EXTENSION IN TECHNICAL COURSES IN THE DISTANCE MODALITY

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ABSTRACT

This work deals with the result of the research developed within the Professional Master's Program in Professional and Technological Education – ProfEPT, which sought to investigate the reasons for the low participation in the extension actions of students of the Subsequent Technical Course in Didactic Multimedia, offered in the distance modality by the Federal Institute of Espírito Santo. As hypotheses for this problem, the lack of time and space within the workload of the servers for extension practices, school culture focused on teaching activities, and the profile of students who do not have time available for extra-curricular activities because they are, for the most part, adults and workers. The general objective was to propose actions that would encourage the extension practice within the course, and the execution of this would take place through an extension action that involved students and employees of the coordination. Conversation circles and meetings were held, the results of which generated four extension actions that demonstrated the importance that the extension practice can represent in enabling the student's contact with the social reality, as well as the need for integration between teaching, research and extension to enable the teaching workload in extension actions.

Keywords: Professional education, Technological extension, Distance education, Didactic multimedia.

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INTRODUCTION

Extension composes, together with teaching and research, the structuring basis of Professional and Technological Education (EPT), as can be observed in the legislation that establishes the federal network.

At the Federal Institute of Espírito Santo (Ifes), extension is present in institutional norms, in the institutional development plan and appears in the mission of this federal agency in the teaching-research-extension integrative perspective.

Gradually, the institutional culture, which was traditionally focused on teaching, appropriates research and extension actions, because, although there is a need to deepen the integrating possibilities between the three strands, it is already possible to observe practices of integration between research and extension actions, especially in research groups, dissertations and educational products of master's programs.

It is also possible to verify the integration between teaching and extension, especially when the course projects clearly predict, with pre-established times and spaces, how extension is approached, whether within a set of disciplines or in integrative projects or even when the methodology chosen by the professor for the development of content involves applied research with external partnerships.

In this way, extension is part of the student's training of technical courses in professional and technological education, not being something special or extra to the course, but an inherent and intrinsic part of the educational practice and the teaching-learning process.

Extension enables the commitment to an education that dialogues with society, which allows learning from the surrounding reality while applying school learning. This view reinforces that the tripod teaching-research-extension must be present at all levels and modalities of teaching in federal institutes, including distance education.

The participation of students from technical courses in extension actions has been gradually increasing at Ifes with institutional and governmental incentives, such as the Support Program for Extension Actions (Paex), which is an institutional program that encourages the participation of students in extension actions through scholarships, and government notices, such as those offered by the Secretariat of Professional and Technological Education (Setec) of the Ministry of Education in partnership with the Dean Extension Program (Proex) of Ifes, which, in addition to promoting extension actions, require the participation of students from technical courses in their execution teams.

However, when analyzing the participation of students in the distance technical course at the Reference Center for Training and Distance Education (Cefor) in extension actions, it is observed that only 2.5% of annual freshmen had certified participation between the years 2018 and 2019. Thus, the investigative question was to find what were the main obstacles to the participation of these students in extension actions.

To this end, from the second semester of 2019, a participatory research was initiated involving students, coordination and teachers of the Technical Course in Didactic Multimedia (CTMD) and a professor, an external collaborator to propose actions and reflections that would stimulate extension activities for the Subsequent Technical Course in Didactic Multimedia offered by Ifes in the distance modality.

As a result, an extension program was developed by the coordination, three extension projects linked to it, in addition to a dissertation entitled "In the extension wheel: proposal for extension actions in technical courses in the distance modality", [3]carried out within the scope of the Master's Program in Professional and Technological Education (ProfEPT) of the Federal Institute of Espírito Santo – Vitória Campus and an educational product in the format of a guide for the development of extension at Ifes with tips for distance education courses.

PROFESSIONAL AND TECHNOLOGICAL EDUCATION, DISTANCE EDUCATION AND EXTENSION

Professional and Technological Education in Brazil emerged to meet two needs. The first, of an economic nature, was the generation of labor to meet the labor market; the other, of a welfare nature, aimed at serving the *unfortunate*.

> This welfare logic with which professional education emerges is perfectly consistent with a slave society that originated dependently from the Portuguese crown, which passed through Dutch rule and received the influence of French, Italian, Polish, African and indigenous peoples, resulting in a wide diversity of culture and living conditions throughout history – a concrete mark on the social conditions of the descendants of each of these segments (MOURA, 2007, p. 3).

This initial characteristic generated a duality in Professional and Technological Education, because, for a long time, there was a separation between propaedeutic education and technical education, with propaedeutic education being destined to the

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[3] Data   Complete quantitative issues can be found in the dissertation resulting from the research, available at: https://repositorio.ifes.edu.br/handle/123456789/1546?show=full

children of the elite and technical education to the children of the working class, which, in turn, had a terminal character, that is, those who did technical education did not go to universities (MOURA, 2007).

Removing the possibility of integration between propaedeutic and technical learning was a way of limiting the number of people who sought universities while consolidating the existing class structure in the country, as described by Leite (2018, p.55):

> In the history of Brazilian education, professional education was designed with the purpose of training a portion of the population to perform manual activities considered to be of inferior intellectual level. It also aimed to meet the demands of the industry and benefit economically disadvantaged social groups.

The achievement of secondary education integrated with technical education was slow and gradual and is far from being consolidated, as can be seen in the various attempts at reforms, with emphasis on the proposal for reform of secondary education instituted by Federal Law 13.415, of 2017.

At the same time that reforms are made that limit the contents to be taught, abysses are once again opened between the education that is offered to the elites, in which one would have access to the various itineraries, and the education that is offered to the popular classes, in which this choice may be limited due to public policies.

For example, by limiting secondary education to the itinerary of professional education, without considering the propaedeutic basis, brevity in training is sought, as described in Ciavatta (2014, p. 186), it is seen that this attempt to put secondary education at the service of productive flexibility denies the historical construction of the individual and society, necessary for education.

Thus, it is observed that Professional and Technological Education remains in conflict to occupy the space that is rightfully theirs, which is the offer of an integral education, which enables a human formation, which has work as an educational principle, which thinks about the individual in its totality and which gives students the possibilities both to act in the world of work, and to continue their academic career if they so wish.

Professional and Technological Education has been studied by several authors and from different perspectives. In this work, following the line that underpins the graduate program in which the research was inserted, the studies developed by Ramos (2014) and Ciavatta (2014) were used as a guide, which bring the idea of professional and

technological training committed to human formation, considering the historical construction of the subject as a path to its emancipation.

According to Ramos (2014, p. 84), there are some "important concepts for the construction of a conception of professional education committed to human formation" and the author highlights the following:

- **integral human formation:** that in which it does not separate the function of performing from the function of thinking, because it considers human beings as historical and social, and also because it is understood that concrete reality is the result of the junction of multiple relationships, therefore, man, by being part of this reality, transforms it and is transformed.

- The social division of labor within the capitalist system separated these functions. Therefore, it is the function of the school, especially those that propose to offer vocational education, to undo this division, to provide students with a multiplicity of experiences and knowledge. When thinking about this professional training from an integral human formation, there is no need to speak of the separation between theory and practice.

- **work, science, technology and culture as inseparable categories of human formation:** work is considered as the way in which human beings produce reality and science, in turn, as "part of systematized knowledge" (RAMOS, 2014, p. 89). Technology, which, in its relationship with science, is understood from the aspect that aims to satisfy human needs, as a mediator between scientific knowledge and production; Culture is the "articulation between the set of representations and behaviors and the dynamic process of socialization, constituting the way of life of a given population" (RAMOS, 2014, p. 89).

- **Work as an educational principle:** since work is the way in which the human being produces reality, by understanding it as an educational principle, it seeks to overcome the historical duality of professional education. For this, it is necessary to understand the work in its double sense:

> a) Ontological as human praxis and, therefore, as a force by which man produces his own existence in relation to nature and with other men and, thus, produces knowledge.
> b) Historical, which in the capitalist system is transformed into salaried labor or economic factor, a specific form of production of human existence over capitalism, therefore as an economic category and productive praxis that, based on existing knowledge, produce new knowledge (LUKAS, 1978 *apud* RAMOS, 2014, p. 91).

- **the production of knowledge – thinking of research as a pedagogical principle:** it has a correlation with work as an educational principle, since research

> [...] it instigates the student towards curiosity towards the world around him, generates restlessness, so that "closed packages" of worldview, information and knowledge are not incorporated, whether they are school or scientific common sense (RAMOS, 2014, p. 93).

In this way, integration seeks to break with this split generated by the capitalist production system and seeks to provide the student with the various possibilities of intervention, since, by understanding themselves as historical subjects, with rights to intellectual appropriation, they strengthen their capacities to modify reality. For this, it is important that school curricula provide the integration of knowledge and should be thought of as a "relationship between the parts and the totality in the production of knowledge, in all disciplines and school activities" (CIAVATTA, 2014, p. 202).

In this perspective of integration, considering research as a pedagogical principle, it is observed that extension enters as a possibility of communication with the reality in which the student is inserted.

According to the Normative Orientation of the Dean of Extension of Ifes, "extension is an educational, cultural, political, social, scientific and technological process that promotes dialogical and transformative interaction between Ifes and other sectors of society, taking into account territoriality" (IFES, 2020, p. 2). This concept was built from the National Policy of University Extension of Forproex (2012), however, the aspect of territoriality was added to it, because, with the expansion of the federal network from the interiorization of the federal institutes, the inclusion of various types of territories was allowed, which should be considered when doing extension.

Thus, in this concept lies the essence of extension through its guidelines that were initially formalized by the National Policy for University Extension, updated by the Resolution of the National Council of Education No. 07 of 2018, and are described in the Normative Guidance of Proex of Ifes No. 01, of 2020.

This National Policy of University Extension has supported and referenced the extension work developed in universities and federal institutes, especially from the forums of Pro-Rectors of Universities (Forproex) and Institutes (Forproext) that actively act in the construction of public policies in the field of extension, such as the introduction of the idea of extension curricularization in the National Education Plan (PNE) 2001 to 2010, in goals

21 and 23, as well as in the PNE 2014 to 2023 and, consequently, in Resolution No. 7 of the National Council of Education, which establishes the guidelines for the curricularization of extension in undergraduate courses:

> **I – the dialogical interaction** of the academic community with society through the exchange of knowledge, participation and contact with the complex contemporary issues present in the social context;
> **II - the citizenship education of students**, marked and constituted by the experience of their knowledge, which, in an interprofessional and interdisciplinary way, is valued and integrated into the curricular matrix;
> **III – the production of changes in the higher institution itself and in other sectors of society**, based on the construction and application of knowledge, as well as by other academic and social activities; I
> **V – the articulation between teaching/extension/research**, anchored in a single, interdisciplinary, political, educational, cultural, scientific and technological pedagogical process.

Within this perspective, seeking to find the origins of the extension guidelines that supported the construction of these guiding documents, there is the work developed by Freire (1983), in which the term extension is questioned. Historically, extension was understood as that practice in which the educational institution was placed as the holder of the knowledge that should be passed on to society (mainly through courses and provision of services).

> We repeat that knowledge does not extend from those who believe they know to those who believe they do not know; knowledge is constituted in the relations between man and the world, relations of transformation, and is perfected in the critical problematization of these relations (FREIRE, 1983, p. 22).

Thus, the author proposes the exchange of the word *extension* for *communication*, since, for him, the knowledge of the university should not be extended to society or deposited in it, but rather built together with it. The knowledge that communities have must also enter schools and, through this interaction/communication, jointly develop solutions to the social problems that arise.

Thus, the influence of this author's work on the definitions of the extension guidelines mentioned above is observed, especially in the guidelines Dialogic Interaction, Social Impact and Transformation and Student Protagonism.

Understanding the relevance of the influence that Paulo Freire's aspect of dialogicity exerted on the theorization of extension in Brazil, studies around this aspect were used – whether in Freire (1983), in the work *Pedagogy of the Oppressed* (FREIRE, 2013a) or in *Pedagogy of hope: a reencounter with the pedagogy of the oppressed* (FREIRE, 2013b).

In addition to Paulo Freire, within the studies on extension, the importance and influence of Boaventura dos Santos Sousa on university extension stand out. In Santos (2011, p. 73), it is possible to observe the importance given by the author to extension as something intrinsic to the existence of the contemporary university, which is opposed to its commodification.

> The extension area will have a very special meaning in the near future. At a time when global capitalism intends to functionalize the university and, in fact, transform it into a vast extension agency at its service, the reform of the university must give a new centrality to extension activities (with implications for the curriculum and careers of teachers) and conceive them in an alternative way to global capitalism, giving universities an active participation in the construction of social cohesion, in the deepening of democracy, in the fight against social exclusion and environmental degradation, in the defense of cultural diversity.

The author brings the concept of *Ecology of knowledge*, which has, at its core, action research (which is commonly used as a methodology of extension practice). The Ecology of knowledges is

> a form of extension in reverse, from outside the university to inside the university. It consists of the promotion of dialogues between scientific or humanistic knowledge, which the university produces, and lay, popular, traditional, urban, peasant knowledge, coming from non-Western cultures (indigenous, of African origin, oriental, etc.) that circulate in society (SANTOS, 2011, p. 75).

Also according to Santos (2011), the university, by valuing scientific knowledge, distances non-scientific knowledge from itself, disqualifying it and, in this way, marginalizing social groups. The knowledge that is considered scientific today arose from a non-scientific knowledge of yesteryear, therefore, extension must be open to the diversity of knowledge and has the role of integrating society with the academic environment.

In the same way as Santos (2011), Thiollent (2018) brings the discussion about the theoretical and methodological foundations of university extension practices, with emphasis on participatory methodologies (involving students and popular participation) in the construction or social reconstruction of knowledge in an emancipatory way: "Taking into account this vision of social construction of knowledge, extension projects will acquire greater adequacy to the objectives of social transformation" (THIOLLENT, 2018 , p. 66).

In this way, the impact that extension can generate in the profile of the graduate is observed, since it allows the student to have contact with what happens in the world around him, involving school and society in the search for knowledge and solution of the challenges encountered.

This possibility of putting students in contact with reality, as the protagonist of their educational process, dialogues with a new perspective of school, and changes the role of students and teachers.

This occurs when it comes to learning methodologies in face-to-face courses, and also, even more urgently, in the methodologies necessary for distance education, because in this teaching modality it is necessary for the student to play a greater role in the teaching-learning process.

According to Moore and Kearsley (2008, p. 1),

> The basic idea of distance education is very simple: students and teachers are in different locations for all or most of the time they learn and teach. Being in different locations, they depend on some type of technology to transmit information and provide them with a means to interact.

Sondermann (2014, p. 64) points out that there are central elements that appear in different definitions of distance education:

- physical separation between teacher and student, which distinguishes it from face-to-face teaching;
- influence of educational organization (planning, systematization, plan, directed organization, etc.), which differentiates it from individual education;
- use of technical means of communication to unite the teacher with the student and transmit the educational content;
- provision of two-way communication, where the student benefits from dialogue and the possibility of two-way initiatives;
- possibility of occasional meetings for didactic and socialization purposes.

From these characteristics, it is observed that there is a difference in the perspective of control existing in traditional and face-to-face education. Thus, it is necessary to change the teaching methodology and the way materials are constructed, so it is possible to observe the focus on active methodologies, which propose a change in the relationship/role of teachers and students.

All these works focus on the student's learning process and the need for their protagonism during their studies.

Active learning methodologies dialogue directly with research and extension. In problem-based learning or project-based learning, for example, it is possible to deal with real problems in society or with the development of research or extension projects that facilitate dialogue with society, providing learning enrichment within a pedagogy that allows interaction with society, solving challenges and delivering artifacts (when appropriate).

Thus, it is observed that the fundamental bases of EFA are correlated with the studies of both Extension and Distance Education.

Extension is easily connected to teaching and research because it is part of the very structure of EFA, which provides that these three strands are inseparable, from the perspective of integral human formation that does not separate theory and practice in the educational process.

However, when observing the studies of Distance Education and Extension, it is especially observed that the formulators of public policies of extension do not dialogue with what is most current in research in Distance Education. This can be made explicit by analyzing article 9 of CNE Resolution No. 7/2018:

> In higher education courses, in the distance modality, extension activities must be carried out, in person, in a region compatible with the face-to-face support center, in which the student is enrolled, observing, as applicable, the other regulations, provided for in the proper ordinance for the provision of distance education.

This requirement for extension to occur in person in distance learning courses seeks to help the relationship between extension workers and social actors, inserting students in social environments, but it may, however, present some conceptual flaws when analyzed from distance education studies.

One of the aspects to consider is that students who choose distance education courses do so because they cannot or do not want to be in person in educational spaces, and the pedagogical projects and instructional designs of these courses are designed so that all or almost all activities take place virtually, either synchronously or asynchronously. And, from this perspective, the CNE/CES Resolution, whose text was influenced by extension actors, imposes on the Pedagogical Projects of Distance Education Courses a face-to-face approach that contradicts their pedagogical method.

And, no less serious, is the imposition that the student performs extension actions in a region compatible with his face-to-face center, which can be an unprecedented inconvenience, since the face-to-face centers can be many kilometers away from the homes of these students.

Thus, in 2022, changes to this resolution were requested, and one of them was the change in this requirement of face-to-face extension in distance education courses. This request was not, however, approved. This demonstrated that the actors who influence the public policies of extension do not dialogue with the researchers of distance education.

METHODOLOGICAL PATHS

Considering that the extension practice is not done with just one individual, but with the participation/collective construction in favor of a common goal. It involves the school, the community and different types of knowledge and challenges, for this work, it was decided to use participant research, based on the studies of Brandão (2006), since the process provided for dialogue throughout its trajectory.

> Participatory research does not create, but responds to challenges and is incorporated into programs that put into practice new alternatives of active methods in education and, especially, in the education of young people and adults; group dynamics and the reorganization of community activity in its processes of organization and development; of formation, participation and mobilization of human groups and social classes previously placed on the margins of socioeconomic development projects, or recolonized throughout their processes (BRANDÃO, 2006, p. 22).

Within this perspective, the participant research aimed to give voice to all those involved in the study. It makes participants active, responsible and aware of their trajectory. According to Brandão (2006, p. 29), this methodology becomes a solidary alternative for the creation of social knowledge: "Research is 'participative' because, as a solidary alternative for the creation of social knowledge, it is inscribed and participates in relevant processes of a transformative social action with a popular and emancipatory vocation".

Dialogue, exchange, and mutual learning, which are inherent to the extension practice, are also fundamental in participatory research, as explained by Brandão (2006, p. 52) "The recognition of the contribution of the other, of the different and the sharing of their knowledge and experiences should be a starting point for the practice of participatory research".

The methodology of action research, in which various types of participatory research can be inserted, in its various aspects, is commonly indicated by authors who write about extension, as can be seen in Santos (2011) and Thiollent (2018). In view of this, it is understood that the choice of this methodology was connected with the objectives of the work in question regarding the need for the active involvement of all those participants in the study.

Thus, in order to involve the participants, it was chosen, from the perspective of dialogue brought by Freire (1967), to develop conversation circles which, according to Warschauer (2017), focuses on freedom, communion and dialogicity, bringing the process of education and training closer to the process of humanization.

The conversation circles are intended to be a learning space to the extent that the narratives are constructed and shared by the research participants themselves, as explained by Warschauer (2017, p.210) "[...] It is about reversing, also at the institutional level, the subject of action, attributing power to the different actors who, instead of executing partial actions, think in strategic and global terms while acting locally".

It is understood that this allows, as in participant research, that all those involved have space to speak and that each one can contribute, in their own way, to the collective construction of what is discussed in each circle at the same time that they are protagonists of their own training.

The conversation circles, in this work, generated information that required joint analysis with the data collected in the documents and institutional systems and that dialogued with the theoretical bases of this work. In order to make this interrelationship clearer, it was decided to use the strategy of triangulation of methods, which, in one of its dimensions, can be used to analyze the information collected, the

> [...] which implies the need to reflect on: first, the perception that the subjects construct about a certain reality; second, about the processes that cross the relationships established within this structure and, for this, the recurrences to the authors who focus on such processes and on the theme worked on in the research (MINAYO, 2010 *apud* MARCONDES; BRISOLA, 2014, p.203).

In other words, from the triangulation of methods, the data collected in the conversation circles, the concepts supported by the theoretical basis of EPT, EaD and Extension and the processes that involved the development of extension actions were analyzed.

CONTEXT OF THE RESEARCH

Professional and Technological Education at Ifes

The Federal Institute of Espírito Santo (Ifes) has existed with this nomenclature since 2008, under the aegis of Law 11.892, which establishes the Federal Network of Professional, Scientific and Technological Education. It is the junction of four institutions that already existed in the state: the Federal Center for Technological Education of Espírito Santo (Cefetes) and the Agrotechnical Schools.

Currently, it consists of twenty-three *campuses*, distributed throughout the state, including the Reference Center for Training and Distance Education (Cefor), forty-nine

distance education centers and an innovation center. Recently, an agreement was signed with the federal government for the implementation of two more campuses.

Distance Education at Ifes and the Subsequent Technical Course in Didactic Multimedia

The Reference Center for Training and Distance Education (Cefor), which was created in 2014 to replace an old department that was called the Distance Education Center (Cead), founded in 2006 (NUNES *et al*., 2015, p. 2). In total, the institute has 14 years of experience in distance education, having achieved, in 2019, the concept 5 (five), the maximum possible score in the evaluation of the National Institute of Educational Studies and Research Anísio Teixeira (Inep).

Cefor currently offers technical, improvement, initial and continuing education, postgraduate courses and online courses, open and massive online courses (MOOCs), in addition to supporting the distance courses and disciplines offered by the other *Ifes* campuses.

Among the courses offered by Cefor, this work focused on the Technical Course in Didactic Multimedia, which is a subsequent high school technical course, that is, it is not a course integrated with high school. To attend it, one must have completed high school. It lasts for 3 (three) semesters, with semester admission, and is offered in the distance modality, with some weekly face-to-face meetings, which are previously scheduled.

As provided for in Ifes (2020a), this course has a workload of 1200 hours, with 300 hours of non-mandatory internship. Each semester, 40 vacancies are offered, totaling 80 annual vacancies.

It is important to highlight that this researched course had its creation justified by previous experience in offering the Concomitant Technical Course in Didactic Multimedia within the Profuncionário program, a partnership between Ifes and the e-Tec Brasil Network between the years 2015 and 2017 (PASSOS; SONDERMANN; BARBOSA, 2017).

The purpose of the course is that its graduates can work in the area of education, seeking dialogue between the daily life of schools and the new technologies existing in society. In other words, its objective is to train a professional who supports pedagogical activities involving didactic multimedia, assisting in the formation of citizens who are capable of dealing with the advancement of science and technology, whether in direct

contact with students or assisting in the training of education professionals (IFES, 2020a, p. 5-6).

Extension actions are addressed in the course project by the possibility of carrying out programs that seek "interdisciplinarity, promoting dialogue between disciplines, providing the student with a systemic view" (IFES, 2020a, p. 50). Regarding the way extension activities are offered, according to the course project, these activities will arise during the course, depending on the interest and activities presented by the students (IFES, 2020a, p. 50).

In other words, in the course, there are no extension proposals that are integrated into the curricular matrix, nor are there any structuring programs or projects in which students can develop extension activities. Thus, it is understood that this research will help the servers and students of the researched course to establish possibilities of extension actions and to comply with the provisions of the course's PPC.

RESULTS

This work generated the beginning of the debate on how CTMD teachers could articulate extension with the curriculum, as well as in the articulation between CTMD students and external collaborators. 8 (eight) conversation circles and five meetings were held that culminated in the following extension actions, considering the 2021 data:

Table 1: Structuring program

1st MULTIapplication Program: the extension in the Technical Course and Didactic Multimedia	
Responsible: Coordinator of the Technical Course in Didactic Multimedia	
Process No. 23147.003370/2021-02	Duration: 07/06/2021 to 30/11/2022
Abstract: This program was a pilot experiment of a structuring extension action within the Technical Course in Didactic Multimedia, with a view to stimulating the proposition of extension actions or extension activities linked to this program. These extension actions/activities had the objective of contributing to the education of students through dialogue with social demands, coming from schools or other community spaces that made use of didactic multimedia. Other extension actions that emerged and that were within the scope of this program were linked to it.	
Activities carried out throughout the project:	
Three actions linked below were developed.	

Source: Administrative Proceeding 23147.003370/2021-02. Available at: sipac.ifes.edu.br

Chart 2: Project developed by the researcher

2nd Project Experimenting with the use of didactic multimedia in a high school.	
Responsible: Ifes employee and graduate student	
Process No. 23147.002993/2021-93	Duration: 10/05/2021 to 10/08/2021
Abstract: The project Experimenting with the use of Didactic Multimedia in a public high school aimed to promote an exchange of ideas and the dialogicity of knowledge between students of the Technical Course in Didactic Multimedia and a group of teachers and high school students from a public high school located in the city of Cariacica – ES. The insertion of information and communication technologies and didactic multimedia are part of the school routine, but their use can often be challenging, either due to operational issues or even those related to didactic-pedagogical construction. Students of the subsequent technical course in Didactic Multimedia at the Reference Center for Training and Distance Education (CEFOR) develop, based on the course disciplines, skills and knowledge that aim to assist in the use and development of didactic multimedia in everyday school life, whether in distance and/or face-to-face activities. The exchange between the knowledge acquired by these students in the course and the pedagogical practice developed by teachers in a school, meets the guidelines of the extension, promoting from the Ifes-society dialogue the possibility of changes in the two institutions involved.	

People involved		
Ifes Servers	Ifes students	External Audience
6	4	41

Activities carried out throughout the project
Analysis of the topic Industrial Revolution in the context of classes for high school students. Schematization of the teaching-learning process from Bloom's Taxonomy. Preparation of didactic resources Guidance to the Regent Teacher. Application of the content for students of the state high school. Evaluation.

Source: Administrative Proceeding No. 23147.002993/2021-93 Available at: sipac.ifes.edu.br

Chart 3: Multiplication Project - dialogues

3rd MULTIapplication Project: dialogues between school, community and the world of work	
Responsible: Coordinator of the Technical Course in Didactic Multimedia	
Process No. 23147.003842/2021-62	Duration: 07/06/2021 to 17/12/2021
Abstract: This is an extension project that sought to establish connections between the disciplines of the technical course in Didactic Multimedia, the external community and the world of work, seeking an exchange between the school and society.	

People involved		
Ifes Servers	Ifes students	External Audience
20	124	107

Activities carried out throughout the project
Roundtable: Universal Design for Learning and Digital Accessibility in Practice
Lecture Script for Comics
Lecture The Earth, Man & the SDGs
Lecture Presentations that impact
Lecture Understanding the Protocol for Return to Face-to-Face Activities at Ifes
Lecture Non-Formal Education and the use of Technologies
Lecture General Data Protection Law in Education
Lecture Educational Materials in Health: the use of digital media and platforms for health promotion actions
Top 10 Disruptive Technologies Lecture
Lecture Topics in Entrepreneurship
Lecture Diversity and inclusion: dialogues and knowledge

Source: Administrative proceeding 23147.003842/2021-62. Available at: sipac.ifes.edu.br

In the final report of the extension action, the team noted, as a point of improvement for the next edition, the need to prepare a communication plan to achieve the capillarity foreseen for the project.

Table 4: Integration week

4th Teaching-Extension Integration Week Project: Knowledge and practices in didactic multimedia		
Responsible: Coordinator of the Technical Course in Didactic Multimedia		
Process No. 23147.003840/2021-19		Duration: 01/07/2021 to 17/12/2021
Abstract: This was an extension project that established connections between theory and practice, as the contents and learning achieved in the disciplines of the technical course in Didactic Multimedia were experienced and shared in workshops and other activities aimed at the community, in an effective school-society exchange.		
People involved		
Ifes Servers	Ifes students	External Audience
19	28	127
Activities carried out throughout the project		
Opening roundtable - Catch me if you can: multimedia in education.		
Virtual Reality Workshop as a support to the teaching-learning process		
Workshop Let's play at school?		
Workshop Recording and editing video lessons by cell phone		
Workshop How to produce good texts: planning and writing		
Google Drive Workshop		
Workshop Innovative Laboratory Projects		
Digital Educational Material Workshop		
Moodle Tools Workshop		
Workshop Technological Tools for converting texts into audio for the training of visually impaired students		
Workshop Building Personal Strategic Plans		
Workshop Simplifying photography with your cell phone		
Google Sites Workshop		
Comic Book Script Workshop		

Source: Administrative Proceeding No. 23147.003840/2021-19. Available at: sipac.ifes.edu.br

Chart 5: Dissertation

5th Master's thesis: In the extension wheel: proposal for extension actions in technical courses in the distance modality.	
Responsible: Ifes employee and graduate student	Defense: November 2022.
ABSTRACT: It proposes to present a research developed within the Professional Master's Program in Professional and Technological Education (ProfEPT) in the line of research Educational Practices.	

Source: Master's Dissertation. Available at: https://repositorio.ifes.edu.br/handle/123456789/1546?show=full

Table 6: Educational Product

6th Educational Product: Guide to Extension actions at Ifes: with tips for distance courses.
Responsible: Ifes employee and graduate student
The purpose of this document is to facilitate access to the main information about extension actions, with specific tips for technical courses offered in the distance modality, but which can also be applied to other levels and modalities of education.

Source: Guide to extension actions. Available at:
https://repositorio.ifes.edu.br/handle/123456789/1546?show=full

DISCUSSION

Observing the initial hypotheses and using the proposed theoretical framework as a basis, the strategy of triangulation of methods was used as a methodology to analyze the collected materials and promote discussions.

Considering the general objective of the work was to propose actions and reflections that stimulate extension activities for the Subsequent Technical Course in Didactic Multimedia offered by Ifes in the distance modality, it is understood that the role of the course coordinator was fundamental in the articulation of servers and students, promoting reflections in meetings and for the development of a Program and two Extension Projects projects of her initiative.

Thus, when experiencing extension, it was observed, in practice, the impact it causes in the involvement between servers and students in the resignification of the teaching-learning process.

Part of the work that will strengthen extension at Ifes involves knowing its concept and guidelines, since several servers and many students still do not know how to identify what these parameters are. Thus, it was important to start the meetings and conversation circles with the clarification of this information based on institutional regulations.

However, it is understood that in order to systematize the way in which this information should be transmitted, it is necessary to train teachers and insert in the pedagogical planning of the disciplines times and spaces for discussion about extension with students. In addition, documents that simplify information are important, such as the guide created as an educational product[4].

It is also highlighted the importance of the pedagogical projects of the courses by inserting spaces for extension actions that dialogue with the curriculum and with the

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[4] Guide to extension actions at Ifes: with tips for distance courses, available at: https://repositorio.ifes.edu.br/handle/123456789/1546?show=full

teaching-learning process, and also of the teacher, who is responsible for proposing the actions.

For a server to propose an extension action, he needs to have time available, within his workload, so that he can develop this activity, which is often not possible.   And this problem is connected with the genesis of almost all the hypotheses initially designed, which can be divided into two groups: 1) general hypotheses, such as those that apply to any type of course; and 2) hypotheses of specific scope, those that were related only to the CTMD, as shown in the table below:

Chart 7 – Hypotheses initially foreseen in the research project for analysis regarding the difficulty of extension practice

A) General hypotheses:	B) Specific hypotheses for the CTMD:
1) Work overload for professors with a workload focused, for the most part, on teaching activities, without time reserved for research and/or extension activities.	4) Limitation on the execution of the activities provided for in the curriculum.
2) The need to have a server who institutionalizes the extension action, since, even if it is desired that the student be the protagonist of the action, according to the institutional rules, he cannot be the proponent, and must be guided by a server.	5) Students with little time available to dedicate to their own training.
3) Lack of knowledge about the possibilities and needs of doing extension on the part of students and some Ifes employees.	6) Difficulties in performing face-to-face activities.

Source: prepared by the author (2021).

In the first hypothesis, it is possible to observe the dichotomy between the attributions required of an extension action coordinator, which require a workload of dedication and the overload of teaching work, with the workload focused, for the most part, on teaching activities, without time reserved for research and/or extension activities.

To analyze this problem, it is necessary to resume the mission of Ifes: "To promote professional, scientific and technological public education of excellence, integrating teaching, research and extension in an innovative way to build a democratic, fair and sustainable society" (IFES, 2019b, p. 15) and analyze it together with the Resolution of the Superior Council of Ifes No. 18/2019, which regulates teaching activities in the institution and determines:

> Art. 2 The workload of Ifes professors **must** be distributed among the following activities:
> I – Teaching;
> II – Research;
> III – Extension;
> IV – Management;

V – Institutional representation [...]
(IFES, 2019a, p. 4, emphasis added).

And also Table 11, which assigns the allocation of workload to Ifes professors in research and extension actions:

Table 8 – Assignment of teaching hours in extension actions

Atividade	Carga horária semanal mínima	Carga horária semanal máxima
a) Coordenação de programas e projetos de pesquisa e de extensão	2 (duas) horas por ação coordenada	20 (vinte) horas por ação coordenada
b) Coordenação de cursos de pesquisa e de extensão	2 (duas) horas por curso coordenado	8 (oito) horas por curso coordenado
c) Coordenação de eventos de pesquisa e de extensão	1 (uma) hora por evento coordenado	4 (quatro) horas por evento coordenado
d) Execução de prestação de serviços técnico-científicos de caráter acadêmico	15 (quinze) minutos por participação	4 (quatro) horas por participação
e) Participação em equipes executoras de programas, projetos, cursos e eventos de pesquisa e de extensão para execução de atividades extracurriculares (obs. §3º)	15 (quinze) minutos por programa, projeto, curso ou evento	4 horas (quatro) horas por programa, projeto, curso ou evento
f) Participação em equipes executoras de ações de pesquisa e extensão para execução de atividades curriculares (obs. §4º)	Igual à carga horária semanal determinada no projeto pedagógico de curso para execução das atividades curriculares atribuídas ao docente	
g) Preparação e manutenção de atividades curriculares de ações de pesquisa e extensão (obs. §4º)	1 (uma) hora para cada hora de execução da referida atividade curricular atribuída ao docente (obs. item "f" acima)	

Source: extracted from art. 16 of the Resolution of the Superior Council of Ifes 18/2019.

In other words, according to this resolution, it is the duty of Ifes professors to do extension, including the allocation of workload. However, in its article 10, the following is described:

> Art. 10 - In each unit, it must be guaranteed that all teaching activities that are related to the full execution of the pedagogical projects of technical, undergraduate, specialization, master's and doctoral courses must be provided, namely [...] (IFES, 2019a, p. 5).

This article continues with a list that shows what these activities are, which stand out: orientation of students in research and extension actions, coordination and participation in the team that executes teaching, research and extension actions.

In other words, evaluating articles 10 and 11 together, it is observed that extension activities will only be carried out after the execution of teaching activities, with regard to the allocation of teaching hours. In summary, it could be concluded about this hypothesis that Ifes teachers should do extension, but can only do it after fulfilling the teaching activities. If teaching activities occupy the entire workload, it will not be possible to carry out an extension action.

However, this is not the best understanding of the rule, nor what is expected of the institute. Teaching, research and extension activities, even if they are organized in this way, should not occur independently. It is possible to glimpse, from the studies of Santos (2011), that extension can be the way to connect teaching and research. For this, the author brings the idea of action research or other methods of participant research, such as the methodology for doing extension.

This means that, through extension, with the participation of the internal public of Ifes with the community, the three strands are integrated, making clear the performance of research as a pedagogical principle, as defined by Ramos (2014), and extension is made a link between school and popular knowledge, as provided for in Santos (2011).

Still within this discussion, one way to enable teachers to have a workload for extension is by curricularizing it. The extension curriculum is mandatory only for undergraduate courses, according to Resolution of the National Council of Education No. 07/2018 and, at Ifes, through Resolution of the Superior Council No. 38/2021.

The institutional mission brings this idea of inseparability between the three strands, but it is necessary to observe that the regency of the institute goes through what is determined in its teaching activities, and, consequently, through the pedagogical projects.

Thus, the integration foreseen in the institutional mission is in accordance with what was foreseen in Brazil (1988) and Brazil (2008), but it is not yet carried out in a systematized way, rethinking the curricula of the courses, because only then would it be possible to allocate the workload for extension actions, or rather, if there is indeed integration, it may not be necessary to distinguish and standardize the attribution of workload for teaching/research/extension.

It is important to inform that by bringing the pedagogical project of the course as a guiding instrument of the curriculum, we are dealing with the concept of formalized curriculum or formal curriculum, and extension as a methodology that is provided for the teaching-learning process.

This point can be analyzed in the case of the CTMD pedagogical project, which inserts the extension in a diffuse way, as previously mentioned:

> These activities will arise during the course, depending on the interest and activities presented by the students. The Technical Course in Didactic Multimedia at Ifes is concerned with associating technical knowledge and critical reasoning, so that academics can seek in the teaching-research-extension tripod the social responsibility inherent to the institutional mission. The research and extension

actions are in the planning phase by the team of professors of the course (IFES, 2020a, p. 50).

In other words, the activities will arise during the course, but professors are not guaranteed the allocation of workload for the execution of research and extension actions and, if professors comply exactly with what is provided for in the curricular matrix contained in the course's PPC, they will fully comply with Resolution 18/2019, even if they contradict the institutional mission.

In this aspect, extension and research depend on the profile of the teacher who is responsible for the curricular component and not on an institutional policy. As a result, the student is dependent on professors to have contact with extension practices.

That said, it is concluded, in relation to this first hypothesis, that one of the possibilities of guaranteeing time and space for the extension practice at Ifes is that it occurs in an integrated way with the curricular components, in a clear and discriminated way in the syllabus of the disciplines and, when possible, with the allocation of a workload dedicated to extension, as provided for in the normative documents of the curriculum for undergraduate courses. With this proposal, the vision established by Santos (2011) for the area of extension is communicated.

Regarding the performance of administrative technical servers in extension actions, there is no instrument that clearly establishes how the allocation of the workload is, so their performance will depend on the authorization and even flexibility given by their immediate supervisor.

Regarding the second hypothesis, which brings to light the dependence of students to institutionalize extension actions, it has to be considered that, despite being protagonists of their learning and, therefore, of their participation in extension actions, they really cannot be proponents, due to all the accountability that coordinating an extension action at Ifes generates.

Considering that extension actions impact several aspects in the institution, such as, for example, the indicators used to measure its performance, it is necessary that the information that is related to extension actions arrives in an organized way, within the expected deadline and that there is accountability regarding the use of the data used to feed the systems. Thus, although the importance of the students' protagonism in their work with the communities is understood, this protagonism is more focused on practical action in extension, leaving the servers to manage the action itself.

As for the hypothesis that deals with the lack of knowledge about the possibilities and needs of doing extension on the part of students and some Ifes employees, it is understood that there was confirmation, mainly on the part of the students, because of the nineteen students who were invited to participate in the project provided for in Chart 2, only three accepted, and two of them had already participated in the extension actions.

It is possible to infer that this non-participation may have occurred mainly due to the overload of the students with other activities, but also because they did not know for sure what it would be like to participate in an extension action and what this would imply.[5]

However, the readiness of participation by students who had previous experience in extension was evident, as they understood the enrichment that this experience generated for their learning.

On the other hand, when the action took place in an integrated way with the disciplines, although not mandatory, as in the case of the projects in Charts 3 and 4, the participation exceeded 60% of the students and the majority had, on that occasion, the first contact with the extension.

In the specific hypotheses of the CTMD, the fourth and fifth hypotheses are correlated, the fourth speaks of the limitation of students to the activities that are foreseen in the curriculum and the fifth of the students' lack of time. From the students' reports, it was observed that the lack of time to dedicate to training makes them stick to developing the mandatory curricular activities, reinforcing once again the need to integrate extension into the curriculum.

The sixth and last hypothesis dealt with the difficulty of carrying out face-to-face activities, however, even if this difficulty exists, it does not impact extension, since the research proved that it is possible to develop extension actions remotely, as all the actions carried out took place during the Covid-19 Pandemic, therefore remotely.

It is observed from these hypotheses that the federal institutes, as they attend to training in professional and technological education, try to cover, in their curricula, several areas of knowledge that can help in the formation of the future professional, however, curricular integration is still a challenge, as seen in Ramos (2014) and Ciavatta (2014).

Thus, it is common for EFA courses to have dense curricula, both in the amount of knowledge that is offered and in the depth of learning that is required of students. And, as there is no institutionalized culture about the inseparability of teaching, research and

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[5] See student reports available at: https://repositorio.ifes.edu.br/handle/123456789/1546?show=full

extension, when it comes to including research and extension, the tendency is to think about activities beyond those that are given and not about how to integrate them into the curriculum. And, in this way, the continuity of these activities is compromised, as they depend on the skills of the people who are involved at that moment with the course on whether they are extension workers or not.

CONCLUSION

This work aimed to understand the reasons why the students of the Subsequent Technical Course in Didactic Multimedia offered in the distance modality had low participation in the extension actions. For this, the objective was to propose actions and reflections that would encourage this extension practice, in order to find the most common difficulties during the process.

The fact that the extension actions occur in a punctual manner, depending on the availability and knowledge of the people involved in the course, weakens the continuity of the extension.

Thus, for extension to occur intrinsically, it must be part of the structure of the course, of the coordination, of the campus. This is only possible when the curriculum is rethought in an integrated way, not separating the extension of teaching and research. In this sense, the extension action becomes another possibility of educational practice, another way of teaching, including in distance education, in which students usually have less time for training.

It is worth remembering that teaching, when it involves the community, is also an act of learning and updating. The students, who participated in the execution team of the extension projects, showed how much this possibility of experimentation enriched their learning. In other words, the extension allowed students to experience what they learned in the course in an applied way, enriching learning.

In addition, although some ideas for extension actions come from the students, they will only be executed institutionally if a server is the proponent, which reinforces the importance of guaranteeing the time available in the workload of this professor or administrative technician.

Another aspect that is important to highlight, although it was not part of the scope of the research, was the performance of the CTMD coordinator as a promoter of extension actions in the technical course.

It was also observed that, although the current guidelines inform that extension activities in distance education courses must take place in person, the experience of this research showed that it is possible to develop extension actions at a distance without prejudice to students and the participating social group. Within this perspective, it is also understood that carrying out the extension in distance education will allow the use of the capillarity that is typical of this teaching modality and that this practice can be carried out both in person and at a distance.

As previously stated, it is understood that the way the CTMD coordinator dealt with this research was fundamental for the result obtained, as it is expected that a space would be made available within a coordination meeting for contact with the servers, however the coordinator dedicated herself to actively participating in the research, made an effort to understand how the extension works in the institution and managed to involve most of the coordinator's servers in several projects of extension. Therefore, it is understood that these objectives were not only achieved, but were extrapolated due to the involvement of the civil servant who is coordinating the course.

The educational product generated seeks to alleviate one of the main problems in extension at Ifes, which is related to the recognition of its concept, guidelines and form of execution.

Integrating extension activities, teaching and research is still a challenge at Ifes, however, it is possible to see that, from the systematization of the Dean of Extension in recent years and institutional incentives, especially those related to the promotion of extension actions, there is a gradual change in the way extension is practiced in the institution.

Gradually, it is understood that extension is not done alone or isolated in the classroom, it is necessary to rethink the curricula in order to make extension, teaching and research inseparable, in addition, one must go to the community at the same time that the doors of Ifes must remain open to society.

REFERENCES

1. Brandão, C. R. (2006). A pesquisa participante e a participação da pesquisa: Um olhar entre tempos e espaços a partir da América Latina. In C. R. Brandão & D. R. Streck (Orgs.), Pesquisa participante: A partilha do saber (pp. xx-xx). Aparecida: Ideias & Letras.

2. Brasil. (1996). Lei 9.394 – Estabelece as diretrizes e bases da educação nacional. Disponível em: http://www.planalto.gov.br/ccivil_03/leis/l9394.htm. Acesso em: 11 out. 2021.

3. Brasil. (2008). Lei 11.892 – Institui a Rede Federal de Educação Profissional, Científica e Tecnológica, cria os Institutos Federais de Educação, Ciência e Tecnologia, e dá outras providências. Disponível em: https://cutt.ly/AfKpSqB. Acesso em: 11 out. 2021.

4. Brasil. (2018). Resolução do Conselho Nacional de Educação n. 7. Disponível em: https://url.gratis/D8UzPM. Acesso em: 11 out. 2021.

5. Ciavatta, M. (2014). Ensino integrado, a Politecnia e a Educação Omnilateral: Por que lutamos? Revista Trabalho & Educação, 23(1), 187–205.

6. Ferraz, A. P. do C. M., & Belhot, R. V. (2010). Taxonomia de Bloom: Revisão teórica e apresentação das adequações do instrumento para definição de objetivos instrucionais. Gestão & Produção, 17(2), 421-431.

7. Forproex. (2012). Fórum de Pró-Reitores de Extensão das Instituições Públicas de Educação Superior Brasileiras: Política Nacional de Extensão Universitária. Porto Alegre: UFRGS; Brasília: MEC/SESu.

8. Forproext. (2015). Fórum de Pró-reitores de extensão ou cargos equivalentes das instituições da rede de educação profissional, científica e tecnológica: Contribuições para a política de extensão da rede federal de educação profissional, científica e tecnológica. Disponível em: https://cutt.ly/ogWCEAq. Acesso em: 11 out. 2021.

9. Freire, P. (1967). Educação como prática de liberdade. Rio de Janeiro: Paz e Terra.

10. Freire, P. (1983). Extensão e comunicação? (7ª ed.). Rio de Janeiro: Paz e Terra.

11. Freire, P. (2013a). Pedagogia do oprimido. Rio de Janeiro: Paz e Terra.

12. Freire, P. (2013b). Pedagogia da esperança. Rio de Janeiro: Paz e Terra.

13. Ifes, Instituto Federal do Espírito Santo. (2019b). Resolução do Conselho Superior nº 48 de 2019 - Plano de desenvolvimento Institucional 2019/2 a 2024/1. Vitória: Conselho Superior do Ifes. Disponível em: https://cutt.ly/4fKpIg0. Acesso em: 11 out. 2021.

14. Ifes, Instituto Federal do Espírito Santo. (2020a). Projeto pedagógico do curso técnico subsequente em multimeios didáticos. Vitória: Coordenadoria do Curso Técnico Subsequente em Multimeios Didáticos do Cefor.

15. Ifes, Instituto Federal do Espírito Santo. (2020b). Orientação Normativa n. 01 de 2020. Vitória: Câmara de Extensão. Disponível em: https://cutt.ly/LfK1WuD. Acesso em: 11 out. 2021.

16. Ifes, Instituto Federal do Espírito Santo. (2021). Resolução do Conselho Superior nº 38 de 2021. Vitória: Conselho Superior. Disponível em: https://cutt.ly/LfK1WuD. Acesso em: 11 out. 2021.

17. Kaplún, G. (2003). Material educativo e experiência de aprendizado. Comunicação & Educação, 27(1), 46–60, maio/ago.

18. Leite, P. de S. C. (2018). Materialismo histórico-dialético e suas relações com a pesquisa participante: Contribuições para pesquisas em mestrados profissionais. Revista Anhanguera, 18(1), 52-73.

19. Marcondes, N. A. V., & Brisola, E. M. A. (2014). Análise por triangulação de métodos: Um referencial para pesquisas qualitativas. Revista Univap, 20(35), julho.

20. Moore, M. G., & Kearsley, G. (2008). Educação a distância: Uma visão integrada. São Paulo: Cengage Learning.

21. Moura, D. H. (2007). Educação básica e educação profissional e tecnológica: Dualidade histórica e perspectivas de integração. Holos, 23(2), 27p.

22. Nunes, V. B., et al. (2015). A trajetória da institucionalização da educação a distância no Instituto Federal do Espírito Santo: Desafios e conquistas. Anais do XII - Congresso Brasileiro de Ensino Superior a Distância. Salvador. Disponível em: https://cutt.ly/4fKpEIo. Acesso em: 11 out. 2021.

23. Passos, M. L. S. (2018). Educação a distância [recurso eletrônico]: Breve histórico e contribuições da Universidade Aberta do Brasil e da Rede e-Tec Brasil. Vitória. Disponível em: https://cutt.ly/IfKpTsC. Acesso em 11 out. 2021.

24. Ramos, M. N. (2014). História e política da educação profissional. Curitiba: Instituto Federal do Paraná. Disponível em: https://cutt.ly. Acesso em: 11 out. 2021.

25. Santos, B. de S. (2011). A universidade no século XXI: Para uma reforma democrática e emancipatória da universidade. São Paulo: Cortez.

26. Sondermann, D. V. C. (2014). O design educacional para a modalidade a distância em uma perspectiva inclusiva: Contribuições para/na formação docente (Tese de doutorado, Universidade do Espírito Santo). Vitória.

27. Warschauer, C. (2017). Rodas em rede: Oportunidades formativas na escola e fora dela. Rio de Janeiro: Paz e Terra.