; 32.5% worked in the city of São Paulo; 13.5% worked in the metropolitan region of São Paulo; 13.5% in the countryside of the state of São Paulo; and 2.7% worked in another state. In relation to the line of research in which master's students were enrolled, 18.9% were inserted in line 2 (continuing health education), 54.1% in line 3 (community health education) and 27% in line 1 (assessment, curriculum, teaching and training in health).

As for graduate students, it is important to inform that, from 2017-2020, the program graduated 147 master's students, but only 26 graduate students answered the questionnaire (17.7%). The profile of the 26 graduate students in the program who answered the questionnaire showed that 80.8% worked in public service; 7.7% worked in the private sector; 7.7% worked in public sector; and 3.8% were retired. In relation to the line of research in which they obtained the title, 53.8% were included in Line 2, 42.3% in Line 3 and 33.8% in Line 1. The training obtained in the program met the professional needs of 96.2% of them and the personal needs of 80.8%, making it possible to point out more than one of the aspects assessed.

## 3.2 EP description and definition

When asked what they understood EP to be, 32.4% of master's students referred to it as a resource to be developed with expectations of intervention in students' professional practice. Likewise, 32.4% referred to EP as a resource to be developed to meet real demands without this being related to students' professional practice. EP definition as a result of research was observed in 29.8% of responses and, in 5.4%, only as an educational intervention.

Regarding EP definition, within the universe of master's student respondents, 40.54% reported that it was EP that came from research and was related to meeting a need in students' professional practice. We highlighted some responses from participants: "the result of research carried out to improve/reflect on service work"; "intervention designed and produced after reflection on the entire process (master's degree) based on research, and makes sense in the context of work"; "is generated from research to answer the problem question of professional practice".

For graduate students participating in the research, EP were defined in four ways: (1) as a resource to be developed with expectations of intervention in the master's student's professional practice; (2) as a resource to be developed to meet real demands without being related to students' professional practice; (3) as a result of research; (4) they did not define it, they just answered the question with the noun "educational product". Table 1 presents the results regarding the EP definitions made by PPGICS graduate students participating in the research.

Table 1 - Educational/technological product definition according to PPGICS graduate students – São Paulo, 2022

Definition category	Graduate students (n = 26)
Resource to be developed with expectations of intervention in master's students' professional practice	26.9%
Resource to be developed to meet real demands without being related to master's students' professional practice	30.8%
Result of a search	19.2%
Appointing as EP	19.2%
Did not answer	3.8%

Source: prepared by the authors.

Regarding the nature of EP, considering the classification proposed by CAPES for products originating from programs in the education area, graduate students and master's students mentioned e-book, conversation circle, booklet, care protocol, recommendations for good practices, letter to managers, continuing health education strategy, comic strips, text on social media and a book of collages. They also cited four workshops, two videos and seven quotes from the dissertation itself as the product. Table 2 presents the information obtained about the types and nature of EP cited by PPGICS master's students and graduate students.

Table 2 - Educational product classification by PPGECS master's students and graduate students – São Paulo, 2022

EP classification	Master's students (n = 37)	Graduate students (n = 26)
Professional training course - training activity created, training activity organized, courses, workshops, among others	27%	34.6%
Communication product	18.9%	23.1%
Manual/protocol	16.2%	7.7%
Instructional courseware	10.8%	26.9%
Social technology - products, devices or equipment, processes, procedures, techniques or methodologies, services, organizational social innovations, social management innovations, among others	10.8%	23.1%
Chart/map or similar	5.4%	3.8%
Technical report	5.4%	-
Software/application - modeling applications, data acquisition and analysis applications, virtual and similar platforms, computer programs, among others	2.7%	-
Organized events	2.7%	23.1%
Collection	-	3.8%

Source: prepared by the authors.

### 3.3 EP preparation

Regarding EP preparation, 86.5% of master's students reported that they had already started or had already carried out planning for it, as shown in Table 3 below:

Table 3 – Context of moment of EP discussion and preparation during the development of professional master’s degree according to PPGICS master’s students – São Paulo, 2022

Definition category	Percentage*
EP discussion and development as a process throughout the master’s degree	54%
The product as an improvement strategy for situations and daily practice of researched work/service	18.9%
Discipline Study and Research Group on Practice (GEPPRA) I, II and III as important for discussion about EP	16.2%
EP emerged after data collection of research or in preparation of results and discussion of dissertation	16.2%
The moment of orientation as important for EP discussion and preparation	16.2%
There was an EP discussion in some disciplines in the program	2.7%
In qualifying the research, an EP or an EP proposal was presented	5.4%
The product discussion took place in the qualification	2.7%
EP was not discussed in any discipline of the program	2.7%

Note: \*Participants were able to select more than one category.

Source: prepared by the authors.

Of the 37 master’s students, 13.5% reported that they had not started discussing or planning EP. Of these who had not started EP planning, three were enrolled in 2019 and two in 2020. It is noteworthy that the form was answered in the middle of the second half of 2021. However, according to responses from master’s students: “we are starting this discussion now according to what has emerged in the discussion and results”; “It has not yet been discussed. I assume it will be at the end of the research”; “the educational product is still in the construction phase”; “I do not know how to answer” and “it has not been discussed yet, as I am currently in data collection”.

Although 13.5% of master’s students reported that they had not yet started developing EP, these participants reported that they had the idea that their EP would be related to the “practice of professional activities” or “demands of their professional activities”. Regarding EP implementation, 51.4% of master’s students fully agreed on implementation condition of the EP produced; 45.9% agreed with the statement that there are conditions for implementing their product; and 2.7% disagreed with the statement.

For graduate students, when asked about the position that EP held in the project during the development of a professional master's degree: 53.8% answered that it arose after the results obtained from the research (it was a conclusion of the research); 23.1% said that EP appeared "randomly during the research"; 11.5% reported that EP was the trigger for the research; and 11.5% reported that EP appeared at other times, different from those mentioned. These data allow us to observe that more than half of graduate students reported that the product was a result of research and, therefore, elaborated based on research developments, suggesting that EP had not previously been considered for developing the master's project.

### 3.4 PPG ECS disciplines that helped in EP discussion and preparation

The assessment of master's students and graduate students on the disciplines that contribute (or contributed) to EP, research project and dissertation preparation was presented in Table 4 below.

Table 4 - Distribution of opinions of master's students and graduate students on disciplines' contributions - São Paulo, 2022

Disciplines	Master's students (n = 37)		Graduate students (n = 26)	
	Educational product	Project/dissertation	Educational product	Project/dissertation
Study and Research Group on Practice I, II and III	73%	45.9%	65.4%	61.5%
Research seminars I, II and III	59.5%	89.2%	65.4%	88.5%
Public policy	51.4%	43.2%	38.5%	53.8%
Scientific research methodology	45.9%	75.7%	50%	73.1%
Pedagogical didactic training	45.9%	37.8%	46.2%	34.6%
Community health education	45.9%	32.4%	38.5%	46.2%
Assessment, curriculum and health training/teaching-learning process	40.5%	37.8%	11.5%	11.5%
Continuing health education	35.1%	32.4%	65.4%	57.7%
None of the previous	12.7%	-	-	-

Source: prepared by the authors.

In Table 4, the disciplines Study and Research Group on Practice I, II and III (GEPPRA) I, II and III, research seminars I, II and III, and scientific research methodology stood out as those that most contributed to the preparation dissertation and EP from master's students' perspective.

Of the 27 master's students who mentioned GEPPRA I, II and III as contributing to EP preparation, 59.3% were master's students from the São Paulo *campus*. Of the 33 master's students who cited research seminars I, II and III as contributing to developing the project and report, 57.6% were master's students from the São Paulo *campus* and 42.4% from the Baixada Santista *campus*. Finally, of the 28 master's students who cited scientific research methodology as contributing to developing the project and dissertation, half came from the São Paulo *campus* and the other half from the Baixada Santista *campus*.

### 3.5 EP implementation – question asked to graduate students

In relation to EP implementation in their practice, i.e., in their field of work, 53.8% of graduate students were unable to implement the product and 46.2% reported that their product was implemented in their work context.

These data must be considered in the self-assessment process, as EP is based on the proposal to transform the practices of professionals attending a professional graduate program. In this regard, it is essential that the EP proposal is a construction that considers the real needs observed in master's students' work context, contributing to clarification of these realities and needs, which can increase the possibility of implementing the products.

## 4 Discussion

It should be noted that this research highlighted the challenge of accessing information about graduate students in graduate programs, although this information is crucial to allow program monitoring and development. In the research carried out by CAA, through an online form, of the 147 graduate students trained in the 2017-2020 four-year period, only 26 answered the questionnaire (17.7%), even though it was made available through various strategies and during a period of four months.

Regarding this aspect, it is understood that there is a need to implement a culture of monitoring in which master's students are involved in self-assessment processes during their training and that, after their degree, they are able to understand the need and importance of this type of participation. Thus, they must inform not only their previous experience in the program, but also the impacts that training had on their later professional life (Leite *et al.*, 2020).

Although the participation of graduate students was not very significant, the responses about the training obtained in the program draw attention. For 96.2% of them, the training met their professional needs, and for 80.8%, their personal needs. Numbers reveal high levels of satisfaction, showing more significant rates than those obtained by Trevisol and Balsanello (2022), who identified that 68.6% of graduate students in a graduate program at a federal university in southern Brazil affirmed the importance of course in training and professional life.

The definition of what an EP would be is heterogeneous, as the graduate students participating in this research reported different conceptions that ranged from the notion of a "resource developed for professional practice" to just a simple nomination as an "educational product", without other information.

Regarding the nature of EP, both graduate students and master's students presented variability in types of products, according to the classification proposed by

CAPES. Graduate students mainly cited EP based on “professional training courses” (34.6%) and “instructional teaching material” (26.9%). Master’s degrees in progress indicated a greater variability of proposals, also responding to “professional training courses” (27%), “communication products” (18.9%) and “manual/protocol” (16.2%).

Regarding the type of EP produced, it is possible to reflect that there may be a direction, due to lack of financial resources, towards the construction of certain types of EP in programs. Moreira et al. (2018) carried out research of EP produced in a professional Master in Health Sciences Teaching Program, and identified that there was difficulty in providing visibility in certain EP, such as extension projects and scientific dissemination activities. According to these authors, this occurs due to a lack of financial resources from funding agencies and they reported that EP are often structured to depend only on available financial resources. With this, they highlighted that there is a risk of choosing to develop a low-cost product rather than developing a product that requires more financial resources.

Such reflection requires, similarly, that graduate programs know their EP better and are able to reflect and assess with criteria the pragmatic conditions of preparation, thus enabling a process of identification and assessment of their potentials and limits, and, when relevant, adopt propositional measures to seek funding that allows developing the EP proposed within the scope of the graduate program.

This discussion about the directions adopted to construct certain types of EP is also pertinent when taking into account that training in a professional master’s degree itself has the ambition of allowing the transformation of students’ professional practice, which is often evident in the EP proposal constructed by graduate students. Health services and equipment are not always prepared or willing to accept proposals that may be questioning, innovative or even transformative. In fact, the information collected in this research on EP implementation revealed that 53.8% of graduate students were unable to implement a product in their practice context.

Another aspect that must be considered is the necessary movement of advisors and master's students to align themselves in order to meet the real needs of the fields of practice, which can impact EP implementation, which means that it is necessary to reduce the movement, often carried out, of adapting EP research and development according to advisors' competencies and interests, and not the fields of practice. Rôças, Moreira and Pereira (2018a) stated that EP should not be taken per se, but as a process of preparation and transformation of those involved. In this regard, the transformative power that concerns a proposal for social innovation, pertinent to every professional graduate program, demands actions to bring people together and dialogue with the scenarios where research is carried out, not only to make it viable, but also so that the proposal for social innovation is implemented in practice.

Another point of interest concerns the process of constructing EP during the master's degree: it was observed that 64.9% of master's students participating in the research reported that they had already started it; however, 35.1% reported that they had not started, although had been studying their master's degree for more than a year. Although there is no consensus on the ideal time to start negotiations to construct EP during the master's degree, it is common to establish that EP has to be a proposal in line with research reflections; therefore, it should be a construction, at least, in parallel with it (Silva *et al.*, 2019). There are researchers who argue that EP, within the scope of professional programs, would have such ascendancy that it should be an absolute priority, being considered in the research design (Freitas, 2021).

More than half of graduate students reported that EP was a "result of the research carried out", suggesting that the product may not have been considered before. In view of this, it will be up to PPGECS, within the scope of the program's self-assessment, to ensure that EP preparation receives the necessary attention, since the master's students participating in the research indicated situations of late proposition

of discussion about the product, such as only occurring at the time of master's qualification.

It was possible to identify in the research which PPGECS disciplines collaborate in EP discussion and preparation according to the opinion of master's students and graduate students. The most cited disciplines were GEPPRA, research seminars and scientific research methodology. However, it is necessary to consider that PPGECS, as it is an *intercampi* program, presents variations in its proposals. In this regard, we sought to verify whether different *campi* would have different perspectives regarding the contribution of disciplines to the discussion about EP. It was possible to observe that students who completed their graduate studies at the São Paulo *campus* observed a greater contribution from GEPPRA and research seminars compared to students who studied at the Baixada Santista *campus*.

## 5 Final considerations

Considering the responses obtained in the research carried out, it was possible to observe that there is a heterogeneity of conduct in relation to the EP construction and implementation process. This was observed both in graduate students' and master's students' reports.

Regarding EP preparation, most graduate students (53.8%) answered that it was prepared after the results obtained in the research; others (23.1%) reported that EP appeared by chance during the development of research; and only 11.5% reported that EP was the trigger for the research. Regarding EP definition, within the universe of master's student respondents, 40.54% reported that EP came from research and was related to meeting a need in master's students' practice.

Late EP preparation, whether in the qualification phase or in the final phase of master's research, highlights an important weakness that impacts EP implementation

in professional practice. In relation to EP implementation in their practice, i.e., in their field of work, 53.8% of graduate students were unable to implement the product and 46.2% reported that their product was implemented in their work context.

To overcome this heterogeneity in EP preparation and implementation in the professional master's degree process, CAA proposed workshops with the participation of professors and master's students, in which everyone involved was invited with the aim of discussing and exchanging experiences with an emphasis on planning and constructing EP in a participatory and collaborative process. Another initiative concerns the proposal of two PPGECs professors who recognized the importance of an Educational Product Validation Form in professional graduate studies (Rizzatti *et al.*, 2020), and proposed an improvement of this form with the intention of qualifying EP, in order to allow them to be assessed according to CAPES criteria (Zihlmann; Mazzaia, 2022).

The research carried out with graduate students and master's students brought important results for improving EP in professional master's degree as well as for the involvement of the community interested in this process. As a weakness of this study, the difficulty in accessing PPGESC graduate students and the need for a monitoring instrument stand out. It is expected that this research will contribute to future studies within the scope of self-assessment of professional graduate programs and to improving the process of developing educational products within the teaching area.

## References

ALMEIDA, Leandro; FREIRE, Teresa. **Metodologia da investigação em psicologia e educação**. Braga: Psiquilíbrios, 2008.

BATISTA, N. A. *et al.* Programa de Mestrado Profissional Ensino em Ciências da Saúde: aprendizagens em perspectivas. *In*: SEIFFERT, Otilia Mara Lúcia Barbosa; ROSSIT, Rosana Aparecida Salvador. **Saúde-Educação e os 25 anos do Cedess**: sentidos e significados das caminhadas dialógicas. São Paulo: UNIFESP; CEDESS, 2021.

BRASIL. Ministério da Educação. **Portaria Normativa/MEC nº 17, de 28 de dezembro de 2009**. Dispõe sobre o mestrado profissional no âmbito da Fundação Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - CAPES. Brasília: CAPES, 2009. Disponível em: <http://www.uezo.rj.gov.br/pos-graduacao/docs/Portaria-MEC-N17-28-de-mbro-de-2009.pdf>. Acesso em: 20 set. 2023.

BRASIL. Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - CAPES. **Considerações sobre Classificação de Produção Educacional-Técnica: Área de Ensino**. Brasília: CAPES, 2016. Disponível em: <https://famed.ufal.br/pt-br/pos-graduacao/ensino-na-saude/documentos/documentos-capes-para-avaliacao/3-consideracoes-sobre-classificacao-de-producao-tecnica-os-criterios-para-a-estratificacao-e-uso-dos-mesmos-na-avaliacao>. Acesso em: 20 set. 2023.

BRASIL. Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - CAPES. **Grupo de Trabalho Produção Técnica**. Brasília: CAPES, 2019. Disponível em: <https://www.gov.br/capes/pt-br/centrais-de-conteudo/10062019-producao-tecnica-pdf>. Acesso em: 20 set. 2023.

FREITAS, R. Produtos educacionais na área de ensino da capes: o que há além da forma? **Educação Profissional e Tecnológica em Revista**, Espírito Santos, v. 5, n. 2, p. 5-20, 2021. Disponível em: <https://ojs.ifes.edu.br/index.php/ept/article/view/1229> <https://ojs.ifes.edu.br/index.php/ept/article/view/1229>. Acesso em: 20 set. 2023.

LEITE, D. *et al.* A autoavaliação na Pós-Graduação (PG) como componente do processo avaliativo CAPES. **Avaliação: Revista da Avaliação da Educação Superior**, Campinas; Sorocaba, v. 25, p. 339-353, 2020. Disponível em: <https://www.scielo.br/j/aval/a/whfJzmNx7Vgpcr7c6Zj5kXz/?lang=pt>. Acesso em: 20 set. 2023.

MOREIRA, M. C. A. *et al.* Produtos educacionais de um curso de mestrado profissional em ensino de ciências. **Revista Brasileira de Ensino de Ciência e Tecnologia**, Curitiba, v. 11, n. 3, 2018. Disponível em: <https://periodicos.utfpr.edu.br/rbect/article/view/5697/pdf>. Acesso em: 20 set. 2023.

RIZZATTI, I. M. *et al.* Os produtos e processos educacionais dos programas de pós-graduação profissionais: proposições de um grupo de colaboradores. **Actio: Docência em Ciências**, Curitiba, v. 5, n. 2, p. 1-17, 2020. Disponível em: <https://periodicos.utfpr.edu.br/actio/article/view/12657/7658>. Acesso em: 20 set. 2023.

RÔÇAS, G; BOMFIM, A. M. Do embate à construção do conhecimento: a importância do debate científico. **Ciência & Educação**, Bauru, v. 24, p. 3-7, 2018. Disponível em: <https://www.scielo.br/j/ciedu/a/gNGrBjyLFQnV8qmwqR7bPHN/?lang=pt>. Acesso em: 20 set. 2023.

RÔÇAS, G.; MOREIRA, M. C. A.; PEREIRA, M. V. "Esquece tudo o que te disse": os mestrados profissionais da área de ensino e o que esperar de um doutorado profissional. **Ensino de**

**Ciências e Tecnologia em Revista**, Santo Ângelo, v. 8, n. 1, p. 59-74, 2018. Disponível em: <https://core.ac.uk/download/pdf/322641865.pdf>. Acesso em: 20 set. 2023.

SILVA, R. O. *et al.* Aspectos relevantes na construção de produtos educacionais no contexto da educação profissional e tecnológica. **Revista de Produtos Educacionais e Pesquisas em Ensino**, Paraná, v. 3, n. 2, p. 105-119, 2019. Disponível em: <https://core.ac.uk/download/pdf/276540933.pdf>. Acesso em: 20 set. 2023.

TREVISOL, J. V.; BALSANELLO, G. A pós-graduação sob a perspectiva dos egressos: um estudo de autoavaliação. **Avaliação: Revista da Avaliação da Educação Superior**, Campinas; Sorocaba, v. 27, p. 470-492, 2022. Disponível em: <https://www.scielo.br/j/aval/a/ZyBVQWMm3wgGkqyxchTFZPr/abstract/?lang=pt>. Acesso em: 20 set. 2023.

ZAIDAN, S.; REIS, Diogo A. F.; KAWASAKI, T. F. Produto educacional: desafio do mestrado profissional em educação **Revista Brasileira de Pós-graduação**, São Paulo, v. 16, n. 35, p. 1-12, 2020. Disponível em: <https://rbpg.capes.gov.br/index.php/rbpg/article/view/1707>. Acesso em: 20 set. 2023.

ZIHLMANN, K. F.; MAZZAIA, M. C. Aprimoramento da ficha de validação de produtos educacionais na pós-graduação profissional. **Revista Brasileira de Enfermagem**, Brasília, v. 75, 2021. Disponível em: <https://www.scielo.br/j/reben/a/CYMd4RFRKkDvMhWrWTdnqvB/?lang=pt>. Acesso em: 20 set. 2023.

## Authors' contributions

**Andrea Perosa Saigh Jurdi** – Project coordinator, active participation in data analysis and final writing review.

**Rosângela Soares Chrigger** – Data collection, data analysis and text writing.

**Karina Franco Zihlmann** – Data collection, data analysis and text writing.

**Dafne Komora Tambeiro** – Data collection, data analysis and text writing.

**Maria Cristina Mazzaia** – Data collection, data analysis and text writing.

Translation:

Letícia Silva Belasco - LSB Traduções

E-Mail: [lsbtraducoes@gmail.com](mailto:lsbtraducoes@gmail.com)