PROGRAMA DE PÓS-GRADUAÇÃO EM EDUCAÇÃO
EDUCAÇÃO EM FOCO | UEMG

Formação de professores sobre Recursos Educacionais Abertos: engajamento na Educação a Distância

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Resumo

O presente trabalho objetivou analisar as percepções dos professores no Development de uma formação para o uso de Recursos Educacionais Abertos (REA) na Educação a Distância (EaD) realizada em um Instituto Federal de Educação, Ciência e Tecnologia localizado na região Norte do Brasil. A pesquisa de natureza aplicada foi feita nos princípios da modalidade de pesquisa coletiva, com abordagem qualitativa e objetivos descritivos, utilizando como instrumentos as ferramentas digitais no *Moodle*. Os dados coletados foram analisados por meio da espiral de *Creswell*. No processo formativo, foram valorizadas as reflexões sobre a teoria e a prática, mobilizando os conhecimentos conceituais, atitudinais e procedimentais, construindo alternativas diferenciadas e inovadoras para o processo de ensino-aprendizagem. Os resultados demonstram que as estratégias apresentadas na formação podem ser incorporadas à prática dos professores de EaD, desde a Methodology numa perspectiva construtivista, associada aos conhecimentos técnicos, no uso de ferramentas digitais e vivência dos REA.

Palavras-chave: Pesquisa-formação. Teoria e prática docente. Tecnologias Digitais da Informação e Comunicação.

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Teachers formation in Open Educacional Resources: engagement in Distance Education

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Abstract

The present work aimed to analyze the perceptions of teachers in the development of formation for the use of Open Educational Resources (OER) in Distance Education carried out in a Federal Institute of Education, Science and Technology located in the North region of Brazil. The research, of an applied nature, was based on the principles of the collective research modality, with a qualitative approach and descriptive objectives, using digital tools in Moodle as instruments. The collected data were analyzed using the Creswell spiral. In the formative process, reflections on theory and practice were valued, mobilizing conceptual, attitudinal and procedural knowledge, building differentiated and innovative alternatives for the teaching-learning process. The results show that the strategies presented in the formation can be incorporated into the practice of Distance Education teachers, from the methodology in a constructivist perspective, associated with technical knowledge, the use of digital tools and the experience of OER.

Keywords: Research-training. Teaching theory and practice. Digital Information and Communication Technologies.

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Formación de profesores en Recursos Educativos Abiertos: participación en la Educación a Distancia

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Resumen

El presente trabajo tuvo como objetivo analizar las percepciones de los docentes en el desarrollo de capacitaciones para el uso de Recursos Educativos Abiertos (REA) en Educación a Distancia (EaD), realizadas en un Instituto Federal de Educación, Ciencia y Tecnología ubicado en la región Norte de Brasil. La investigación de carácter aplicado se realizó a partir de los principios de la modalidad de investigación colectiva, con enfoque cualitativo y objetivos descriptivos, utilizando como instrumentos herramientas digitales en Moodle. Los datos recopilados se analizaron utilizando la espiral de Creswell. En el proceso formativo se valoraron reflexiones sobre la teoría y la práctica, movilizando saberes conceptuales, actitudinales y procedimentales, construyendo alternativas diferenciadas e innovadoras para el proceso de enseñanza-aprendizaje. Los resultados muestran que las estrategias presentadas en la formación pueden incorporarse a la práctica de los docentes de EaD, desde la metodología en una perspectiva constructivista, asociada al conocimiento técnico, el uso de herramientas digitales y la experiencia de los REA.

Palabras clave: Investigación-formación. Enseñanza de la teoría y la práctica. Tecnologías digitales de la información y la comunicación.

Introdução

The constant transformations of new Digital Information and Communication Technologies (DICT) have made cyberspace increasingly collaborative and cooperative in creating new content, necessitating that educational institutions meet the expectations of individuals regarding learning and studying, particularly in the pedagogical use of digital technological resources. In this sense, teachers are challenged to innovate their educational practices by using DICT to enhance learning, integrating these technologies into their practices, and exploring various formats and proposals for democratizing knowledge (PICONEZ; NAKASHIMA; PICONEZ FILHO, 2013).

Alvorado Prada (2006) and Tardif (2012) share the view that in the ongoing training of teachers, one must consider teaching practice and the experiences arising from the work environment, as educational institutions are suitable and privileged places to build knowledge. According to Tardif (2012), the processes and knowledge developed by teachers stem from multiple sources, including personal, educational, professional formation, and professional experiences. From these experiences, reflection and understanding about educational practices and the training process are fostered, stimulating a collective process based on group consensus (ALVARADO PRADA; FREITAS, FREITAS, 2010).

For Saul (2008), the ongoing training of teachers makes sense only if we embrace the Freirian understanding that humans are unfinished beings, always striving to "be more," towards transforming their practice. Recognizing human incompleteness is essential due to the continuous changes and instability of contemporary society, making it important for teachers to act as mediators of their own training, structuring the construction and (re)construction of their knowledge, and acting reflectively in their pedagogical practice (SANTOS; SILVA, 2014).

Although teacher training activities mediated by new DICT are limited in Brazil, they hold significant social relevance, legitimizing diverse environments for knowledge construction, authorship, and co-authorship in environments that promote and integrate production and learning (SANTOS, 2019). Thus, it is necessary to acknowledge the knowledge and competencies derived from "knowing how to do," that is, from experiences in which this diversity of knowledge must be highlighted and shared, gaining visibility and meaning, and involving a dynamic and collective interaction process (MORAN, 2017; SANTOS, 2019).

Thus, the Open Educational Resources (OER) movement encompasses specific characteristics in the development of educational technologies, based on a social constructivist pedagogy and open licensing models with the intention of breaking traditional intellectual property paradigms (WINDLE et al., 2010). These resources are grounded in the principles of freedom of knowledge and education as a social good, becoming increasingly available on the web, allowing them to be reused and adapted freely to educational needs, protecting authorship rights, and contributing to the democratization of knowledge (CORREIA, 2016; FERREIRA; CARVALHO, 2018).

Therefore, the proposal for ongoing teacher training was based on a constructivist perspective[3], aiming to introduce OER to Distance Education (EaD) teachers so that they can use them in the educational context, sharing and collaborating with their peers in the creation and co-production of OER. This approach provides participants with an experience of the OER culture, understanding concepts and applying them in a reflective process about their practice, sharing experiences and feelings, in a research-training approach based on the principles of collective research.

Thus, this article represents the continuation of this research-training conducted by the authors, where the diagnostic conducted was published in the article titled “Teachers' Perceptions of Distance Education: Reflections on Ongoing Training for the Use of OER” (ANGELI; PEREIRA, 2013), which questions: Given the lack of training regarding the use of methodologies and educational resources, what formative proposal would be valid for this purpose?

Methodology

This study aims to analyze teachers' perceptions in developing training for the use of Open Educational Resources (OER) in Distance Education (EaD) conducted at a Federal Institute of Education, Science, and Technology located in the northern region of Brazil.

The research is applied in nature, with a qualitative approach, focusing more on the development process, making abstractions in the search for explanations and interpreting phenomena, and attributing meanings to the researched reality (PRODANOV; FREITAS, 2013).

The research-training, based on the principles of Collective Research by Alvarado Prada (2006), considers the experiences and educational practices where teachers are constructed in the process.

[3] Knowledge is actively constructed by the learner through interaction with the learning object, according to Piaget's studies, and through social interaction, as addressed by Vygotsky (JÓFILE, 2002).

According to Santos (2019), this type of research recognizes the ongoing process of teacher development through the understanding of their reality, collectively establishing changes in educational practice that can be made in online environments.

Regarding the study objectives, the research is classified as descriptive, as it aims to record and describe the situations experienced, reflections, and interpretations made during the process, in the search for solutions to challenges encountered in educational practice (GIL, 2008; PRODANOV; FREITAS, 2013).

The planning process of the training was initially based on the diagnostic phase, and the activities and tasks on Moodle were gradually constructed according to the perceptions of the mediator, considering the participants' feedback during the training. During the training, out of the 09 (nine) registered teachers since the diagnostic phase, only 03 (three) teachers and one listener, a student from the Professional Master's in National Network Professional Education (ProfEPT), participated fully. The listener also conducted a research-training in Moodle.

The course lasted 62 hours and covered theoretical and practical knowledge (conceptual, procedural, and attitudinal) about OER and the didactic-pedagogical processes of the course. Data collection instruments included Moodle forums and Google Forms questionnaires. A learning diary was used as a space for exchange, allowing participants to expose their reflections, record events, and share dilemmas and knowledge, aiding the mediator/researcher in reflecting on their own actions, interventions, guidance, and evaluation of formative progress (SANTOS, 2019).

In data analysis and interpretation, Creswell's Spiral Analysis (2014) was used, developed in analytical circles. Data management involved organizing information into Excel files and Word tables and charts, facilitating visualization and comparison. Participants were assigned codes starting with the letter P, followed by a cardinal number (e.g., P1), ensuring anonymity.

The analysis was followed by the description, classification, and interpretation phase, starting with open coding, which allowed for the formation of inductive categories, resulting in the reduction to 01 theme and 06 categories. In the representation phase (Table 01), the presentation of interpretations and information was systematized.

Table 1 – Representation of the research data and instruments used in each category.

Theme	Category Label	Research Instruments
Development and Evaluation of the Proposal	Content, educational resources, and tools.	- Learning diary (Units 1 and 2). -Self-assessment questionnaire. - WebQuest completion forum (Unit 3). - Evaluation questionnaire..
	Duration of the training proposal.	- Evaluation questionnaire. - Self-assessment questionnaire.
	Teaching methodologies and strategies.	- Evaluation questionnaire. - Learning diary (Unit 1). - WebQuest completion forum (Unit 3)
	Relationship between theory and practice.	- Learning diary (Units 1 and 2). - WebQuest completion forum (Unit 3).
	Open Educational Resources.	- Self-assessment questionnaire. - WebQuest completion forum (Unit 3). - Evaluation questionnaire.
	General perceptions of teachers about the training proposal.	- Learning diary (Unit 1). - WebQuest completion forum (Unit 3). - Evaluation questionnaire.

Source: Prepared by the authors.

According to Creswell (2014), in data interpretation, the researcher assigns meaning and significance to the collected information, arranging it in line with the theoretical framework, within the construct of social science. As a result, a synthesis of the information was presented in the results and discussion section.

Foundation for the Development of the Training Proposal

The proposal for developing a Continuing Education Course for EaD (Distance Education) teachers on the use of Open Educational Resources (OER) was based on data from the diagnostic phase of the research-training, which considered the knowledge needs of the group of EaD trainers and their learning expectations regarding the use of OER. The sequence of activities was organized with a gradual increase in the complexity of knowledge. Various resources were used to mobilize different competencies and skills of the participants, which stimulated creativity, curiosity, and collaboration in the construction and (re)utilization of Open Educational Resources.

The proposal allows teachers to incorporate new concepts into their existing knowledge, develop new competencies and skills, and act concretely. Learning to do enables the experimentation of real solutions to challenges, adjusting to the time and study spaces, integrating digital spaces, and strengthening learning (MORAN, 2017).

Thus, the research was supported by Paulo Freire's principles, such as the development of autonomy, dialogic practice, and critical reflection on the teacher's praxis, consisting of becoming aware of their reality to construct authentic knowledge that leads to the transformation of their practice (FREIRE, 1987). According to the author, the understanding of subjectivity and objectivity is not dissociated or opposed but established in a dialectical relationship where true critical reflection occurs through dialectics within the “praxis” in which the subjects are constituted.

The training is also grounded in constructivist theories, adopting Piaget's interactionist view and Vygotsky's socio-interactionist perspective, proposing challenges in educational action and providing a more active and participatory education, where knowledge construction depends on the subject's action, the context, and interaction with the learning object and peer exchanges (JÓFILI, 2002; SANTOS; SILVA, 2014).

The EaD environment was organized with content/resources available on the WEB, contextualized with reality and guided by activities that support the development of autonomy and collaborative learning (MORAN, 2017). It thus addressed multiple roles related to the interaction of subjects with ICTs, valued social interaction, considered the diversity and demands of knowledge construction processes, and allowed reflection on content and expression of ideas, discussing solutions to challenges collectively.

In this perspective, the active method is emphasized, involving participants in their learning process and valuing integral learning, where the participant is both the author and actor of their own knowledge. Teaching strategies are based on active methodologies, specifically Peer Instruction and the WebQuest methodological tool.

In this method, the collective is prioritized, with pre-established agreements, shared responsibilities, and mutual commitment in building results and solutions to challenges. The collaborative relationship fosters interpersonal and intrapersonal development and allows for the development of necessary competencies and skills, grounded in interaction and sharing, resulting in the progressive construction of autonomy (SOUZA; IGLESIAS; PAZIN FILHO, 2014).

The Peer Instruction methodology is characterized by promoting engagement, collaborative interaction, and making students mediators in the learning process. It seeks to find differentiated answers through debate to be applied in solving the presented problems. The teacher monitors and encourages discussions, and at the end of the work, students present the discussed answers. The class may then be enhanced with a new question or the inclusion of a new topic (FONSECA; MATTAR NETO, 2017; LOVATO et al., 2019).

The WebQuest, in turn, is considered a constructivist methodological tool that enables the formation of active and engaged learners (SANTOS; BARIN, 2014). It also encourages appropriate web navigation, guides students in research, integrates pedagogical elements of interdisciplinarity, and contextualizes information with students' realities, leading to problem-solving. The teacher stimulates research capacity, critical thinking, methodological competence in material construction, information and digital literacy, and sharing of ideas and results, enriching educational practices (SANTOS; SANTOS, 2014; SILVA, 2016; PAIVA, 2016).

Therefore, a collaborative and autonomous learning environment was chosen, with tools for solving educational challenges with minimal direct mediator intervention, focusing on student interactions with the platform and peer learning (ALARCON; SPANHOL, 2017). It is important to mention the role of the mediator in organizing the Virtual Learning Environment (AVA), as they are responsible for provoking the development of responsibilities and student emancipation, presenting didactic materials, and activities with different resources and relevant media in the teaching and learning process (NOVELLO; LAURINO, 2012; SOUZA; IGLESIAS; PAZIN FILHO, 2014).

According to Santos (2019), it is essential to explore the potential of hypertext, interactivity, and simulation in virtual learning environments in interactive Distance Education (EaD), with strategies that go beyond programmed instruction, integrating didactic-pedagogical and technical processes developed through hypertextuality, connectivity, and transversality, which can be provided by the diversity of knowledge of Open Educational Resources (OER). These resources stem from emancipatory pedagogical conceptions, which encourage active student participation in their learning, providing autonomy in problem-solving and expanding human knowledge (NOBRE; MALLMANN, 2016).

Choosing an OER for educational purposes requires the development of various skills and competencies, meeting educational objectives and technological, educational, theoretical, and empirical indications of its components, in a process of interdisciplinary didactic transposition, transforming knowledge into new understandings (NOBRE; MALLMANN, 2016).

In this context, the use of OER was considered throughout the training process, sharing the idea that it is relevant in education to prioritize and use free and open online applications and resources and share successful educational practices (MORAN, 2017). However, it was not possible to fully realize the idea of valuing OER throughout the training, as during the content curation work, no free and open resources were found that effectively met all the content needs. Therefore, links and hyperlinks to free resources on the web were shared.

In the evaluation process, both diagnostic and formative aspects were considered, ranging from understanding concepts, creating mental schemes for organizing and reorganizing information, conceptual mapping, creative content production skills, communication, interaction, and collaboration skills, observed and analyzed through constructions materialized by technological tools. Consequently, it was possible to establish a formative evaluation process, governed by evaluation rubrics, peer evaluation, self-assessment, and reflections established by the mediator, providing immediate feedback on learning, which in turn supports regulatory (intervention) processes by the mediator and self-regulation of learning by the student (FERNANDES, 2006).

The didactic-pedagogical practice of using OER is considered an integrative form of the knowledge construction process, encompassing various competencies and attempting to overcome, to some extent, the dichotomy between theory and practice, teaching, and collective knowledge

production, bringing teachers closer to the new digital cultural reality, providing opportunities for the production, co-production, and reuse of content in an active and creative manner (SANTOS; SILVA, 2014; PICONEZ; NAKASHIMA; PICONEZ FILHO, 2013).

Formative proposal

The formative proposal was structured into three units that integrate theory with practical activities, organized through a curation process. Suitable resources for the context of the training were sought.

Unit 1 (Table 2) pertains to the introduction of Open Educational Resources (OER) and their characteristics, with a brief explanation of the content, summarizing the concepts related to OER. It then addresses the Peer Instruction methodology. Given its collaborative nature, the selection of pairs was carried out using the Moodle Choice activity.

Table 2 – Unit 1: OER and Their Characteristics.

Topics	**Development**
Introduction	OER: Concepts, Characteristics, and Importance.
Mehtodology	Characteristics of Peer Instruction.
Pair Division	Collaborative Work.
Weekly Schedule	**Activity 1** Reading Articles: 1 - Concept Maps and Meaningful Learning (MOREIRA, 2012). 2 - Evaluating Concept Maps as an Assessment Tool (SOUZA, 2008). **Activity 2** Watch the video: How to Make a Concept Map – Lucidchart. **Activity 3** Reading Articles: 1- Open Educational Resources (OER) as Educational Technologies:

	Considerations (FERREIRA; CARVALHO, 2018). 2- Digital Competencies for Teachers in the Production of Open Educational Resources (REA) (MAZZARDO; NOBRE; MALLMANN, 2019). **Activity 4** Watch the video: Open Educational Resources. **Activity 5** Build a Concept Map on Open Educational Resources (OER) in Collaboration Suggested Tools: Lucidchart, Mindomo, or any other tool of your choice. **Activity 6** Submit the Concept Map. Tools: Activity from the Moodle Assessment Laboratory and Wakelet.. **Activity 7** Reading Articles: 1- Are We Ready to Use Peer Evaluation in Distance Education? A Case Study in a Specialization Course (BARBOSA; NELSON, 2016). 2- *Self-Evaluation and Peer Evaluation: An Analysis of Recent International Research* (BARROSO DA COSTA, 2017). **Activity 8** Watch the video: Peer Evaluation. **Activity 9** Perform the peer evaluation of the conceptual map. **Activity 10** Submit the evaluation. **Supplementary Materials** Watch the tutorials: 1- Create a conceptual map in the application. 2- Wakelet - edit, share, and collaborate. **Supplementary Readings** 1 - *A Basic Guide to Open Educational Resources* (REA) (BUTCHER,

	2011). 2 - *Open Educational Resources (OER): A Handbook for Teachers* (EDUCAÇÃO ABERTA, 2011). 3- *The Use of Concept Maps as a Teaching Resource for Constructing and Relating Conceptss* (CARABETTA JÚNIOR, 2013).
Evaluation	Peer Assessment Tool - Concept Map on OER.
Peer Assessment Tool	Concept Map and Peer Assessment.
Forum	Learning Journal for the Unit 1.

Source: Prepared by the authors

The practical activities, theoretical resources, and tutorials for using technological tools in the unit were provided in the activity agenda, with hyperlinks to study materials, followed by instructions on the activities and evaluation methods. Participants acted as mediators of the learning process by collaborating with peers, making joint decisions in applying knowledge, and using collaborative and free technological tools.

Initially, peer evaluation was employed, guided by an evaluation rubric containing all the criteria to be observed. Subsequently, the evaluation results, observations, and suggestions from peers were presented to the participants through impartial and critical feedback provided by the mediator, who reflected on the adequacy of the completed activities, thereby strengthening reflection on the learning process.

Unit 2, being a continuation of the previous unit, used the same methodology, maintaining the pairs. At this stage, a new topic was introduced to deepen the understanding of REA characteristics, with its organization presented in Table 03.

Table 03 – Unit 2: Copyright and Usage Licenses.

Topics	**Development**
Introduction to the Topic	Copyright and Usage Licenses.
Methodology	Characteristics of Peer Instruction.
Group Division	Collaborative Work (Pairs).
Weekly Agenda	**Activity 1** Reading Articles: 1- *Obsolescence of Copyright and Free Modalities* (LIMA; BELDA; CARVALHO, 2014). 2- *Intellectual Property and Usage Licenses: Challenges of Copyright in the Field of Cyberculture* (GONÇALVES, 2016). 3- *Copyright and Creative Commons Licenses* (TORINO, 2020). 4- *Law No. 9,610, of February 19, 1998. Amends, updates, and consolidates the legislation on copyright and provides other provisions*. **Activity 2** Watch the Videos: 1- *Copyright Licenses vs. Creative Commons Licenses*. 2- *Educational Materials and Copyright... in the Era of Distance Education*. **Activity 3** Reading Articles: 1- *Strategies for Reading Applied to the Folder Gender* (RODRIGUES, 2014). 2- *The Folder Text Gender in Service of Environmental Education*. (PAULA; CARVALHO, 2014). 3- *Infographics: Concept and Practice* (CARVALHO, ARAGÃO, 2013). 4- *The Use of Infographics in the Classroom: An Experience in Literature* (BOTTENTUIT-JÚNIOR, MENDES, SILVA, 2017). **Activity 4**

	Watch the Videos: 1- *How to Create a Brochure (Folder) on Canva:* 2 Creating Infographics Using Canva:. 3- *How to assign a Creative Commons license for your file*! **Activity 5** Create an informative brochure in pairs on the topic: Copyright and Usage Licenses, using at least one infographic in its creation. **Activity 6** Visit the Creative Commons website and assign a license to your brochure. Tool: Creative Commons website. **Activity 7** Submit and make available the brochure with an assigned CC license. Tool: Task hyperlink and Wakelet. **Activity 8** Reading Articles: *Self-Assessment and Collaboration in Online Training: Literature Review and Case Study* (CZEZASK; MATTAR, 2020). **Activity 9** The evaluation of the CC-licensed folder will be conducted by the training facilitator. **Activity 10** Self-Assessment Video Suggestions: 1- *Understanding Creative Commons Licenses* 2- *Videos and Infographics for the Classroom - Hybrid Teaching* 3- *How to Create Infographics on Canva*
File	List of Free Tools for Creating Educational Resources.
Task:	Produce and Attach the Informative Folder on Copyright and Usage Licenses with Infographics.

Assessment	Rubric with Evaluation Criteria for the Unit
Assessment Laboratory	Concept Map and Peer Evaluation.
Forum	Learning Diary Unit 1.

Source: Prepared by the authors.

The activity agenda established the sequence of exercises and theoretical references proposed, highlighting the creation of an Open Educational Resource (OER), with the assignment of a license under the Creative Commons framework, experiencing the OER culture.

The rubric with the evaluation criteria and the link to the self-assessment tool on Google Forms were provided, allowing for individual and collaborative work evaluation and enabling the facilitator to provide feedback with observations related to each criterion of the activity and the participation of members, with suggestions and comments on the work developed.

In Unit 3, a WebQuest was used. Although tasks were completed autonomously, a collective challenge was proposed: to build, with content curation, a collection of OERs on Wakelet related to the curricular components of their area.

The unit begins with a summary of the theme "The Importance of Curation for Distance Education," followed by the theoretical background of the WebQuest, with a link to the gamified questionnaire on the Genially platform. The subsequent steps of the WebQuest were presented, as outlined in Table 4.

Table 04 – Unit 3: The Importance of Curation Practice for Distance Education and the Evaluation of OER Quality.

Topics	Development
Introduction to the Topic	The Importance of Curating for Distance Education
Methodology	Description of the WebQuest. **Readings:** 1- *Problematic of WebQuest Methodology in Educational Practice: Potentials and Challenges* (SANTOS; BARIN, 2014). 2- *WebQuest Methodology as Guided Research in the Production of Mathematics Lessons* (SILVA, 2016). 3- *WebQuest as a Resource for Learning History at Ifac* (PAIVA, 2017). **Activity** Complete the gamified questionnaire about the WebQuest. **Suggested Readings on Evaluation:** 1-*Formative Assessment and Feedback as a Learning Tool in the Training of Health Professionals* (BORGES et al., 2014). 2- *Feedback and Its Importance in the Distance Tutoring Process* (ABREU-e-LIMA, ALVES, 2011).
Methodology	Introduction to WebQuest.
Evaluation	Instrument with Evaluation Criteria for the WebQuest.
WebQuest Tasks	1- Conduct research and read theoretical references that contribute to understanding concepts, the importance of content curation, and its relevance for Distance Education (EaD). 2- Research and read theoretical references that aid in understanding the significance of analyzing and evaluating Open Educational Resources. 3- Complete a gamified questionnaire as a reflection on your understanding of the topic presented (Content Curation).

	4- Search for OER in repositories and select resources appropriate for your curricular components, transversal themes, or transdisciplinary content. 5- Structure a personal file of the selected OER and share it with peers on Wakelet. 6- Assess an OER, suggesting modifications and improvements based on the educational context, including the curricular component, content, target audience, and learning objectives. 7- Finalize the WebQuest by participating in the forum at the end of the unit, discussing and reflecting on the results of your work, reinforcing key aspects of the knowledge and experience gained..
Topics	**Development**
Process of realization of the WebQuest	**Second Phase:** **1-** Answer the gamified questionnaire: curatorship. **Tool:** Hyperlink **2-** Carry out the curatorship process, selecting from repositories, REA suitable to our collection**.** **Tool:** Web**.** **3-** Enter the selected REA and organized, according to the subject, in our collection of Wakelet
File:	List of repositories and communities that have OER.
Process of realization of the WebQuest	**Third Phase:** Guidelines for the quality assessment of selected REA in repositories.
Task:	Assess the quality of the selected OER in the curatorship work.
Process of realization of the WebQuest	WebQuest Conclusion Forum

Source: Prepared by the authors.

In the methodology, a description and guidance of the necessary steps for carrying out the activities were provided, organizing the participants and the strategies in a sequence that facilitated understanding of the tasks to be performed. The goal was to encourage teachers to navigate the web

in search of relevant and appropriate knowledge for the research topic, guided and stimulated by the mediator, in a multiliteracy approach integrating digital literacy and informational literacy.

One of the activities was focused on the analysis and evaluation of the quality of the OER previously made available in the Wakelet collection, using an adapted evaluation instrument for the task. The completion of the WebQuest was also proposed through a forum, serving as a means of interaction and knowledge sharing. For the evaluation, a rubric with the criteria to be assessed was also provided. Subsequently, feedback was given by the mediator.

Finally, a link was provided to access the evaluation instrument for the training proposal, to be completed by the participants who finished the training. The data collected will be discussed in the following sections.

Development and Evaluation of the Training Proposal

The development of the training was conducted on Moodle, asynchronously, with the active participation of four participants. Some participants withdrew due to difficulties in balancing the training with their teaching activities for the semester and personal matters.

In the first category, we will discuss the contents, educational resources, and tools used in the development of the training proposal, in a reflective process that covered all units of the training. According to reports, it is assumed that the teachers' expectations regarding this category were met, as the resources used to address conceptual, attitudinal, and procedural content were considered to be of high quality, deep, and important for the learning process. Additionally, during the training, some mentions were made regarding the resources and/or materials used, and these were reported as follows:

> [...] I noticed that the course was organized into tasks that needed to be completed. Some of the tasks involved only reading materials (which were very rich) [...] (P2).
>
> [...] External materials and videos provided are very interesting (P2).
>
> [...] I feel enchanted and enthusiastic about the content presented in the course (P4).

However, in the self-assessment, one of the participants expressed support for reducing the amount of texts used in Unit 02. According to participant P4, "some texts were tiresome and contained the same information or very similar information. I believe that conducting a more in-depth analysis with a more specific selection among the texts would optimize the learning process."

It is important to note that due to the learning needs identified by the teachers in the diagnostic phase, it was necessary to use references that go beyond the REA theme, related to the Methodology, the Activities, the resources, and the evaluation. Some supplementary references were also suggested. In this perspective, it is expected that participants not only understand the use of REA but also become immersed in online Distance Education (EaD), experiencing different ways of working with this educational modality.

Issues related to this category were also addressed in the evaluation of the formative proposal, and participants' responses reflect positively on the use of educational resources and tools (Table 5). However, at this moment, we will only present issues related to tools and educational resources. Other criteria will be discussed later.

Table 05: Evaluation of the Formative Proposal Regarding Educational Resources and Tools for the Development of Activities.

Formative Proposal Evaluation Questionnaire (Number of Participants: 4 = 100%)				
2- How do you rate the quality of the organization of the training on Moodle (workload, amount of content per unit, sequence of units, etc.)?				
Excellent	Good	Fair	Bad	Terrible
03 (75%)	01 (25%)	-	-	-
3- How would you rate the infrastructure of Distance Education (environment/tools, teaching resources, media, etc.) provided in the training?				
Excellent	Good	Fair	Bad	Terrible
04 (100%)	-	-	-	-
6- The content and activities presented important information, indicating relevant paths for building knowledge and providing conditions for future independent exploration of the presented topics. How would you evaluate this aspect?				
Excellent	Good	Fair	Bad	Terrible
03 (75%)	01 (25%)	-	-	-
7- Were the activities consistent with the content covered throughout the training?				
Excellent	Good	Fair	Bad	Terrible
03 (75%)	01 (25%)	-	-	-
10- Do you consider that the training focused on the development of skills and competencies in the use of Open Educational Resources (OER) can be evaluated as?				
Excellent	Good	Fair	Bad	Terrible
03 (75%)	01 (25%)	-	-	-
12- The training contributed to the understanding and knowledge of various forms of assessment that can be used in Distance Education. How can it be evaluated in terms of this criterion?				
Excellent	Good	Fair	Bad	Terrible
03 (75%)	01 (25%)	-	-	-
13- Was the assessment of learning appropriate to the objectives of the training proposal?				
Excellent	Good	Fair	Ruim	Terrible
03 (75%)	01 (25%)	-	-	-

14- How would you classify your learning in relation to the content covered in the course?				
Excellent	Good	Fair	Bad	Terrible
02 (50%)	01 (25%)	01 (25%)	-	-

Source: Prepared by the authors.

Although there are reservations about the amount of conceptual content in Unit 02, the overall data show an optimistic and favorable view of the course development. Participants expressed being "enthusiastic" and "impressed" with the organization of the infrastructure and resources in Moodle. The information was considered relevant, indicating pathways for effective learning and decent performance through conceptual, attitudinal, and procedural content.

Regarding digital tools, participants showed limited familiarity and experience with these resources, whether within Moodle or external to this educational platform, as seen in:

> [...] I learned how to update Padlet, what a fantastic tool! And I'll add, I've already used it with my students, and it was a total success (P3).

> Moreover, I believe that the resources used within Moodle itself have already demonstrated new ways to use it creatively and attractively [...]. Additionally, the diversity of educational resources presented has allowed me to become acquainted with free and easily accessible tools, especially those focused on collaboration. [...] Finally, I must mention the list provided on Moodle about free platforms that can be used [...], as it has been a differentiating factor in this unit (P4).

It is evident that participants still have limited knowledge of the resources available on Moodle and other tools that can be integrated into this learning environment. Most of the time, they do not explore the diversity of resources, limiting the ways of interaction and expression for students, resulting in uninspiring and unmotivating activities that prevent them from exercising creativity and autonomy in (re)constructing their knowledge. In this regard, it is necessary to provide learners with activities that are challenging and motivating, engaging students in seeking solutions to the proposed challenges.

With this formative proposal, the aim was to demonstrate that Moodle is a constructivist and collaborative learning environment that offers various functionalities. The multifaceted platform enables diversification of actions that facilitate knowledge construction, according to the students' profiles and learning needs (Padilha; Vieira; Domingues, 2014; Santos; Fernandes, 2019).

It is worth noting that participants considered that, in addition to the content, the tools used in the activities also effectively contributed to the construction of knowledge about the use of OERs

(Open Educational Resources), developing competencies and skills for using technological tools, aligning with the learning objectives and needs identified in the diagnosis.

In the second category, the duration of the formative proposal provides insights into one of the obstacles in carrying out this formative process. Participants complained about the lack of time to dedicate to the training due to work demands and personal issues arising from the Covid-19 pandemic. Consequently, they had to immediately incorporate new educational practices in an abrupt process of integrating digital technologies in the mediation of didactic-pedagogical processes, which were previously conducted in-person and mostly based on expository knowledge transmission. In this perspective, participants positioned themselves as follows:

> At this moment, we have many activities, which requires more hours to complete the units (P1).
>
> [...] I confess that the time needed to study them is limited. Additionally, if I weren't so busy with other activities, I would have made better use of all the content provided (P2).
>
> [...] It is not always possible to find a satisfactory time for peer meetings to complete the activities. However, these difficulties are largely due to the lack of available time for full dedication to the course. I believe that adjusting the time allocated to each unit could be better utilized if more hours were added to these units (P2).

Thus, it is considered that external issues have interfered with the process, highlighting the need for the institution to create mechanisms that encourage faculty participation in continuing education processes within their own work context. This should include not only offering certificates but also ensuring that these processes are implemented as an institutional practice, with spaces for discussion, reflection, and the socialization of the knowledge constructed, in a professional development process aimed at negotiated improvements in teaching quality.

When asked if the time allocated for each unit was adequate to their learning pace, 3 (75%) participants rated it as good and 1 (25%) rated it as fair. However, when asked about the development of their autonomy and self-organization (time) during the course, we found that only 2 (50%) considered their self-organization in studies to be good, 1 (25%) rated it as fair, and 1 (25%) rated it as poor. Thus, the data reinforces the understanding that the lack of time is also related to factors external to the training, due to experiencing an atypical period of adaptations and new routines, challenging our capacity for innovation and adaptation.

However, it is also important to understand that many participants may face difficulties in adapting to the Virtual Learning Environment (VLE) due to a lack of autonomy and discipline in managing time and activities. These difficulties may stem from experiences with traditional teaching methods, leading to disinterest and challenges with activities and learning (MORAN, 2015). Nevertheless, in this training, such dependence was not characterized by the participants. When asked (via questionnaire) about their interaction with the facilitator in an asynchronous manner, this criterion was rated as excellent, with a preference expressed for activities conducted at different times, aligning with their availability.

Although difficulties may be due to external factors, the request for adjustments to the workload is important. An extension of the duration is necessary to allow everyone to complete activities with quality, reserving time for reflections and adjustments based on the feedback received. It is important for the facilitator to monitor and encourage time management, as an extended deadline might lead to some complacency among participants, affecting the synchronization of stages and the achievement of objectives.

Regarding the third category, Methodologies and Teaching Strategies, the teachers emphasized that they were positive for their learning construction. The "trail" of activities was well-organized, with clarity and objectivity in the tasks, providing ways to apply active learning principles in EaD and constructivist methodological tools.

At this stage, 2 (50%) participants rated the approach and methodologies used in the training as excellent, while the other 2 (50%) participants indicated that this requirement was good. Regarding the training's contribution to understanding and knowledge of some methodologies and teaching strategies for use in EaD, the participants maintained the same level of acceptance as in the previous criterion, meeting the needs identified by teachers in the diagnostic phase of the research, as reflected in the following discussions:

> The information trail is very well organized, with educational digital resources effectively applied (P3).
>
> The course follows a coherent and clear path, allowing for an understanding of each step and its objective [...] (P4).
>
> These issues have contributed to my professional practice as they allow me to think about strategies for using active methodologies (P4).

Using the principles of active methodologies contributed to the process of reflection on teachers' educational practices. It highlighted the use of different teaching strategies, demonstrating that these strategies truly support active participation, collaborative learning, and engagement in constructing more autonomous and meaningful learning. This counters some misconceptions that these methodologies are not suitable for Distance Education, as was highlighted by a teacher during the diagnostic phase.

However, one participant requested that the activities be explained more thoroughly to facilitate understanding of the implementation processes, as noted:

> If improvements were needed, it would be in the step-by-step description of each stage (units, activities) of the course. It might seem trivial, but in these times of remote learning, the more "detailed" and explained the roadmap is, the better it will be for the students' understanding (P2).

In response to this request, the WebQuest method was adopted, with clear descriptions and examples provided for each process, leading to greater autonomy for participants in executing the unit. Regarding the methodological proposal, it is evident from a participant's feedback the importance of the association and sequence of tasks provided in Unit 03, guiding the solution to the proposed challenge, as confirmed by: ““I chose this title [Curadoria de REA] because I found the role of REA curator very interesting, from selecting them in repositories, through availability via WebQuest, and concluding with evaluation” (P1). The participant's identification with the systematic and organized process of the methodology is apparent, where strategies, tools, and resources guided the learning process, as seen in: “[...] the content posted in this module was practically a step-by-step guide, which greatly facilitated understanding the importance of the curation work for EaD” (P3).

From this perspective, it is evident that the training has presented various teaching strategies that have prompted reflections on teaching practice, initiating a process of change in educational practices, as demonstrated by a participant’s comment: “For me, this world is also new, and everything I learned here has already addressed the doubts I had and will be useful for my future planning” (P1)

Additionally, concerning the content covered, it is important to emphasize the value of learning assessment, recognizing formative assessment's role and dynamism in the teaching-learning process. According to the responses in Table 5, participants understood and approved the forms and models of assessment used, finding them appropriate to the objectives of the training proposal. This

collaboration with the effectiveness of learning involved reconstructing meanings through problematization of experiences and actions, or in other words, reflection on action.

Thus, assessment becomes a continuous monitoring process that investigates learners' progress through activities that stimulate interest and active participation, with ongoing feedback that leads to an understanding of learning methods and interventions in the learning journey. This is a collaborative process between educator and learner (Fernandes, 2006).

In the fourth category, the relationship between theory and practice developed in the training proposal is highlighted, where the learning environment enabled participants to engage in reflective processes about their praxis. This allowed theoretical concepts to be applied to practice through challenging activities that mobilized conceptual, procedural, and attitudinal knowledge, as described at various points during the training. The following expressions underscore this:

> An essential topic like [copyrights and usage licenses] requires both theoretical discussion and examples that offer alternatives to our concerns. This is exactly what happened with this topic. I hope to apply this knowledge in my work. In my view, the course has sought continuous praxis with theoretical discussion and engaging practices supported by technologies (P1).
>
> I believe that the curation process is directly connected to changes in education, helping to support student autonomy, one of the pillars of active methodologies [...]. Moreover, regarding curation, it was possible to understand that it is an essential process [...] the goal of this [training] has been to provide, in this way, a reflective learning experience (P4).

It is possible to observe the importance of a training experience that combines theory and practice, where the experience contributes to the incorporation of technological skills that can be used in the educational context. Although this movement still seems tentative, it is evident that the proposal has laid the groundwork for the beginning of a possible transformation in educational practice, where teachers gradually integrate new knowledge and behaviors into their practice, evolving through their actions.

The fact that many training programs only address conceptual content often does not allow for understanding how to apply it, requiring that this knowledge be exemplified and experienced. In this context, it is possible to confirm, through the feedback of a participant who works with content on "Copyright and Usage Licenses" and had never applied any type of license to their work, that "Studying this topic was fantastic for me; for the first time, I assigned a Creative Commons license to a production!" (Participant P3).

In this sense, the practical activities using online tools sparked curiosity and motivation among some participants, who sought out additional tools beyond those suggested as alternatives to meet their needs and facilitate their work, as expressed by Participant P4:

> However, the experience [of creating the conceptual map] motivated me to look for other similar programs that would meet these needs [...]. Regarding the practical part of the course, creating the folder using infographics allowed us to link theory and practice and to try out some platforms like Canvas and Publish, which are quite intuitive (P4).

In this perspective, the formative proposal contributes to the integration of these professionals into the digital culture, as they come to know and use digital resources that optimize and support the teaching-learning process. Therefore, digital literacy is important because it enables teachers to identify learning opportunities mediated by digital technologies, exercising creativity and critical thinking in the pedagogical use of digital information and communication technologies (TDICs), allowing for a closer alignment with the reality of students who now interact directly with technological tools (PICONEZ; NAKASHIMA; PICONEZ FILHO, 2013).

Although most teachers understood the intention to relate theoretical references to practice, there is still a valuation of the dichotomy between knowledge and pedagogical practice. Thus, one participant questioned the possibility of working directly on the construction of the product, valuing only the final result, detached from the theoretical foundation, as noted in: '[...] the intention [theoretical texts] seems valid, but I wonder if it wouldn't be more interesting to assign tasks that actually generate a result to be elaborated and 'submitted' within the course (P2).

It is crucial to discuss the need to overcome this dichotomy, in the historical opposition between theory and practice in teacher training, as determined by the LDB No. 9.394/1996, which establishes the integration of these forms of knowledge, incorporating skills, competencies, and attitudes that can guide didactic-pedagogical processes and make them more effective (BRASIL, 1996; TARDIF, 2012). From this perspective, teachers are exposed to both theoretical references and practical processes, including technical and didactic-pedagogical aspects that underpin the training, meeting the diagnostic phase. Thus, it is important for teachers to understand that practice is informed by theory and that theory can be constructed and derived from practice (ALVARADO PRADA; FREITAS; FREITAS, 2010).

It is necessary to understand that a teacher's practice is built within a social action, from multiple historical perspectives and different teaching conceptions, resulting from the interaction between theory and practice as a whole. The focus of professional training should be on transforming education and society. In this sense, it is necessary to address the various demands of the educational context by providing spaces for discussion, reflection, and the socialization of knowledge constructed both individually and among teachers (ALVARADO PRADA, 2007).

In the fifth category, we specifically address Open Educational Resources (OER), reaffirming the lack of knowledge among participants regarding this topic, which underpins this training. In the evaluation of the formative proposal (questionnaire), only 01 (25%) participant reported having good knowledge of OER at the start of the training, 02 (50%) participants reported having poor knowledge, and 01 (25%) expressed having very little knowledge.

Regarding the subject, participant P1 positioned themselves at two distinct moments in the training. In the first unit, they stated, 'Regarding OER, I had an initial idea that was deepened. However, I still have doubts about how to acquire licenses or how to ensure that an OER is open access without a license.' By the end of the training, in the evaluation of the formative proposal, they reported, 'I knew almost nothing about OER, WebQuest, or curation.' It is evident that the participant reflected and realized that their initial knowledge was superficial in light of the breadth and depth of the topic.

Another point raised by the participant in Unit 1 refers to understanding the use of licenses, a topic that was addressed in Unit 2. In this unit, participants were able to apply a Creative Commons license to their resource and understand the importance of OER for contemporary education. They recognized the importance of optimizing actions and time by adapting available resources on the web and contextualizing them with the learning needs of students, as observed in:

> I am very happy to learn about the types of usage licenses and how to generate the seal [...]. This part of the training was very important for understanding copyright (P3).
>
> Colleagues, for me, this is a new world. Regarding licenses and copyright, I am even embarrassed to admit it, but I was also unaware of this information. I really had no knowledge of any of these resources. And I also did not know the repositories that were presented. They are essential [REA] for any teacher today (P2).
>
> Moreover, regarding licenses, I have always had difficulty knowing which license was free. However, with the list prepared by Alessandra, this difficulty has

> decreased, [...] and therefore, we need to explore further to use them appropriately (P4).

It is important to highlight that the most discussed and relevant topic for the participants was Unit 02, on 'Copyright and Licenses,' where they showed the greatest difficulty and enthusiasm in learning. It was necessary to demystify that being free and available on the Web does not make a resource an Open Educational Resource (OER); it must have a license for use or be in the public domain to avoid copyright infringement. This characteristic differentiates it from other educational resources (BUTCHER, 2011). However, a thorough analysis of resources found online is necessary, as even if a repository is classified with a Creative Commons license, not all resources hosted in these environments are free and open. Being free and circulating at no cost does not mean a resource is open to be altered or redistributed (PEREIRA; FETTERMANN; CESAR, 2016; MAZZARDO; NOBRE; MALLMANN, 2019).

In this perspective, we also observed some expressions of agreement and incorporation of the OER culture in the participants' actions, where one of the group members made the following conclusion:

> This experience made it clearer to me how important educational resources are for making the lesson more engaging, dynamic, and accessible to everyone! [...] It's essential to create and update knowledge, but also to make it accessible by disseminating it so that it truly reaches its full potential. [...] This made me reflect on my educational product; I want as many people as possible to have access to it and understand its purpose as educational material (P4).

It is important to highlight the significance of OERs in the freedom of access and dissemination of knowledge, encouraging the creation and co-creation of content suitable for the educational context. Such knowledge should be shared among teachers and learners, seeking new practices that are appropriate for contemporary education and emerging educational trends.

In the sixth category, regarding the general perceptions of the teachers about the training proposal, the participants positively expressed their views on the offering, highlighting its importance for collective educational practice and the perceived benefits of using technologies and OERs. It is noteworthy that participants were encouraged to express themselves at all stages of the research-training process, providing suggestions or criticisms about the organization and management of the training process, as observed in:

> So far, the course has been very good. It's really cool to do the course and already

> use OERs during the course stages. I emphasize that this training is essential for teachers in the era we live in [...] (P2).
>
> I am particularly enjoying the training. [...]. The recommendation [for the training] is especially necessary given the current moment we are living in. It's important to publicize this training for the qualification of teachers. (P3).

Corroborating the opinions presented above, it is necessary to clarify that in the evaluation of the training proposal, the group members were unanimous in stating that they would recommend the training to their colleagues, highlighting the relevance of the topic, the commitment to new educational trends, the use of information and communication technologies, and Open Educational Resources (OER).

Although the training proposal was well received by the teachers, there were few recommendations for changes or alterations. Some of these recommendations were discussed and addressed during the training, while others made clear the expectation to "[...] learn about games in this course as well, since I have been researching a bit and they are very engaging for students and stimulate a healthy competitive spirit in them" (P4). The same participant also suggested: "In this last unit [curation], I missed creating something or collaborating on updating a resource, instead of just evaluating [OER], as I believe the learning would have been more significant" (P4). Despite the validity of these requests and the mediator's intention to address them from the start, it was not possible to implement them due to the course's completion deadline and the need for specific expertise from experienced professionals. The proposal may be addressed in a future offering.

Regarding the evaluation of OER, one participant notes: "I conclude with the thought that emerged after evaluating the selected OER that the analysis rubric could also be used for the construction of OERs, as it includes everything necessary to make it a quality OER" (P1). From this reflection, it is evident that the teacher recognizes the importance of the institution adopting and institutionalizing a tool to ensure the quality of the resources used and that, as a result of adapting an OER for this training proposal, the institution could use it as a reference document for its actions.

In light of the positive feedback regarding the training proposal, the statement by participant P1 stands out, emphasizing that "All teachers need to understand more about Distance Education (EaD), as this is a reality." This highlights the importance of educational institutions providing continuous training in EaD for their teachers, considering the necessary conditions for the contemporary teaching profile.

Final considerations

It is understood that the specificities of education and teaching in Distance Education (EaD) are poorly disseminated in teacher training programs. There is a need to find ways to integrate educators into the digital culture, where it is not enough to merely use the resources available on the web. It is necessary to encourage both teachers and learners to be authors and co-authors of their knowledge, seeking and processing information from the network, transforming it into knowledge, communicating online, and producing and searching for educational resources in various languages and media. Such skills are fundamental for teaching online, considered a phenomenon of cyberculture (SANTOS, 2019).

Thus, the systematic approach to building the training proposal was based on the consensus of teachers' practices regarding their training needs and the contributions of Open Educational Resources (OER), favoring the reuse of resources adapted for the training action. The training was grounded in constructivist concepts and active methodologies, making participants actors and authors of their knowledge, in a mediation process that utilized digital resources and tools for interaction with the learning object and peer socialization. Additionally, it strengthened creativity, participant autonomy, and collaborative learning, showing differentiated and innovative alternatives for the teaching-learning process, adding value to the training through theoretical and practical activities, in the use of technologies and OER, integrating them into didactic-pedagogical processes.

The training proposal enabled the development of a more dynamic and engaging formation, presenting possibilities that could be incorporated into the educational practice of EaD teachers, including technological resources and tools, methodological strategies, and evaluation. This knowledge can play an important role in the development of educational materials, considering the large number of resources produced in digital format, as well as free and open applications and tools that facilitate the creation of OER.

The experiences lived in the training, discussed in the article, highlighted the importance of continuous professional development for EaD teachers, in order to meet their didactic-pedagogical needs regarding the use of active methodologies, differentiated methodological tools, and formative evaluation, associated with technical knowledge in the use of technological tools. In this training process, reflections on theoretical references and practice in 'knowing-how-to-do' were valued,

mobilizing various conceptual, attitudinal, and procedural knowledge, expressed through technological tools, adding value to the teaching-learning process in alignment with contemporary practices in Distance Education.

In this sense, to meet the objectives of an online education based on digital technologies, such as Distance Education (EaD), it is necessary to incorporate into teacher training discussions about digital and social media used in cyberspace, integrating them into the school context, contextualizing content to the educational needs of students, through didactic transposition that leads to open learning and encourages the development of digital content, sharing creations and co-creations, and democratizing knowledge.

The use of Open Educational Resources (OER) in the training of these teachers allowed for the understanding of the flexibility of these resources in communication and knowledge socialization, their applicability in various contexts, indicating that through appropriate teaching methodologies, there are multiple paths to knowledge construction. It also highlighted that individuals need to be active in their learning process, seeking different alternatives to solve challenges, and that OER provide varied possibilities for innovation and engagement for both teachers and learners.

The training proposal presented was created through reflections and consensus among the EaD teachers of the researched Federal Institute (IF) and showed that OER have the potential to enrich their training and engage them in a dynamic, creative, and collaborative exercise. Thus, it was possible to perceive that this proposal met the needs and expectations of these participants and suggests some propositions for future research. Given that the number of participants who completed the training does not allow for conclusions that encompass all the teacher trainers in this IF, the work presents pathways for improving the research and presenting it to a larger group of teachers, with the aim of contributing to the construction and democratization of knowledge through different teaching and learning methods.

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