

ARTICULATIONS BETWEEN TEACHING, RESEARCH AND EXTENSION:
CONNECTING TD AND RURAL EDUCATION

*ARTICULAÇÕES ENTRE ENSINO, PESQUISA E EXTENSÃO: CONECTANDO TD E
EDUCAÇÃO DO CAMPO*

*ARTICULACIONES ENTRE DOCENCIA, INVESTIGACIÓN Y EXTENSIÓN:
CONECTANDO TD Y EDUCACIÓN RURAL*



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ABSTRACT: In partnership with social movements and aiming to highlight the history and actions of Family Training Centers by Alternation in Maranhão, the extension project "Sharing Experiences with Digital Technologies" was created. It included two qualitative surveys, a course, and the creation of electronic pages for participating institutions. These actions were developed in an integrated way and associated with the Internship in Popular Education in the Field of Degrees in Rural Education at the Federal University of Maranhão and the Teaching Internship of the Doctorate in Education in Science and Mathematics of the *Rede Amazônica de Educação em Ciências e Matemática*. This article reports these actions and reflects on the evaluations made by the participants. The text highlights challenges faced throughout the project related to the use of digital technologies in the field and the impacts of the COVID-19 pandemic. In addition, it highlights the contributions of the project, mainly in the personal and professional growth of those involved.

KEYWORDS: Digital Technologies. Teacher Training. Rural Educators.

RESUMO: *Em parceria com movimentos sociais e visando evidenciar a história e ações dos Centros Familiares de Formação por Alternância no Maranhão, surgiu o projeto de extensão "Compartilhando Experiências com Tecnologias Digitais". Ele incluiu duas pesquisas qualitativas, um curso e a criação de páginas eletrônicas para as instituições participantes. Essas ações foram desenvolvidas de modo integrado e associadas ao Estágio em Educação Popular no Campo das Licenciaturas em Educação do Campo da Universidade Federal do Maranhão e ao Estágio de Docência do Doutorado em Educação em Ciências e Matemática da Rede Amazônica de Educação em Ciências e Matemática. Este artigo relata essas ações e reflete sobre as avaliações feitas pelos participantes. O texto destaca desafios enfrentados, ao longo do projeto, relacionados ao uso das tecnologias digitais no campo e os impactos da pandemia da COVID-19. Além disso, evidencia as contribuições do projeto, principalmente, no crescimento pessoal e profissional dos envolvidos.*

PALAVRAS-CHAVE: *Tecnologias Digitais. Formação Docente. Educadores do Campo.*

RESUMEN: *En colaboración con movimientos sociales y con el objetivo de visibilizar la historia y las acciones de los Centros de Formación Familiar por Alternancia en Maranhão, fue creado el proyecto de extensión "Compartiendo Experiencias con Tecnologías Digitales". Incluyó dos encuestas cualitativas, un curso y la creación de páginas electrónicas para las instituciones participantes. Estas acciones se desarrollaron de manera integrada y asociadas a la Pasantía en Educación Popular en el Ámbito de Licenciaturas en Educación Rural de la Universidad Federal de Maranhão y a la Pasantía Docente del Doctorado en Educación en Ciencias y Matemáticas de la Rede Amazônica de Educação em Ciências e Matemática. Este artículo da cuenta de estas acciones y reflexiona sobre las valoraciones realizadas por los participantes. El texto destaca los desafíos enfrentados a lo largo del proyecto relacionados con el uso de tecnologías digitales en el campo y los impactos de la pandemia de COVID-19. Además, destaca los aportes del proyecto, principalmente en el crecimiento personal y profesional de los involucrados.*

PALABRAS CLAVE: *Tecnologías digitales. Formación de Profesores. Educadores Rurales.*

Introduction

In Brazil, the inseparability between teaching, research, and extension became one of the principles of Universities through Art. 7 of the Federal Constitution of 1988. However, the understanding of the necessity for extension to be part of the activities to be developed by these institutions, associated with teaching and research, transcending the previously assumed welfare perspective, predates the insertion of such articles in our constitution (Gonçalves, 2015).

The first extension actions developed in the country date back to 1911 (Paula, 2013). At that time, such actions carried a conception of extension with a welfare tendency and focused on the dissemination of knowledge produced in academia. Of an elitist nature, these activities were still destined for the most privileged layers of the population and were limited to "the realization of courses and conferences and the provision of services" (Nogueira, 2013, p. 32, our translation).

In the 1950s, we experienced a period of intense political and social mobilization in Brazil, with the emergence of peasant leagues and the Campaign for the Defense of Public Education, which had as one of its relevant figures Florestan Fernandes (Paula, 2013). It is from such organizations and struggles waged during this period that, in the 1960s, we can observe a certain advancement in the conception of extension that permeated universities until then, with emphasis on the National Union of Students (UNE), which began to discuss the need for student participation in social life in communities (Medeiros, 2017; Nogueira, 2013).

On a global scale, we found ourselves in a context of economic and political crisis, in a post-World War II period, especially after the 1960s, which led to a crisis of legitimacy of universities (Santos, 1994), as well as a decrease in public investment in such institutions due to state restructuring (Gonçalves, 2015). It is from this moment that the conception of the university as a "unique institution, relatively isolated from other social institutions, endowed with great social prestige and considered essential for the formation of elites" (Santos, 1994, p. 168, our translation) comes into crisis. Thus, because it is in disagreement with emerging social demands, the university is called upon to fulfill its political and social role.

In Brazil, despite the military coup of 1964 and the dictatorship established in the country, the progressive ethos, originating in the 1950s, was not entirely curtailed (Paula, 2013), and from the 1980s, during the country's process of democratization, we underwent a strengthening of social movements. From this process emerged proposals for greater political and academic openness, implying a discussion about the social and political function of

universities, which necessarily involved the discussion around the conception of extension materialized in these institutions (Maciel, 2010; Gonçalves, 2015).

In these discussions, the importance of university extension for transforming the university into an institution truly committed to social change from an emancipatory, democratic, and popular perspective is outlined. Extension is considered an activity that will enable the university to fulfill its social mission (Nogueira, 2013, p. 38, our translation).

These discussions led, in 1987, to the creation of the Forum of Pro-Rectors of Extension of Brazilian Public Higher Education Institutions (FORPROEX), which "assumed a role of articulation and political pressure with the Ministry of Education (MEC)" (Gonçalves, 2015, p. 1233, our translation) and embraced undeniable advances in university extension in Brazil (Paula, 2013).

Thus, the conception of extension that permeates official documents and universities in the country has undergone changes, resulting from the political and economic situation of each historical period experienced. We have moved from a conception with an assistance bias to an emancipatory bias, achieving a complexity that brings with it challenges to be overcome in the development of extension actions from this perspective.

Since 2012, FORPROEX, through the National Policy for University Extension, has defined university extension "under the constitutional principle of the indissociability between teaching, research, and extension, [as] an interdisciplinary, educational, cultural, scientific, and political process that promotes transformative interaction between the University and other sectors of society"(FORPROEX, 2012, p. 28, our translation). In this way, in addition to advocating for effective articulation between teaching, research, and extension, FORPROEX incorporates the conception of complexity into extension actions. It is no longer just about educational actions that disseminate knowledge generated in the University to society (Freire, 1983), but rather about educational, cultural, scientific, and political actions resulting from dialogue and the exchange of knowledge between the University and society. Therefore, extension now assumes the responsibility of being the link between the University and society to be established and maintained, forming a feedback system.

FORPROEX (2012) advanced by defining guidelines to guide university extension actions, including Dialogical Interaction, Interdisciplinarity and Interprofessionality, Indissociability Teaching-Research-Extension, Impact on Student Formation, and Social Impact and Transformation. This reinforces the need for dialogue, the inseparable integration between teaching, research, and extension, as well as the relevance of these aspects in the

education offered by academic institutions, highlighting their role as instruments of social transformation.

In 2018, in line with FORPREX's propositions, the Ministry of Education (MEC), through Resolution No. 7 of December 18, 2018, established the Guidelines for Extension in Brazilian Higher Education (Brasil, 2018), which define that "extension activities must constitute at least 10% (ten percent) of the total student curricular workload of undergraduate courses" (Brasil, 2018, p. 2, our translation). And, they indicate modalities of extension activities, programs, projects, courses and workshops, events, and provision of services.

Beyond the sense of extending something to someone and the idea of cultural invasion, denounced by Freire (1983) in his reflections on the term "extension" itself, we assume the conception of extension "as the articulator of teaching and research activities with the demands of society" (Nogueira, 2013, p. 31, our translation). We understand, in this way, that "extension is essential for the university to realize itself as an emancipatory instrument" (Nogueira, 2013, p. 29, our translation) and, given the fact that the Bachelor's Degrees in Rural Education aim to train educators capable of acting as political articulators in their communities, we understand that extension actions should be part of the scope of these courses, in order to reinforce their political and social bias.

Considering, furthermore, that according to the Operational Guidelines for Basic Education in Rural Schools (Brasil, 2002), the identity of rural schools should "be anchored in the temporality and knowledge of the students, in the collective memory that signals futures, in the network of science and *technology available in society, and in the social movements*" (Brasil, 2002, p.1, emphasis added). We understand that extension actions, integrated with teaching and research, should include projects and programs aimed at integrating digital technologies (DT) into the daily lives of social movements, associations, and cooperatives, as well as rural schools and other movements and subjects involved in the struggle for education *in and of the Countryside* (Caldart, 2002).

Therefore, in dialogue with society, we developed an extension project entitled "*Compartilhando Experiências com Tecnologias Digitais*"³. This project involved a partnership between the Amazon Network of Education in Science and Mathematics (REAMEC), the Bachelor's Degree Courses in Rural Education (LEdoC) at the Federal University of Maranhão (UFMA), the Union of Associations of Family Schools in Maranhão (UAEFAMA), the Institute of Representation, Coordination, and Assistance of Rural Family

³ "Sharing Experiences with Digital Technologies."

Homes (IRCOA), and three Family Centers for Alternative Education (CEFFAs).

Aligned with the guidelines defined by FORPREX (2012), the actions developed throughout this project integrated the Teaching Internship of the Graduate Program (Ph.D. in Science and Mathematics Education) of REAMEC, conducted by the authors of the article, and were articulated with the internship in Popular Education in the Countryside of the students of the Bachelor's Degree Courses in Rural Education (LEdoC) at the Federal University of Maranhão (UFMA), both carried out remotely.

Given the importance of this project and the results achieved, this article aims to present an account of the aforementioned extension project and reflect on the evaluation carried out by the participants. To this end, the origins of the project and its proposal for integration between teaching, research, and extension are presented. Next, the methodological aspects of the proposal are detailed, followed by the reflections and final considerations.

A Proposal for Integration between Teaching, Research, and Extension in the LEdoC

The proposal of the extension project “*Compartilhando Experiências com Tecnologias Digitais*”⁴ emerged from a dialogue between the LEdoC-UFMA and the rural social movements in Maranhão, specifically with the Maranhão Agroecology Network⁵ (RAMA). Through this dialogue, the movements suggested, as one of the activities that could be carried out by the students of the aforementioned degrees, during the Internship in Popular Education in the Countryside, the organization of the history of the institutions granting the internship, in this case, associations, unions, movements, etc.

The Internship in Popular Education in the Countryside corresponds to 90 hours of the 450 allocated to mandatory teaching internships, which are included in the curriculum of each of the LEdoCs at UFMA and are based on:

[...] in a conception of Popular Education as a historical construction of the oppressed, arising from social struggle (class struggle), as a conception of counter-hegemonic education linked to processes of human formation (emancipation, autonomy, humanization, liberation), and social transformation (economic, cultural, and political) (UFMA, 2020, p. 2, our

⁴ "Sharing Experiences with Digital Technologies".

⁵ Rama articulates 23 different institutions and organizations of farmers and traditional peoples and communities, from the Tocantina region, Médio Mearim, Baixada, Sul, Baixo Parnaíba, Cocais, Baixo Munim and Litoral. And, throughout its history, it has sought to strengthen and disseminate agroecology as a model capable of coping with the development adopted for the Maranhão countryside (Rama, 2022).

translation).

UAEFAMA, as well as IRCOA and the associated CEFFAs, constitute valuable spaces for the promotion and guarantee of Rural Education in Maranhão state (Caldart, 2002). These institutions, operating in the state of Maranhão for approximately 33 years, develop innovative projects and activities based on agroecological principles and the Pedagogy of Alternation, which should not be confined to their respective physical spaces. It is necessary to cross the walls imposed by physical, social, and political barriers to share experiences, seeking greater visibility and new partnerships. Overall, such organizations and institutions are characterized as internship sites for students of LEdoC-UFMA, meaning they serve as possible granting institutions for Internships in Popular Education in the Countryside.

In general, such organizations and institutions are characterized as internship sites for students of LEdoC-UFMA, meaning they serve as possible granting institutions for Internships in Popular Education in the Countryside.

When considering the proposal put forward by the movements, we questioned how we could construct a project that articulated teaching (internship), research, and extension, aiming not only to build the history of these organizations/institutions, namely UAEFAMA, IRCOA, and associated CEFFAs, but also to create a space/medium to give visibility to these institutions, through which they could share experiences and establish partnerships, contributing to the emancipation of the individuals involved.

We began with the premise that web pages could constitute this space/medium to be created. We considered the fact that web pages allow for the insertion of images, videos, and texts, as well as on social networks, and the provision of information about operations, principles, history, documents, and news, in an organized manner, facilitating quick access to such information and direct contact with the institutions. Therefore, the aforementioned project aimed primarily to disseminate the history of struggle and actions carried out by UAEFAMA, IRCOA, and associated CEFFAs through a web page.

The project lasted for 12 months, from October 2020 to September 2021, and consisted of: a) two qualitative research studies (History of CEFFAs in Maranhão; and Digital Technologies, Field Educators, and CEFFAs in Maranhão); b) offering the course "Building Web Pages on Free Platforms"; and c) creating web pages for the participating institutions. These actions were carried out in an integrated manner and coordinated with the Internship in Popular Education in the Countryside of LEdoC-UFMA and the Teaching Internship of the Postgraduate Program (Ph.D. in Education in Science and Mathematics) of REAMEC (Figure

relationship with digital technologies? The study investigated two of the activities carried out by the participants of the course offered, as well as the evaluations of the project made by the participants themselves.

Based on the ideas promulgated by FORPROEX, from the project's motivation, we consider the promotion of dialogical interaction, both between the university and the community and among participants. The Indissociability between Teaching-Research-Extension marks its construction, just as the concern for the Impact on Student Formation. In this sense, we take into account not only the development of qualitative research by students from UFMA's LEdoCs, but also the possibility of participating in a dialogical teaching process, building knowledge about the use of digital technologies that can be extended to the classroom, and the process itself of building a website for CEFFAs, capable of facilitating the development of various skills and contributing to the struggle for Education *in* and *for* the Countryside (Caldart, 2002).

Furthermore, we are concerned with the Impact and Social Transformation, specifically regarding the implicit continuing Education of teachers and managers working in CEFFAs and the potential increase in visibility of activities developed in these institutions. For all these reasons, the course and the construction of the websites occurred concurrently with these two research projects, in a dialogical feedback movement, described in the following item.

Methodological Aspects

The aforementioned extension project was conceived with the perspective of fostering the permanent exchange of knowledge and experiences among the participants (Paula, 2013) through the joint construction of the websites for each of the associations involved. Therefore, the project integrated educators at different levels of education: undergraduate students from the LEdoC program, faculty from Higher Education, and educators and other individuals involved in UAEFAMA, IRCOA, and associated CEFFAs, under the coordination of the REAMEC doctoral candidate and their advisor/supervisor (Table 1). Among the faculty and/or individuals involved in UAEFAMA, IRCOA, and associated CEFFAs are the technical supervisors responsible for overseeing UFMA LEdoC students during the Fieldwork in Popular Education.

Table 1 - Participants of the "Sharing experiences with Digital Technologies" Extension Project, developed at UFMA, from 2020 to 2021

Institution	Number of Participants
<i>LedoC da UFMA</i>	06 students
<i>REAMEC</i>	01 student and 01 teacher (authors of the article)
<i>UAEFAMA</i>	03 representatives (01 director; 01 associate professor; 01 student from an associated EFA).
<i>IRCOA</i>	02 representatives (teachers)
<i>Escola Família Agrícola Rio Peixe (EFARP)</i>	02 representatives (teachers)
<i>Escola Família Agrícola João Evangelista de Brito (EFAJEB)</i>	01 representative (teacher)
<i>CFR de São João do Soter</i>	01 representative (teacher)

Source: Developed by the authors (2021).

The Course “*Construindo páginas eletrônicas em plataformas gratuitas*”⁹ was planned and offered with the intention of providing a space for the dissemination of activities carried out by the participating institutions, that is, a space/means to: share experiences and information and seek partnerships. Therefore, the aforementioned course was constructed considering the concept of Cyberformation (ROSA, 2018), according to which we understand digital technologies as participants in the process of knowledge production and/or formation. Thus, in constructing its vocabulary, the term:

[...] **Cyber** expresses the notion of the internet or communication between computer networks, thus concerning aspects of working with technologies, specifically, Digital Technologies (TD) [...] **Formation** understood as form/action (BICUDO, 2003b) enveloped by specific flows (in our case, mathematical), pedagogical, and technological, that permeate the process of forming-with-technology, encompassing the use of cyber environments and all the technological apparatus linked to them and/or produced as enhancers of mathematical knowledge production, instead of agility, motivation, and/or trendiness [...] (Rosa, 2018, p. 270-271, our translation).

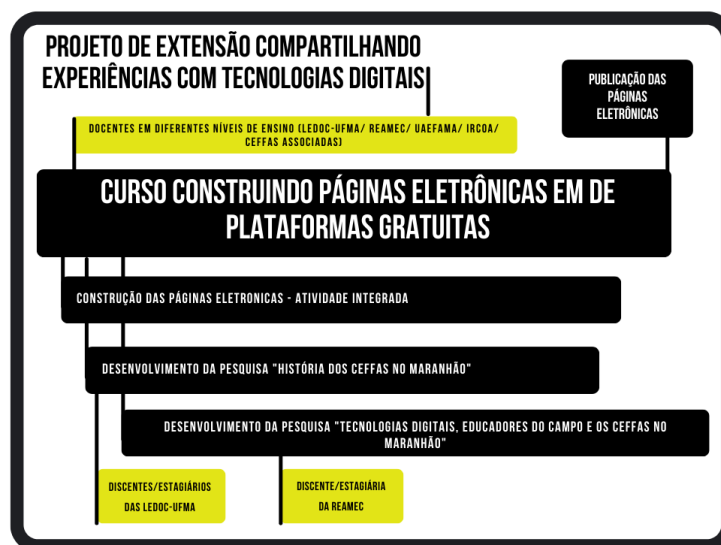
The construction and publication of the web pages and the development of the research occurred in an integrated manner. Thus, at the same time, while the offered course provided subsidies for the realization of the research “*Tecnologias Digitais, Educadores do Campo e os CEFFAs no Maranhão*”¹⁰, developed by the REAMEC doctoral candidate, it sought to enable the construction of the web pages that depended, intrinsically, on the implementation of the research “*História de CEFFAs no Maranhão*”¹¹, developed by the undergraduate students/interns of LEdoC-UFMA (Figure 2).

⁹ "Building Websites on Free Platforms".

¹⁰ "Digital Technologies, Educators of the Countryside and the CEFFAs in Maranhão".

¹¹ "History of CEFFAs in Maranhão".

Figure 2 - Systematization of the actions that integrated the extension project "Sharing experiences with Digital Technologies," developed at UFMA, from 2020 to 2021



Source: Developed by the authors (2022).

Prior to the start of the project, three remote meetings were held to present the proposal, address questions, make adjustments to the initial planning, and present the Informed Consent Form (ICF), to be delivered and signed before the start of activities.

The offering of the course "Building web pages on free platforms" also took place remotely, with a total workload of 60 hours and an expected duration of two months, via Google Classroom, with support from the WhatsApp group. The course alternated between synchronous and asynchronous moments, respectively, lasting 2 hours and 3 hours each, with 28 hours of its total workload allocated to organizing the history of the institutions. The schedule and dates of the synchronous meetings were defined in agreement with the participants who opted for the evening shift. However, occasionally, this organization underwent modifications due to the specificities presented by the participants during the project execution, sometimes resulting in two synchronous meetings in the same week.

The course was organized into 8 modules and focused on the use of Digital Technologies (TD) for sharing experiences, with a focus on creating a web page for UAEFAMA and IRCOA, as well as for EFARP, EFAJEB, and CFR de São João do Soter.

In *Module I*, called Orientation, we conducted the process of familiarizing participants with image, text, and cloud storage resources. However, this familiarization occurred in connection with the construction of the web pages, meaning that participants did not learn to use all the necessary resources to then build the pages but became familiar with them as they built them.

In the first synchronous meeting, we conducted the Orientation process with Google Classroom, presented the project, and addressed any remaining questions. Additionally, we provided the initial guidance on the asynchronous activities to be developed subsequently. During this meeting, the students of LEdoC also created a folder in Google Drive within the Alphabet to insert the material related to the institution's history and shared it with their respective technical supervisors and other participants of the course, affiliated with the institution granting the internship in Popular Education in the Field (UAEFAMA, IRCOA, EFARP, EFAJEB, or CFR de São João do Soter).

In *Module II* (Creating a Web Page - Part 1), two platforms for creating and publishing web pages were presented: the Wix platform and Google Sites. The characteristics and possibilities offered by each platform were analyzed, as well as the potential obstacles to their use. After this analysis, it was decided to build the web pages using the Wix platform. This choice was made based on the consideration that, although more complex and requiring a broadband internet connection for an ideal experience, the Wix platform would offer greater flexibility in terms of design and resources for the web pages, thus enabling greater dynamism and interaction with the target audience.

The first week of the course consisted of two consecutive synchronous sessions, with two asynchronous activities assigned to participants. These tasks included navigating through the Wix platform and producing a Reflective Memorial about their personal and professional relationship with the CEFFAs via Google Docs.

Through this memorial, we aimed to familiarize participants with some online text production tools and, in the case of LEdoC students, to connect them with the subject of their research, the CEFFAs, identifying them as potential areas for involvement. Additionally, this stage generated materials that were analyzed in the research “*Tecnologias Digitais, Educadores do Campo e os CEFFAs no Maranhão*”¹², developed by the intern from REAMEC. Moreover, in this module, we provided a tutorial on using Google Docs offline, both on computers and smartphones, considering the internet access difficulties reported by participants.

In *Module III* (Creating a web page - Part 2), we explored the process of searching for images on Google Images, learned the difference between Creative Commons images and copyrighted images, and discussed platforms that provide free images, such as Pixabay. We also experimented with the Canva platform and its capabilities in producing promotional content for the CEFFAs, including materials for the web page. At the end of the synchronous

¹² Digital Technologies, Educators of the Field, and the CEFFAs in Maranhão.

session of this module, we worked on the procedure for inserting images into the web page using the Wix platform.

The asynchronous activity involved the completion of a task called "Digital Technologies and You," where participants were invited to narrate their first encounter with digital technologies, whether they were part of their education and their current involvement with these technologies. The aim of this task was to prompt participants to reflect on the influence of digital technologies in their lives and contribute to the research "*Tecnologias Digitais, Educadores do Campo e os CEFFAs*"¹³.

Starting from *Module IV* (Building the institutions' history), LEdoC students were instructed to begin researching the "*História dos CEFFAs no Maranhão*"¹⁴, gathering documents, photographs, and videos and conducting semi-structured interviews with individuals who were involved in their creation and have worked or are working in their operations. This guidance was provided through a specific remote meeting, during which LEdoC students from UFMA created documents characterizing and outlining the history of the granting institutions on Google Docs.

During one of the asynchronous moments in this module, an activity titled "*Transcrevendo entrevista usando o Google Doc*"¹⁵ was proposed due to its relevance to the research conducted by LEdoC-UFMA students and the potential for use by educators from granting institutions as an inclusion tool. Participants were guided on how to carry out this procedure using Google Docs and experienced it by transcribing interviews conducted during the organization of the institution's history. A longer deadline was set for this task as interviews took place at different times during the project execution.

In *Module V* (Creating a Website - Part 3), we explored various layouts and possibilities offered by the Wix platform for building the page. We worked on: ways to modify the background and menu of the website, insert the news tab, insert or modification of images and texts, insert or modification of design elements, and, through dialogue, we established the basic items such as welcome, history, news, location, and contact that should compose the menu of the websites to be built.

When defining the items to be included in the menus of their websites, the institutions differed according to their particularities, in addition to the basic items already established. An

¹³ "Digital Technologies, Field Educators, and the CEFFAs".

¹⁴ "History of CEFFAs in Maranhão".

¹⁵ "Transcribing Interviews Using Google Docs".

example of this is one of the EFAs, which included in its menu an item focused on donations, another for presenting the institutions, their physical spaces, and guiding documents, and one more item for presenting the Pedagogy of Alternation.

Although synchronous meetings were made available in the Google Classroom, the group felt the need to hold an additional synchronous meeting as a revision strategy for the last two, considering that some participants were unable to attend. As mentioned at the beginning of this passage, the planning was adjusted according to the needs and particularities of the group.

To assist in the process of building the web pages and considering the difficulty some participants expressed in following the synchronous meeting in its entirety, we provided four tutorials on the Wix platform in Google Classroom. Considering the course's focus, these tutorials were constructed with an emphasis on the pages and content to be produced by each institution/trainee. As an asynchronous activity, the groups were tasked with brainstorming their layouts and menus and making necessary modifications so that we could continue building the web pages in the subsequent meeting.

In *Module VI* (Producing materials for the web pages), we continued exploring the Wix platform by inserting PDF documents and addressing other questions brought up by the participants. However, this time, the activities were focused on the layouts already chosen by the institutions and the menus that had been defined.

Additionally, the groups presented their layouts, and together, we discussed some issues and adjusted the menu proposals. With the layouts and menus defined, the groups were guided to create a Google Doc file to input all the text that would compose the site, organized by menu item. As an asynchronous activity of this module, the groups were tasked with continuing the construction of the web page and the texts that would be part of it.

At this point, it is important to highlight that both the web page projects and the Google Drive folder containing the documents, photographs, videos, and files built on Google Docs with the history and the texts planned to appear on the web pages were shared among the participants of each institution and with the professor responsible for the course, a doctoral intern from REAMEC. At this juncture, we understood it would be beneficial to hold synchronous meetings in groups to work on the specificities of each one and make progress in building the pages.

The subsequent asynchronous activities focused on producing professional photos using smartphones, considering that this is the most utilized tool by participants for capturing images

during the actions carried out in the CEFFAs, and on how to digitize documents and photographs with the aid of a smartphone. These activities led them to produce photographs that would be included on the web pages and to digitize documents and/or old photographs from the school that were related to its history.

Due to the holiday season and end-of-year vacations in late 2020, we concentrated on some asynchronous activities during this period. In addition to the activity described in the previous paragraph, participants were tasked with defining the geographical coordinates of the institutions using Google Maps and the Camera Map GPS application.

In *Module VII* (Registering Institution Locations on Google Maps), we resumed the two asynchronous activities, registering the locations of the institutions on Google Maps and inserting the locations of the institutions into the web pages under construction. At this point, we encountered some difficulty, as some of the institutions already had a registration on Google Maps with a different address, which required individual work with each institution to overcome this obstacle. Additionally, other issues related to this registration also arose and required additional time to resolve.

In *Module VIII* (Publishing the Web Pages), besides synchronous meetings to address location-related issues, an average of two to three synchronous meetings per institution and their respective interns were held to continue building the web page.

The project initially envisaged monitoring the institutions for six months after the conclusion of the course and the publication of the pages. However, due to the asynchronous publication of the pages, monitoring was conducted according to the needs of each institution, even after the project ended in September 2021.

At the end of the project, participants were invited to conduct an evaluation in which they were asked to enumerate the positive aspects of the project, as well as those that needed improvement. Additionally, reflections on their participation in the project and how it contributed to their education, identifying strengths and challenges in the relationship between rural education and digital technologies, were requested. They were also asked about the significance of the website built for them and for the institution, even those that had not yet been published. The next section of results and discussions addresses this evaluation.

The research “*História dos CEFFAs no Maranhão*”¹⁶, data collection, and organization of the material that would compose the web pages were completed. However, due to issues related to the COVID-19 pandemic, which led to health problems, as well as the accumulation

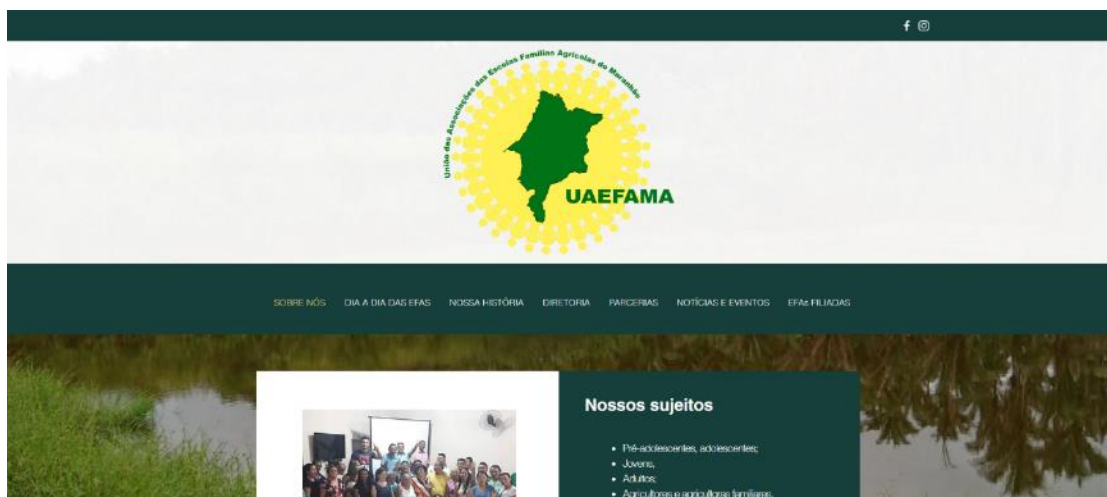
¹⁶ "History of CEFFAs in Maranhão".

of activities in institutions that had to switch to remote teaching during the project execution, the finalization and publication of the web pages occurred gradually. By October 2021, we had published three web pages (Figure 3), those of UAEFAMA (2021), EFARP (2021), and EFAJEB (2021), while the pages of IRCOA and CRF de *São João do Soter* were put on hold.

Finally, for the publication of the web pages, we held conferences via Google Meet, led by the institutions, with testimonials from those involved in the process and the presence of the school community, parents, and actors who have been or are involved in their stories. During these conferences, we symbolically executed the action of publishing the pages via the Wix platform, with screen sharing, and subsequently provided the link to the participants present at the conference.

In the following section, we review the evaluations conducted by the individuals involved in the project and provide some reflections on digital technologies in times of pandemic and Rural Education, as well as the articulation between teaching, research, and extension proposed by the focused project and the achievement of an extension seen as a dialogical and emancipatory process.

Figure 3 - Screenshots of the web pages built and published during the extension project "Sharing experiences with digital technologies," developed by UFMA, from 2020 to 2021



(a) Screenshot of the UAEFAMA web page (10/27/2021).



(b) Screenshot of the EFARP web page (10/27/2021).



(c) Screenshot of the EFAJEB web page (10/27/2021).

Source: UAEFAMA (2021); EFARP (2021); EFAJEB (2021).

We highlight that, in order to preserve the identity of the participants, in this article, in the following section, the representatives of the CEFFAs and the students of LEdoC-UFMA were identified, respectively, by the letters R and D, followed by an Indo-Arab numeral.

Weaving Reflections

During the COVID-19 pandemic, one of the measures taken by governments to contain the spread of the SARS-CoV-2 virus was quarantine, which "can be experienced as an unpleasant, uncomfortable, or painful personal experience" (Zwielewski *et al.*, 2020, p. 31, our translation). Among the stressors related to the COVID-19 pandemic, Enumo *et al.* (2020, p. 31) point out social distancing, frustration, boredom, the accumulation of tasks, including

activities normally done outside the home, lack of supplies, inadequacy of information, and economic difficulties, among which we can identify some of the stressors listed by the project participants in their evaluations.

In the field of Education, remote teaching was the alternative found in an attempt to mitigate the consequences brought by the quarantine to students in our country, this alternative brought with it many challenges and multiple consequences. Anxiety, fear, and exhaustion that affected teachers and students during this period stand out, so "excessive workload, worsening stress, anxiety, insomnia, and other symptoms related to mental health are common reports among teachers during the COVID-19 pandemic"(Salas, 2020, our translation).

These issues were not foreign to the daily lives of the project participants, constituting challenges throughout its development. In addition to concerns related to the use of digital technologies and the "*difficulty of access for some to follow the activities*" (R1), participants highlighted in their evaluations aspects directly linked to the situation imposed by the COVID-19 pandemic. This included the overload of activities, lack of personal motivation, the impact of the disease on family members or close acquaintances, mourning for the loss of loved ones, especially for the representatives of the CEFFAs, and the challenges faced in the management and development of remote teaching activities.

Regarding the relationship between rural education and digital technologies, participants recognize a potential "*that is somewhat hidden*" (D1), referring to the potential in teaching, rural development, and dissemination of the actions of the CEFFAs and rural communities in Maranhão. They define digital technologies as "*a tool of utmost importance in rural schools*" (D4). In their evaluations, they acknowledge that digital technologies are part of the society in which we live and, therefore, should also be integrated into rural daily life:

In the constant changes of the contemporary world, it is necessary for us to adapt to such a situation. The speed of constant events and transformation in society is a fact, so we in rural education cannot fall behind, we have to move forward at the same pace [...] (R3, our translation).

[...] Today, technologies are part of people's lives, and the school cannot ignore this fact, and refrain from using such resources" (R4, our translation). The presence of technology is important for the development of communities and especially to help disseminate the actions that the CFRs offer to the school community (R2, our translation).

Puig-Calvó (2020), when referring to the Pedagogy of Alternation and the educational institutions that adopt it, alerts us to the fact that "we cannot deny that we must adapt to new times in social, economic, educational, and communication matters" (González-García; Silva,

2020, p. 6, our translation). This alert, however, does not correspond to mere technological fetishism or a simplistic and naive view of the need for digital technology integration in rural areas, but rather to the latent urgency of digital inclusion so that we can continue to fight for a quality Education *in and for* the Countryside, conceived and developed within and for the countryside.

However, the participants point out that in our country, such potential is accompanied by a structural necessity: the need for digital inclusion in rural areas, whether in terms of technological resources or human resources. They emphasize the importance of the struggle "*for digital inclusion in rural schools and the promotion of training on the use of technologies by teachers*" (D2, our translation).

One participant reminds us that in rural areas, "*there is still a lot of missing information, and we have an audience that does not have mastery of technologies*" (R3, our translation). According to the Brazilian Institute of Geography and Statistics (IBGE), in 2019, only 38.4% of households in the rural areas of the Northeast used the Internet, while in urban areas this percentage was 86.5%, representing the largest regional difference in the country (IBGE, 2021, pp. 5-6). Reasons for not using the Internet at home include a lack of interest in accessing it, the high cost of internet access, and a lack of knowledge about how to use the Internet by the residents. In rural areas, these reasons are compounded by the unavailability of internet access service in the area, which in 2019 corresponded to 19%, compared to 0.6% in urban areas (IBGE, 2021, p. 6).

The disparity in access to digital technologies varies from the availability of quality internet service to the access to equipment that allows their use, including the lack of skills to handle them. Therefore, it is pertinent to observe the participants, who recognize both the potential of the relationship between digital technologies and rural education, and the need for the implementation of public policies that ensure equal access to digital technologies between urban and rural areas.

Even in the face of such challenges, and even though "*it was not possible to solve all the problems encountered during the project*" (D3, our translation), the participants affirm that the project enabled progress in the collaborative and integrated construction of knowledge regarding the use of digital technologies, having provided:

- *The exchange of knowledge between institutions and the university;*
- *The participation of the social subjects themselves (students, teachers, coordinators, and directors) in the construction of the website; [...]*
- *Immersion of the subjects in the field of digital technologies;*

- Dissemination of the work of the CEFFAs, UAEFAMA [and IRCOA] to society in general through the creation of the websites; and,
- The realization of an internship in Popular Education in the Countryside by the students of the Licentiate in Rural Education, which indeed contributed both to the students' learning and to the improvement and development of the work of the partner institutions (E1, our translation).

By using the expression "*immersion of the subjects in the field of digital technologies*," it is possible to infer that we have advanced in the conception of Cyberformation (Rosa, 2018), demonstrating that digital technologies were integrated into the knowledge production process. Furthermore, E1's words indicate alignment between the developed project and the conception of university extension assumed here and established by the Guidelines for Extension in Brazilian Higher Education (Brasil, 2018), which identify among the structural aspects of extension "the dialogic interaction of the academic community with society through the exchange of knowledge, participation, and contact with contemporary complex issues present in the social context" (Brasil, 2018, p. 2, our translation) and "the contribution to the comprehensive education of the student, encouraging their formation as a critical and responsible citizen" (Brasil, 2018, p. 2, our translation).

The contribution to the personal and professional development of the participants was also highlighted in their evaluations. The knowledge constructed throughout the project now informs these subjects' roles in the classroom, in their respective institutions in general, in their activities as education students, and even in professional activities related or unrelated to formal education.

The interns from LedoC-UFMA emphasized that their participation in the project helped them with "*security, confidence, and persistence to face the obstacles that rural schools face daily concerning pedagogical technological means*" (D3, our translation). They also noted that the knowledge gained contributed "*to improving strategies developed during remote teaching, the mode of instruction adopted during the COVID-19 pandemic*" (D2, our translation).

The case study developed by the interns from LedoC-UFMA and the construction of the electronic pages for the participating institutions, which enabled their "*stories to be recovered and retold through texts and photographic records on a digital platform*" (D2, our translation), were characterized as "*a gratifying achievement*" (R5, our translation), a moment of collaborative learning between institutions and between teachers in training.

The electronic pages constructed represent a space/medium for sharing the actions carried out by the CEFFAs, as well as their histories of struggle, experiences, and challenges

faced. This, therefore, constitutes "*a tool that helps to disseminate to the world all the actions undertaken*" (R2, our translation) by these institutions. This construction represents "*the constant quest for access as a means of expanding knowledge and bringing information about the [CEFFAs] to the most remote places, as we believe in Education of the Countryside as a source of liberation*" (R1, our translation), establishing itself as "*a further step in the growth and consolidation of quality Education of the Countryside for Maranhão*" (D1, our translation).

Regarding aspects that need improvement or modifications, the participants indicated the expansion of the project to cover more CEFFAs. Additionally, they suggested holding some in-person meetings to intensify the exchange of experiences and allow the project organizers to closely observe the work developed by the CEFFAs. Another suggestion was to include a module dedicated to social media in the course offered within the project.

Final considerations

In this article, we presented the construction of the extension concept we advocate, as a means through which the university can fulfill its social role with an emancipatory perspective. Subsequently, we introduced the project "Sharing Experiences with Digital Technologies," which involved UAEFAMA, IRCOA, and CEFFAs from Maranhão, in addition to the LedoCs from UFMA and REAMEC, and offered some reflections drawn from the evaluations conducted by the subjects involved in the mentioned project.

The implementation of this project confirms that, despite the involved complexity, the articulation between teaching, research, and extension can constitute internship activities in Teacher Education Programs. Such activities can integrate pre-service and in-service teachers in Higher Education and Basic Education collaboratively, through actions capable of contributing, directly and indirectly, to knowledge construction, education quality, and the dialogue between society and the university.

The project's evaluation and the results obtained reveal the potential existing in the relationship between Education of the Countryside and Digital Technologies (DT), while also highlighting the urgency of public policies aimed at digital inclusion in and of the Countryside. This underscores the importance of projects that increasingly connect Education of the Countryside to DT.

The challenges faced during the implementation of the described actions highlight the need to expand and implement projects that integrate digital technologies and link them to

teaching, research, and extension aimed at rural populations. Specifically, this applies to rural educators in initial or continuing education processes, as well as to social movements, thereby increasingly bridging the gap between the university and society.

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