FRAMEWORK FOR TEACHER PROFESSIONAL DEVELOPMENT: CONTRIBUTIONS TO THE TEACHER EDUCATION FIELD IN BRAZIL

MATRIZ DE DESENVOLVIMENTO PROFISSIONAL DOCENTE: CONTRIBUIÇÕES PARA O CAMPO DA FORMAÇÃO DE PROFESSORES NO BRASIL

ESTRUCTURA PARA EL DESARROLLO PROFESIONAL DOCENTE: CONTRIBUCIONES PARA EL CAMPO DE FORMACIÓN DOCENTE EN BRASIL

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How to reference this paper:


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ABSTRACT: This paper presents and discusses a framework for teacher professional development and its building process. It is based on the National Common Basis for Professional Development (BNC-FC) content, which defines teaching competencies and skills to guide formative processes in Brazilian education systems. Its purpose is to serve as an instrument for producing diagnostics about teacher preparation needs, allowing the definition of clear and relevant objectives for their professional development. The framework foundations are theoretical aspects of teaching work and teacher education, and its methodology is based on evidence-centered design. As a result, an instrument composed of 24 elements expresses professional practices, representing teaching complexity growth. Given their local particularities, we propose that education systems use it as a starting point for their BNC-FC discussion and analysis processes.


RESUMO: Este artigo tem como objetivo apresentar e discutir uma matriz de desenvolvimento profissional docente e seu processo de construção. Ela foi elaborada a partir do conteúdo da Base Nacional Comum para a Formação Continuada (BNC-FC), que define competências e habilidades docentes para orientar os processos formativos das redes de ensino do Brasil. Seu propósito é servir como instrumento para a realização de diagnósticos sobre as necessidades formativas dos professores, permitindo a definição de objetivos nítidos e relevantes para sua formação. A matriz está fundamentada em aspectos teóricos do trabalho e da formação docente e sua metodologia é baseada na abordagem centrada em evidências. Como resultado, obteve-se um instrumento composto por 24 elementos que expressam práticas profissionais, representando um crescimento da complexidade da atuação profissional docente. Propõe-se que seja utilizada como ponto de partida pelas redes de ensino em seus processos de discussão da BNC-FC tendo em vista as especificidades locais.


RESUMEN: Este artículo tiene el objetivo de presentar y discutir una estructura de desarrollo profesional docente y su proceso de construcción. Ella fue elaborada a partir del contenido de la Base Nacional Común de Formación Continua (BNC-FC), que define competencias y habilidades docentes para orientar procesos formativos de redes de enseñanza de Brasil. Su propósito es servir como instrumento para realizar diagnósticos sobre las necesidades formativas de los docentes, permitiendo la definición de objetivos nítidos y relevantes para su formación. La estructura está fundamentada en aspectos teóricos del trabajo y de la formación docente y su metodología es basada en el abordaje centrado en evidencias. El resultado es un instrumento compuesto por 24 elementos que expresan prácticas profesionales, representando un crecimiento de la complejidad de la actuación docente. Proponemos que sea utilizado como punto de partida por las redes de enseñanza en procesos de discusión del BNC-FC considerando sus especificidades locales.

Introduction

In Brazil, the National Education Guidelines and Bases Law (LDB) establishes the duty of the State to promote the continued training of basic education teachers, with it being both a right and a duty of practicing teachers to participate in initiatives of this nature (BRAZIL, 1996).

Given the relevance of continuing teacher training for the various actions aimed at improving education, the National Education Plan (PNE) established, in 2014, specific goals for monitoring indicators on the topic in Brazil. Goal 16 even specifies the guarantee of “continuous training in your area of activity, considering the needs, demands and contextualization of education systems” (BRASIL, 2014, our translation).

Although there is news of a reasonable number of continuing education initiatives offered by education networks in Brazil, little is known about their effectiveness. In a literature review, Moriconi et al. (2017) did not find studies focused on the Brazilian context that used evidence in relation to the participating teachers or their respective students to evaluate whether the continuing education initiative achieved the intended objectives.

It is worth highlighting, however, that a step prior to designing the evaluation of the results of a continuing education initiative is a careful definition of the objectives concerning teachers’ professional practices. This is because one factor that hinders the effectiveness of continuing education efforts is the lack of clarity regarding which aspects of their practice teachers need to improve (INGVARSON, 2003).

To identify these aspects, diagnoses of training needs must be carried out with the teachers' collaboration. As Ingvarson (2003) points out, training processes that allow teachers to identify where they are in relation to a reference to professional practices and on which aspects they should focus their improvement efforts have a greater chance of being successful.

With the purpose of guiding both teachers' practices and the policies that affect them, several educational systems have established documents in which they define a set of professional references. They express a type of consensus about what is valued and what they want to achieve in terms of their performance: what professionals are expected to know and be able to do (KLEINHENZ; INGVARSON, 2007; MECKES, 2014).

In Brazil, in 2020, the National Education Council established the Common National Base for the Continuing Training of Basic Education Teachers (BNC-Formação Continuada or BNC-FC). It is based on the concept of professional references and establishes a set of 20 professional competencies composed of 97 skills, distributed in the dimensions of Knowledge, Practice (Pedagogical and Institutional) and Professional Engagement (BRASIL, 2020).
However, for the BNC-FC to fulfill its role as a guide for continuing teacher training processes, education networks need to take ownership of it. In other words, they carry out processes of analysis and discussion of their content, considering local needs, with the involvement of key actors for its implementation and use, in particular, teachers, trainers, and other professionals in pedagogical areas. There are at least two important points to highlight in this regard.

Silva, Almeida and Gatti (2016) emphasize the formative potential that the discussion of professional references with broad participation has. Abrucio et al. (2017), in turn, highlight that this process increases the chances of ensuring the legitimacy and stability of the set of established professional references – with less likelihood of changes due to changes in the political and party sphere.

Given this potential, a Working Front involving representatives from the National Council of Education Secretaries (Consed) and the Union of Municipal Education Directors (Undime) met to create a document to support the implementation of the BNCFC aimed at the country's education networks. (CONSED et al., 2021a)^7^.

As part of this initiative, a teacher professional development matrix was developed. The matrix organizes the content of the BNC-FC, that is, the professional teaching references contained in this regulation, at increasing levels of complexity. It was designed as an instrument with the aim of contributing to the effective implementation of the BNC-FC as a guide for the networks' training processes, especially to support the diagnosis of teachers' training needs and to evaluate the training processes (CONSED et al., 2021b)^8^.

It is suggested, in this document, that the matrix be used as a starting point by education networks in their BNCFC discussion and analysis processes considering local contexts, as it is not a ready-made document, but subject to adjustments, insertions and reorderings, depending on each context.

In this sense, this work aims to present the matrix and its construction process, discussing the pedagogical and methodological foundations on which it is based, as well as its potential uses in professional development and possible developments for the field of Continuing Teacher Training.


Theoretical contributions

The elaboration of the teaching professional development matrix is based on knowledge related to both its object, which is professional teaching performance, and its purpose, which is to be an instrument to support the evaluation of teachers’ professional performance, allowing analysis, reflection, and decision-making regarding their professional development.

Among its potential uses, we can highlight: (a) teachers’ reflection on their professional performance; (b) the assessment of their training needs; (c) establishing objectives for training processes; (d) constant evaluation of professional development paths; (e) discussion between peers and with trainers about teaching practices, carried out within the scope of the learning communities in which teachers participate.

In this way, some theoretical contributions that supported the construction of the matrix are presented, including discussions about teaching work, professional references, continuing education, and the construction of evaluation instruments.

Views on teaching work

The way of conceiving the teaching role has repercussions on the organization of individual and collective work in the school sphere, including other aspects such as the organization of education systems educational policies, including in-service training processes (AMIGUES, 2004; CONTRERAS, 2002).

One of the existing views on the topic is that which considers teaching an art and the teacher an artist (VILLEGAS-REIMERS, 2003). According to this view, the teaching process is perceived as indeterminate and totally dependent on the teacher’s talent. An individual, therefore, would be born with the talent to be a teacher, and his development would be a natural and individual process.

Another view is that teaching work is a trivial activity based largely on common sense. According to her, people learn to teach by developing an individual style in an open process based only on their unique experiences (BALL; FORZANI, 2011; MCDONALD; KAZEMI; KAVANAGH, 2013).

In both cases, teacher professional development is not seen as a process to be systematically planned and implemented.

Yet another way of understanding teaching work is as a rigid practice. In this case, learning to teach is treated as a mechanical process, “in which a novice would observe the
practice of an expert and then plan and execute a lesson that should be as similar as possible to the expert’s example” (FORZANI, 2014, p. 365, our translation). From this perspective, teaching would basically be a technique, the learning of which would involve a process based on observation and emulation, excluding the reflexivity that involves intellectual work such as teaching.

The view that has dominated current debates, however, defines the teacher as a professional and teaching as a profession (VILLEGAS-REIMERS, 2003). This is what the construction of the teacher professional development matrix reported here was based on.

The view of teaching as a profession presupposes the existence of a body of specific knowledge to practice it, which needs to be acquired through specialized training (VILLEGAS-REIMERS, 2003). They are their own knowledge, something that Shulman (1987, p. 3, free translation) called “knowledge base for teaching – a codified or codifiable aggregate of knowledge, skill, understanding and technology, of ethics and disposition, of collective responsibility – as well as means to represent and communicate it”.

This vision presupposes the need to learn to be a teacher based on training opportunities that begin before actual professional practice, during initial training, and that continue throughout the career, through continued training (DAY, 2001; MIZUKAMI, 2013; VAILLANT; MARCELO, 2012).

Teaching as a complex profession

More than recognizing teaching as a profession, its complexity has been discussed, which would be intrinsic to the nature and objectives of teaching and the contexts in which it develops.

An essential aspect of teaching is its relational nature. As it is a professional activity focused mainly on subject training, teaching depends heavily on building and maintaining productive relationships with students in the classroom (GROSSMAN; MCDONALD, 2008).

Being a highly interactive activity, teaching also presents a considerable level of unpredictability. As Forzani (2014, p. 365, our translation) explains:

[...] Although teachers may use the same skills repeatedly to elicit ideas, present information, and manage many other classroom interactions, each teaching situation will require new judgment about what to do and how to do it. Inherent in this view is the recognition that any set of classroom interactions is different from any previous set
In this sense, the author highlights that teaching can be conceived as a combination of technique, analysis, interpretation, and judgment. It is, therefore, necessary that teachers have a specific professional knowledge base and be able to reason pedagogically based on it and use it to make complex, unique, and contextualized decisions (LESSARD, 2006; SHULMAN, 1987).

It is also worth highlighting that the complexity of teaching incorporates the segments and teaching modalities, as well as the contexts in which teachers work. This means, for example, that the challenges faced by a teacher who works in youth and adult education will be different from those faced in early childhood education.

Likewise, teaching work is an activity carried out in an institutional place – the school. Ball and Forzani (2009, p. 501, our translation) portray this character concerning teaching as an institutional and professional work in which:

[…] Teachers must decide how to use the time in each lesson, determine its purpose, and choose tasks, examples, models or analogies, and materials. During class, they must monitor 25 or more students as they progress through the content, keep an eye on learning objectives, attend to subject rigor, manage individual student behavior, maintain a productive learning environment, strategically propose targeted questions, interpret students' work, preparing responses, evaluating, and guiding all of this towards the growth of each student. Teachers do all this in environments that involve parents, administrators, state goals and testing, policies, and community priorities. This intricate work involves high levels of coordination.

In short, teaching as a complex profession reflects a more nuanced and multidimensional view of teaching work, which requires sophisticated academic, relational, and organizational practice, including objective working conditions. Teaching work has an intrinsically multifaceted, dynamic, relational, and situated character (BEGO, 2016) and, therefore, teaching as a professional practice carried out in a formal institution is specialized and deliberate work, very different from other ordinary informal teaching carried out by parents, for example (BALL; FORZANI, 2009).

Professional references as teacher training advisors

Like any other profession, teaching must establish some important markers: collective knowledge, shared practice references, as well as agreed principles and protocols (BALL; FORZANI, 2011).
These professional views are reinforced because, in the context of networks, teaching is an occupation carried out on a large scale. As highlighted by Ball and Forzani (2011, p. 18, our translation), “We need a system that can enable a large number of people to carry out this practice in a responsible and reliable way”. As the authors warn, when teachers receive minimal preparation and are encouraged to follow their creativity, children’s learning is put at risk.

If the teaching profession is both recognized as a large-scale occupation and a qualified practice to be carried out by professionals, the perspective of professional practice references is legitimate and urgent. Professional references are understood as the expression of consensus about what the professional community values and establishes as a recognized specialized activity or the level of performance to be achieved by practitioners of the profession (KLEINHENZ; INGVARSON, 2007; SILVA; ALMEIDA; GATTI, 2016).

It is reiterated, however, that professional references should not be understood as regulations to control and constrain teachers’ actions, but rather to guide them as they develop, refine and complexify their practice. They can be used to promote gradual professional development actions in a supportive collegial environment.

In this sense, the role of professional references can be highlighted to support the survey of teachers' training needs, bearing in mind that training paths must be planned and organized based on their specific needs, reconciled with the needs of their schools (DAY, 2001; GARCÍA, 1999; IMBERNÓN, 2006).

More than that, by carrying out a survey of training needs using instruments that enable teacher self-assessment, combined with peer assessment, as is the case with the matrix described here, teachers are guaranteed opportunities to collectively participate in the identification and recognition of what they need to learn (INGVARSON, 2003). In view of the intention that teachers improve their practices in a continuous and permanent way, the need for subjects to commit to their training must also be considered (HARGREAVES, 1998; VAILLANT; MARCELO, 2012). This can be leveraged with your active participation throughout the training process, from identifying needs to evaluating the effectiveness of training actions, based on professional references.

The possibility of participating in communities of practice or professional learning communities contributes to this process of constant reflection on one’s work. These communities need to allow teachers to feel safer in the face of the challenges they face, having concrete opportunities to share experiences, difficulties, and dilemmas; compare their theories and conceptions, planning together; analyze and critically interrogate peer work; offering and
receiving feedback on practices; and strengthening collective identity (KRICHESKY; MURILLO, 2011; TIMPERLEY et al., 2007). Professional references play an important role in guiding these actions, providing a common language about the profession to be shared by the community of practice committed to the development of its participants.

Additionally, it is worth highlighting that it is known that significant changes in teachers’ attitudes and beliefs occur mainly after they obtain some evidence that a change in their classroom practice was effective in contributing to the achievement of their objectives with the students (GUSKEY, 2002). In this sense, the existence of professional references and an instrument such as the matrix proposed here allows teachers to use evidence of their work (student tasks, recordings of their classes, lesson plans, etc.) to evaluate and reflect on their practices and receive feedback that effectively contributes to improving its performance. These considerations supported the choice of the evidence-centered approach to support the methodological construction of the matrix.

**Evidence-centered approach**

The evidence-centered approach (ACE) is a systematic way of designing assessments, which can encompass a wide range of assessment types: from standardized tests to classroom activities such as portfolios and aspects of the teacher-student relationship (MISLEVY, 1994).

ACE is based on the premise that assessment is a process of reasoning from evidence to evaluate claims about the ability or proficiency of subjects. This approach has a series of interrelated stages, which support a close correspondence between claims about the subject's performance and the nature and quality of the assessment evidence (HERMAN; LINN, 2015).

In summary, ACE evaluates latent variables or constructs which are not directly observable phenomena. This includes knowledge skills, among others. They are inferred through visible variables (directly measured). Thus, ACE focuses on evidence about the construct as a basis for constructing evaluative tasks. Evidence is observable and empirical and can be qualitative or quantitative, related to one or more constructs.

ACE is an approach used in the development of educational assessments that explicitly incorporates, during the construction process, steps designed to support the validity of the instrument (MISLEVY; ALMOND; LUKAS, 2003). In this sense, the construction of the instrument itself is operationalized in the so-called Conceptual Assessment Matrix, which consists of three components: 1) Competence Model: what set of knowledge, skills, and other attributes should be assessed? It indicates what you want to measure, with variables that reflect
aspects of the subjects' proficiencies. 2) Task Model: what tasks can elicit the behaviors that constitute the evidence? It describes the environment in which subjects speak, do, or produce something to demonstrate their proficiencies. 3) Evidence Model: Which test behaviors provide evidence that the subject met the criteria for making a claim that he or she possesses a specific competency?

One specific component of the evidence model is the correction rubrics, which indicate how to evaluate observable behaviors, explaining levels of competence associated with the measured construct (ZIEKY, 2014).

The proposed teacher professional development matrix presented in this work has a model inspired by ACE. To describe the teaching practices that make up each of the levels of professional activity proposed for the matrix, we use rubrics.

Rubrics

Rubrics are a set of criteria organized coherently, including a description of performance quality levels (BROOKHART, 2013). They are characterized by two central elements. On the one hand, they aggregate the evaluation criteria for a given aspect and, on the other, describe the progressive levels of performance for each of them (FERNANDES, 2021).

There are several advantages to using assessment rubrics in the case proposed here. Among them, the understandable exposition of evaluation criteria and performance levels, greater transparency, reduction of evaluation subjectivity, and sharing of language and meanings about different aspects of pedagogical practice stand out, in addition to allowing its use in teaching processes of self-assessment and peer assessment (BROOKHART, 2013; GATICA-LARA; URIBARREN-BARRUETA, 2013).

Methodology

This section describes the process of constructing the teacher professional development matrix.

Definition of the organization model

To define the matrix organization model, we looked for examples used in national and international contexts with purposes like those of the matrix we intended to build. Among the
examples found, those that come closest to the proposal and that were selected for further analysis are the matrix contained in the document Continuum of Teaching Practice of California, in the United States, and the Matrix of Self-assessment of the Teacher from the municipal network of Manaus, in Amazonas (SEMED MANAUS, 2021; STATE OF CALIFORNIA, 2012).

By analyzing these two examples, we identified characteristics that inspired the matrix organization model included in this text:

- Having as its object professional teaching activity, therefore describing professional practices. Attributes such as professional knowledge, therefore, are evaluated through their mobilization to conduct practices.
- Present professional practices in the format of rubrics, organizing them into levels – 5 in California and 4 in Manaus – which represent an increase in the complexity of professional teaching practice.
- Assume that all teachers working in your context are qualified professionals and seek to cover all their levels of practice. Therefore, they do not include inappropriate or unsatisfactory practices for a teaching professional.

Additionally, we observed that the California matrix has three components: benchmarks, criteria, and evidence of practice. The California Standards for the Teaching Profession (CSTP) describes expectations regarding the professional practices of teachers in that location (STATE OF CALIFORNIA, 2009). The criteria refer to indicators that qualify each of these practices. Based on evidence previously collected from sources such as analysis of lesson plans, written or recorded records of classes, and student productions, teachers describe their practice in a reserved space to make valid and rigorous analyses as part of their self-evaluation.

As explained, the California matrix is based on the evidence-centered approach, including the competency and evidence models. It is a methodology and design that were considered, therefore, appropriate for this matrix to be constructed.

**Definition of attributes to be evaluated**

In the evidence-centered approach, the definition of the competency model is considered an initial step, that is, which knowledge, skills and other attributes are desirable and should be assessed. In the case of this proposal, the source for the content of this model was already defined a priori as being the regulations officially in force in the country: the BNC-FC
(BRASIL, 2020). It was necessary to analyze whether the way in which the content of the BNC-FC was presented would be the most appropriate to compose a professional development matrix with the established purposes, or whether there would be a need for some type of adaptation or transformation of this content.

BNC-FC presents 20 professional competencies with 97 skills distributed across four dimensions:

- Professional Knowledge: 5 competencies, detailed in 28 skills.
- Professional Practice – Pedagogical: 5 competencies, detailed in 23 skills.
- Professional Practice – Institutional: 5 competencies, detailed in 25 skills.
- Professional Engagement: 5 competencies, detailed in 21 skills.

Considering the feasibility of using the matrix for the proposed purposes, it was found that it would not be appropriate to propose a rubric for each of the 97 skills existing in the BNC-FC, due to the likely excessive atomization of evaluative aspects. Furthermore, according to the document, there is no value hierarchy between the dimensions: all “are fundamental and, in an interdependent way, integrate and complement each other in teaching action” (BRASIL, 2020, Art. 3º, our translation). Therefore, we consider that the competency model that would support the professional development matrix would need to include this articulation between the competencies and skills of the different dimensions of the BNC-FC, and it would not be possible to evaluate each of them separately. It was therefore decided to reorganize the content of the BNC-FC into a model that considers the interrelationships of different skills in teaching practices, which we call “elements” of the matrix.

In this model, each of the elements is composed of a sentence that describes a given teaching practice in the most direct and understandable way possible. The specifications regarding this practice, therefore, come from skills from one or more dimensions of the BNC-FC and are included in the rubrics defined for the element.

To describe the rubrics for each element, again using the criterion of feasibility of the proposed use, we believe it is sufficient for the matrix design to consider four levels of performance to represent the continuum of teaching professional development.
Definition of the theoretical model

As in the cases of California and Manaus, the proposed matrix is also composed of levels that represent an increase in the complexity of professional teaching performance and assume that all practicing teachers are professionals who are at a certain stage of a continuum of development. They were didactically organized on a progression scale, incorporating the practices expected from previous levels, to make it easier for teachers to see themselves at a certain level of an element, as well as for trainers to evaluate the practices of the teachers with whom they work.

We emphasize that the levels do not represent a chronological or linear sequence, nor were they designed to represent stages of the teaching career. A teacher can even demonstrate level 1 or 2 performance in some elements, and level 3 or 4 in others.

To define how these levels would be characterized, the literature presented previously on teaching work and professional development was considered based on the view of teaching as a complex profession exercised on a large scale with a professional collective. The knowledge accumulated by the research team in their diverse experiences in teaching and training teachers was also considered, as well as the results of the survey carried out by the Consed and Undime Work Front in 2019 on what makes a good teacher in Brazil from the perspective of teachers, students, and other educational actors (CONSED; UNDIME; MEC, 2019).

To guide the creation of rubrics for the elements, Table 1 was prepared, which characterizes the common practices at each of the levels of professional performance proposed for the teacher professional development matrix: elementary, exploratory, effective, and integrative.

<table>
<thead>
<tr>
<th>Table 1 – Description of Teaching Professional Development levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
</tr>
<tr>
<td>Elementary Action</td>
</tr>
<tr>
<td>Adopts standard pedagogical practice in any situation.</td>
</tr>
</tbody>
</table>
Develop your practice with an exclusive focus on the class as a whole. Varies your practices, considering some differences between students. Uses different practices in a contextualized way to reach all students. Articulates different practices to ensure equity in student learning.

Acts are only based on references, resources, and materials provided to them. Explores the use of references, resources, and supplementary materials. Uses varied and appropriate references, resources, and materials. Integrates a wide repertoire of references, resources, and materials into its practice, sharing with your peers.

Makes decisions about student learning without their involvement. Provides some opportunities for students to participate in decisions about their learning. Involve all students in decisions about their learning. Engages students in self-regulation of their learning, increasing their degree of autonomy.

Participates in collective moments only when called upon. Seeks additional opportunities to collaborate with families and school staff. Collaborates regularly with families and school staff, focusing on the development and learning of all students. Proposes and organizes opportunities for collaboration with families and school staff, focusing on the development and learning of student equity.

Source: Own authorship, 2021.

**Preparation of preliminary proposal**

As part of the process, a preliminary proposal was prepared for discussion with participants from the Consed and Undime Work Front. This Front included representatives from state and municipal networks from at least two states in each of the country’s five regions. The representatives were generally professionals linked to continuing training processes in education networks.

The preliminary proposal sought to present a complete view of the matrix; however, it was restricted to a few elements. This stage intended to pilot the construction process of the elements and their respective rubrics, enabling the debate of the product with interested parties, collecting feedback, and improving the process for preparing the final version of the matrix.

In this sense, we selected "Dimension 2a. BNC-FC Professional Pedagogical Practice" as a starting point. Within Dimension 2a, we selected a set of 5 skills to pilot the matrix construction process and compose the preliminary version.

For each of these 5 skills, a set of procedures was carried out. The first of these was to rewrite the skill in the most objective and direct way possible, transforming it into an element of the matrix, according to the previously established definition. For example, the skill “2a.2.2. Organize and manage class time to favor the learning process of the entire class” was...
transformed into the element “Organize class time management to favor the students’ learning process”.

The second procedure was to identify all other skills contained in the BNCFC that are closely related to this practice – including in other Dimensions – and could support the construction of rubrics for this element. In the example given, in addition to skill 2a.2.2., the following skills were identified:

“1.2.5. Master different ways of organizing time, space, and use of resources appropriate to the stages and areas in which you operate”

“1.3.3. Knowing and differentiating the students you teach what they think, what they know, their experiences, characteristics, and ways of learning”

“2a.2.5. Formulate thought-provoking questions and allow time to resolve them.”

The third procedure was to describe the rubrics referring to the matrix element, having as reference the table that characterizes the levels of professional teaching performance. In this example, the description was:

**Table 2 – Preliminary proposal of rubrics for the Element “Organizing class time management to favor the students’ learning process”**

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Action</td>
<td>Exploratory Action</td>
<td>Effective Action</td>
<td>Integrative Action</td>
</tr>
<tr>
<td>Organizes class time in a standardized way for the entire class.</td>
<td>Try managing class time and adjusting activities to students’ rhythms and learning levels.</td>
<td>Differentiates the rhythms and learning levels of all students, organizing class time management to favor the learning process.</td>
<td>Integrate and share with your peers a wide repertoire of time management strategies, aiming for greater autonomy and learning student equity.</td>
</tr>
</tbody>
</table>

Source: Own authorship, 2021.

Each of these elements with their respective rubrics was prepared and discussed by team members in several rounds, so that, by consensus, a text considered appropriate to compose the preliminary version of the teacher professional development matrix was reached.

**Discussion of the preliminary version with the Work Front**

A preliminary version of the teaching professional development matrix was sent for reading by the teams from the networks participating in the Work Front, together with the document supporting the implementation of the BNC-FC in which it is inserted.
The feedback offered by the participating state and municipal networks indicated that they recognized the quality of the proposal and considered that it had the potential to support the improvement of training processes. However, they also pointed to the great challenge of its implementation. They indicated that, to implement it, it would be necessary to rethink the processes related to continuing education currently developed, as well as the profile of the teams responsible for the area.

There were no questions regarding the matrix format, so it was decided to maintain it and continue constructing the remaining elements.

**Preparation of the final version**

To complete the matrix, we expanded the themes covering professional practices. In addition to planning, teaching, classroom management, and assessment, it was also decided to focus on professional development and collaboration practices, as well as teaching in the school context beyond the classroom.

With these themes in mind, we returned to BNC-FC to identify other skills that represented central teaching practices and had not yet been covered by any element. This analysis began in Dimension 2a to complement the previous work, followed by Dimensions 2b, 3, and 1. For each of the remaining skills:

1. We checked whether the skill had already been included in any of the proposed elements.
2. If it had not been, we analyzed whether it was related to any element already prepared and could be added to it. In these cases, we reviewed the rubrics to check whether this skill was being covered.
3. If it was unrelated to any already created element, we proposed creating a new element based on the skill.
4. To create each element with its respective headings, we followed the same three procedures described in item 4 (Preparation of the preliminary version). As a result of this process, we have the teacher professional development matrix discussed in the next section.
Results and discussion

The teacher professional development matrix we propose is made up of 24 elements with their respective rubrics, organized into six themes: Planning; Teaching; Classroom Management; Assessment, Development and Professional Collaboration and Professional Performance in the School Context (CONSED et al., 2021a). We present in Table 3, as an example, element 8 with its respective components.

As seen in this specific element of the matrix, we seek to explain the continuum of development of practice related to classroom management across the four levels – elementary, exploratory, effective, and integrative – which show the growth in complexity of a teacher's professional performance. As this practice progresses through the stages, it becomes increasingly complex and sophisticated regarding integrating knowledge, skills, and professional dispositions. It is possible to identify the professional development path that starts from a rigid and standardized practice of managing class time towards flexible action, situated, and committed to educational equity. This practice can even serve as a reference for teachers in initial training or at the beginning of their careers.

Table 3 – Element 8 related to the theme "Classroom Management" and rubrics of the teacher professional development matrix

<table>
<thead>
<tr>
<th>Elements</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Organize class time management to favor students’ learning process</td>
<td>Organize class time in a standardized way for the whole class.</td>
<td>Try managing class time, adjusting some activities, considering the students’ rhythms and learning levels.</td>
<td>Systematically organizes class time management considering the different rhythms and levels of learning of all students, to promote their learning.</td>
<td>Organizes class time management, integrating different teaching strategies, aiming at students’ autonomy and equitable learning. Share these strategies with your peers.</td>
</tr>
</tbody>
</table>

Source: Own authorship, 2021.

We chose to use a direct and cohesive language, to facilitate the systematization of the self-assessment process based on the production and recording of evidence from practice. As previously indicated, this matrix is contained in an annex to the document supporting the implementation of BNC-Continued Training. In this annex, next to the presentation of the elements and their respective rubrics, there is a field to fill in with the title “Evidence”.
In the text that accompanies the matrix, recommendations are offered for teachers and trainers to use this field to record aspects of practice based on evidence obtained from different sources, such as: analysis of lesson plans, sequences and projects teaching materials, written or recorded records of classes and student productions. These records support the assessment of which level most closely describes the type of professional activity performed by the teacher at a given point in their career concerning the specific element of the matrix, favoring the planning, individual and/or collective, of training actions for the professional development.

In the example in question, if the evidence of a particular teacher's performance points to a standardized time management practice for the entire class, both the teacher and a network trainer can effectively engage in guided reflection and cooperative planning of a set of training activities that lead this teacher to learn how to manage class time to consider the different rhythms and learning levels of all students.

This is not a trivial and linear development process. However, based on language sharing and a well-founded diagnosis of professional performance, these continuing in-service training activities can be designed with a careful definition of objectives based on the changes in the teacher's practice expected from their engagement in training. This can enhance the effectiveness of continuing education efforts due to greater clarity regarding which aspects of practice the teacher needs to improve in relation to a shared and legitimized reference of professional practices and on which aspects they should focus their improvement efforts (INGVARSON, 2003).

In addition to this example, the matrix can have positive implications both for training activities to be planned by managers of an education network and for proposing more cohesive, systematized, and longitudinal educational policies. This approach can help overcome the problematic aspects widely portrayed in the literature (MORICONI et al., 2017) regarding courses that are usually sporadic, punctual, disjointed, and which, in most cases, do not meet the real needs of the network's teachers.

The matrix is an instrument that can be used for a broad diagnosis of a teacher's performance, in which all the elements that compose it are observed. It can also be used in parts, prioritizing elements that teachers and trainers deem most necessary in that context, such as those on a specific topic, for example, planning. However, as highlighted previously, the skills of the different dimensions integrate and complement each other in teachers' practices. In this sense, it is essential to recognize that all elements are interconnected, and their combination is more important than their isolated effect.
It is worth highlighting that we prioritize the importance of professional performance at level 4 in the rubrics as the one most closely engaged with aspects of educational equity and its sharing with peers and the school community.

In this way, using the matrix, managers can more systematically identify professionals who are legitimized in the local reality for future work in training actions instead of, for example, hiring professionals who are foreign to the context where the practice educational occurs.

In effect, it should be noted that for a teaching network to be able to use an instrument such as this matrix to guide its continuing teacher training initiatives, this instrument needs to be recognized as legitimate by teachers, trainers, and other professionals involved with the topic in own education network. It is necessary, therefore, that it be studied, analyzed, and discussed by these professionals, considering the specificities of the institutional and sociocultural context in which it is inserted (given the formative potential of this process), and that the necessary modifications be made, so that the matrix can be considered adequate to the reality and needs of the network, with a view to its greater stability and collective recognition (ABRUCIO et al., 2017; SILVA; ALMEIDA; GATTI, 2016).

Final considerations

This work sought to present and discuss building a teacher professional development matrix for the Brazilian context. As described, it was designed as an instrument to contribute to implementing BNC-Continued Training as a guide for the training processes of the country's education networks, primarily to support the carrying out of diagnoses on the training needs of teachers.

This perspective, supported by the legitimacy and need for professional references, aims to provide greater rigor and systemic character to teacher training actions in Brazilian education networks. As widely documented by national and international investigations, successful continuing education experiences share some characteristics, such as delimiting objectives regarding professional practices that are consensually expected and valued and which translate into the aspects that teachers need to focus their efforts on improving. This precisely facilitates the systematization of diagnoses of different training needs with the decisive participation of the network's teachers. Based on these needs, the education network can develop and implement a better-continuing teacher training policy based on the literature in the area and its specificities so that it becomes perennial.
Its systemic character of a true state policy for continuing teacher training, primarily supported by the legitimacy and stability of established professional references, can contribute to overcoming isolated and ineffective training actions.

Finally, by contributing to the discussion about professional teaching references and their use to guide training processes in Brazil, we understand that this work opens several future perspectives for investigations in the area. Among them, the following stand out: processes of discussion, adaptation, and appropriation of professional references within the scope of education networks; discussion, production, and recording of evidence about professional practice and its training implications; systemic monitoring of the improvement of professional teaching practice throughout the development levels and its impacts on the quality of teaching; and intersections and interrelations between continuing education policies in education networks.

REFERENCES


**CRedit Author Statement**

**Acknowledgements:** We would like to thank the participants of the Consed National Teaching Profession Base Work Front for reading and offering feedback regarding the first version of the Teaching Professional Development Matrix.

**Funding:** The work was financed by the Teaching Profession Movement.

**Conflicts of interest:** No.

**Ethical approval:** The work respected the guidelines of the National Health Council. It did not go through an ethics committee, as it was not an investigation involving human beings.

**Data and material availability:** The materials used in the work are referenced in the paper.

**Authors' contributions:** All authors participated in the construction process of the Teaching Professional Development Matrix described in the work. The authors jointly defined the structure of the paper. Each author wrote the first version of a section of the paper, everyone revised and offered contributions to the final version of the text.

**Processing and editing:** Editora Ibero-Americana de Educação.

Proofreading, formatting, normalization and translation.