

## ARTICLE

# INTEGRATION BETWEEN FACE-TO-FACE AND VIRTUAL TRAINING IN THE CONTINUING EDUCATION OF EDUCATORS: LIMITS, CHALLENGES AND POTENTIALS<sup>1</sup>

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**ABSTRACT:** This study aims to analyze the perception of Basic Education educators into a course entitled “Continued Education of in-service Educators: the STS Approach as an Articulator of the Integrated Curriculum” in the area of Science Technology Society (STS), as well as the limits and potential of continuing education. The extension course at the Federal University of Santa Maria lasted 80 hours and was held during the 2016 school year, with face-to-face meetings at the participating school and activities in the Virtual Teaching and Learning Environment - Moodle. We aimed to apply and discuss Information and Communication Technologies, continuing education, and the curriculum and evaluate the process. Low adherence of educators to the distance stage of the course was identified, compared to the face-to-face stage, generating questions about the need for training processes focused on technologies and within the teachers’ workload. Data were collected based on observation, participation, and performance of activities and through a questionnaire in which educators evaluated the course. Data analysis was based on tabulation in Excel spreadsheets, notes, speeches, and involvement of the participants. The closed questions were analyzed using graphs and the open ones by analyzing the Collective Subject Discourse, a technique used by Lefevre, Lefevre, and Teixeira (2003). A low adherence of educators to the distance learning phase of the course was identified, compared to the face-to-face

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phase, which raised questions about the need for training processes focused on technologies, but within the teachers' workload.

**Keywords:** continuing education of teachers, blended-learning course, Science Technology Society, Information and Communication Technologies

### **INTEGRAÇÃO ENTRE O PRESENCIAL E O VIRTUAL NA FORMAÇÃO CONTINUADA DE EDUCADORES: LIMITES, DESAFIOS E POTENCIALIDADES**

**RESUMO:** Este trabalho tem como objetivo analisar a percepção de educadores da Educação Básica sobre a realização de um curso semipresencial intitulado “Formação Continuada de educadores em serviço: a abordagem CTS como articuladora do currículo integrado” na área de Ciência, Tecnologia Sociedade (CTS), assim como os limites e potencialidades dessa formação continuada. O curso foi de modalidade extensionista na Universidade Federal de Santa Maria, contou com a duração de 80 h e foi realizado durante o ano letivo de 2016, com encontros presenciais na escola participante e atividades no Ambiente Virtual de Ensino e Aprendizagem – Moodle. Buscou-se aplicar e discutir as Tecnologias da Informação e Comunicação, a formação continuada, o currículo e avaliar o processo. Os dados foram coletados com base na observação, participação e realização das atividades e por meio de um questionário no qual os educadores avaliaram o curso. A análise dos dados se deu a partir da tabulação em planilhas do Excel, anotações, falas e envolvimento dos participantes. As perguntas fechadas foram analisadas por meio de gráficos, e as abertas por meio da análise do discurso do sujeito coletivo, técnica, empregada por Lefevre, Lefevre e Teixeira (2003). Identificou-se uma baixa adesão dos educadores na etapa a distância do curso, em comparação com a etapa presencial, gerando questionamentos sobre a necessidade de processos formativos com foco nas tecnologias, mas dentro da carga horária de trabalho dos docentes.

**Palavras-chave:** formação continuada de educadores, curso semipresencial, Ciência, Tecnologia Sociedade, Tecnologias de Informação e Comunicação

### **INTEGRACIÓN ENTRE FORMACIÓN PRESENCIAL Y VIRTUAL EN LA FORMACIÓN CONTINUA DE DOCENTES: LÍMITES, DESAFÍOS Y POTENCIALIDADES**

**RESUMEN:** Este trabajo tiene como objetivo analizar la percepción de los educadores de la Educación Básica sobre la realización de un curso semipresencial denominado “Educación Continuada de los educadores en servicio: el enfoque CTS como articulador del currículo integrado” en el área de Ciencia Tecnología Sociedad (CTS), así como los límites y potencialidades de la educación continua. El curso de extensión en la Universidad Federal de Santa María tuvo una duración de 80 h y se realizó durante el ciclo escolar 2016, con encuentros presenciales en la escuela participante y actividades en el Ambiente Virtual de Enseñanza y Aprendizaje - Moodle. Buscamos aplicar y discutir las Tecnologías de la Información y la Comunicación, la educación continua, el currículo y evaluar el

proceso. Se identificó una baja adherencia de los docentes a la etapa a distancia del curso, en comparación con la etapa presencial, generando cuestionamientos sobre la necesidad de procesos de formación enfocados en tecnologías y dentro de la carga de trabajo de los docentes. Los datos fueron recolectados con base en la observación, participación y realización de actividades ya través de un cuestionario en el que los educadores evaluaron el curso. El análisis de datos se basó en la tabulación en hojas de cálculo de Excel, notas, discursos y participación de los participantes. Las preguntas cerradas se analizaron mediante gráficos y las abiertas a través del análisis del discurso del sujeto colectivo, técnica utilizada por Lefevre, Lefevre y Teixeira (2003). Se identificó una baja adherencia de los docentes a la fase a distancia del curso, en comparación con la fase presencial, lo que planteó cuestionamientos sobre la necesidad de procesos de formación enfocados en tecnologías, pero dentro de la carga de trabajo de los docentes.

**Palabras clave:** formación continua de educadores, curso semipresencial, Sociedad Ciencia y la Tecnología, Tecnologías de la Información y la Comunicación

## INTRODUCTION

Increasing social and technological transformations interfere with the way societies think and act, and education is changing in response to the innovations that emerge in the current context of globalization. The teaching and learning processes are strongly influenced by factors related to changes in the economy, modes of production, advances in science, and diversification of political-cultural scenarios. Therefore, changes in educational systems are necessary for schools to keep up with the cultural, scientific, and technological development of society, and in their complexities, they require simultaneous approaches to reviewing curricula and teacher training. While some authors are dedicated to understanding the new profile of students in technological innovations (PRENSKY, 2001), others direct their reflections to teacher training (NÓVOA, 2009) and to a reconceptualization of an education that goes beyond school training and takes place “throughout life” (DELORS, 2010).

Investing in the continued training of educators becomes essential to meet current demands since it is characterized as praxis, that is, reflections on pedagogical practice; adaptations, and tensions to the intense changes that society is going through. In this sense, studies point to the importance of an educator open to change, focused on the management of critical and participatory subjects. One of the paths that help in this reflective pedagogical practice is continued training, as it helps educators to become aware of their difficulties, face them, and seek solutions (DEMO, 2006; LIBÂNEO, 2007).

Contemporary educators face several challenges, in addition to having to develop a critical curriculum, in which the student is the protagonist of the learning process, they need to be updated both in the specific knowledge of their areas and the use of technologies and their potential applications in the classroom. In this context, another demand arises to be met by educators: knowing the technological resources present in students' daily lives and using them as methodological strategies to stimulate motivation in the learning process.

Technological advances, in addition to causing daily impacts on personal and professional life,

offer opportunities for schools to be organized according to their current social and cultural reality. For technology to be used for the benefit of critical and reality-oriented education, educators must have the skills to use technological resources in everyday life and understand the functionalities and pedagogical potential of equipment, applications, software, virtual learning environments, and communication systems. Continuing training and overcoming problems in everyday teaching can benefit from including the so-called Information and Communication Technologies (ICTs) (ALMEIDA, 2008; KENSKY, 2007; SANCHO; HERNANDEZ, 2006; VALENTE 2003) in school and academic life.

Given this situation, through a blended course of continuing education for educators, we aimed to reinforce knowledge about Science, Technology, and Society (STS) in a municipal public school in the city of Santa Maria-RS. Teachers were provided with different learning experiences with digital technologies and the use of the Virtual Teaching and Learning Environment (*AVEA-Ambiente Virtual de Ensino e Aprendizagem*) – the Moodle platform, considering that different activities could be developed later in their pedagogical practices. In this context, this work aims to analyze a proposal for continuing teacher training, offered as an extension course by the Federal University of Santa Maria (UFSM) for Basic Education/Elementary Education teachers, in 2016, lasting 80 hours. This research can collaborate with the current scenario in which topics such as hybrid teaching are in vogue, especially in teacher training.

The research was entitled “Continuing Training of in-service educators: the STS approach as an articulator of the Integrated Curriculum” and structured as a blended course, developed in person during pedagogical meetings at the investigated school and with distance activities using AVEA. The objectives of this course were: i) to present the STS approach as an articulator of the Integrated Curriculum; ii) to discuss local problems from an STS perspective; and iii) to provoke reflections on pedagogical practice, encouraging the proposition of integrated curriculum experiences.

Therefore, through the activities of the blended course, this work aims to qualitatively investigate the following question: what are the limits and potential of a blended continuing education course, focusing on the STS approach, from the perspective of the participating educators?

## **THE IMPORTANCE OF CONTINUING TRAINING FOR EDUCATORS**

Pedagogical innovation is a subject that needs to be a permanent topic in the field of education, as educational changes are structural, political, social, and technological. The school needs to think about it as an institution and collectively with educators as individuals who are the protagonists of the teaching and learning process. Without transforming the educational context, change for each educator becomes difficult. Broad political and social investments are necessary for changes in teachers and schools (NÓVOA, 1992).

At the beginning of the 1990s, Nóvoa (1992) highlighted the challenge of permanent training aimed at reflective educators with responsibility for their professional and personal development. The author also highlighted that teachers should understand the school as an “educational environment, where working and training are not distinct activities but integrated into the day-to-day life of schools

and not as a function that intervenes outside of professional and organizational projects” (NOVOA, 1992, p. 29).

In this aspect, continued and work-integrated training is an important tool for transformation, characterized by a collective learning space within the profession, in which “the experience of each teacher is still the collective that shares the same universe of work, with all its challenges and conditions” (TARDIF; LESSARD, 2005, p. 53). Such training is defined by Garcia (1999) as the continuity of teaching professional development, which overcomes the juxtaposition between initial and continuing training. Thus, there is no longer a specific period in which teachers dedicate solely to training and then are ready for professional life (KENSKY, 2012).

Nóvoa (2008) highlights the need for the training of educators to be part of professional performance, leading the teaching professional to have significant responsibility in training their peers and in their self-updates. The author mentions the term “communities of educators” to show how important the reflection of educators on their work is and can be the inspiration for the group, as they do not just become injunctions of external experiences and reflections but in reflections on their actions, as well as practical proposals for change. Freire (1987) highlights these actions as praxis, which means at the same time the subject acts/reflects and when reflecting acts, or, if we wish, the subject of theory goes to practice and from his practice arrives at the new theory. Thus, theory and practice are done together, perpetuated in praxis. These signals continued training with more autonomy, commitment to research, and pedagogical innovation. Regarding this aspect, Garcia (1999) points out that “the training that adopts as a problem and references the context close to teachers is the one that has the greatest possibilities of transforming the school” (GARCIA, 1999, p. 28).

It is important to characterize the learning of educators more broadly, as it comprises, in addition to the specific knowledge of their initial training, the knowledge of their personal and professional life experiences, and their beliefs and values (MIZUKAMI, 2002; TARDIF, 2014). Training moments become spaces for sharing and enriching different knowledge, through exchanges in which educators learn to recognize their professional development. Therefore, the continued training of educators needs to be understood within the relationship between theory and practice, as within the working day, these reflections can provoke greater transformations in their pedagogical practices (CANDAUI, 2008). This aspect is also considered by Garcia (1999) when he mentions that “when teachers work with issues related to their work, they can better understand what needs to be improved” (GARCIA, 1999, p. 166).

Working in the world of education requires constant transformations to assist the new generations, who are born in contact with ICTs, which in turn have the potential to generate disruptions in traditional teaching paradigms. Therefore, teachers must reformulate their practices, as well as know how to use and insert ICTs in the teaching and learning process (KENSKY, 2012). In this sense, Ponte (2000) mentions that ICTs come to address changes in the role of the educator and their training processes, as they can be used at school as a work tool. Whether to exchange messages and documents with your peers, as well as to mediate different pedagogical processes, access cultures, carry out new projects, etc. Teachers are an important element in these activities, as he stops being the one who teaches and becomes the one who learns, mediates, and promotes learning.

## **RELATIONSHIP OF ICTs WITH THE CONTINUING TRAINING OF EDUCATORS**

We live in a time of constant expansion of technologies through the global computer network, access to cell phones, tablets, devices, and techniques linked to the areas of health, security, sport, and leisure, among others. According to Sancho and Hernandez (2006), educators, managers, parents, and students have three alternatives: reject technologies and stay out of the process; appropriate the technique and transform life into a race after something new; or take ownership of the processes and try to develop skills that allow control of technologies and their effects. The third alternative is considered the most appropriate to the historical-social moment in which we live, as it is necessary to know and understand the procedures to develop social, emotional, and intellectual skills to create, plan, and take advantage of technology for the benefit of society.

In this aspect, understanding the characteristics and functionalities of ICTs helps the educator to insert them into the school curriculum. The use of ICT courses in the continuing training of educators has become an important resource that meets the needs of our current reality.

[...] AVEA supports distance or blended education by presenting connectivity features, a hypertextual navigation interface, and by integrating into the same environment several resource tools (such as hypermedia teaching materials and content), synchronous communication, and asynchronous activities. This enables the organization and availability of content in various formats, interaction, and interactivity around teaching materials and tools, in addition to collaboration and extra-class activities, constituting technological mediators of teaching-learning situations. It is such mediation that provides communication between teachers and students around the materials and activities of a given discipline or course, allowing the socialization of productions and collaborative learning (NARDIN; FRUET; BASTOS, 2009, p. 2).

The continued training of educators, through AVEA, can be a way of sustaining innovative processes in training and pedagogical practice, helping to break with traditional conceptions of teaching. Furthermore, it favors spaces for discussions and interactions between teachers and enriches debates and learning methodologies. An AVEA offers tools that enable educators to use innovative pedagogical strategies, use ICTs, and enhance the teaching and learning process in different educational scenarios.

## **METHODOLOGY**

This study is the systematization of a pedagogical process in STS, which took place as a continuing training course for educators in a blended format. It addressed ICTs and skills for educators and was classified by field research, as it focused on a specific community of educators. Through this investigation, we sought to develop several procedures to understand and interpret the group studied (GIL, 2002).

The training process was carried out in a municipal school in the city of Santa Maria-RS and used

UFSM's Moodle. The participants were 44 educators, including teachers and school managers. Data were collected through course activities, notes, and observations made by the researcher. To identify the perception of the educators who participated in the training process, a questionnaire composed of open and closed questions was administered at the end of the course. Of the 44 participants, 27 expressed their opinion on the content, methodologies, tools used, structure of the virtual environment, face-to-face meetings, participation, and learning. The instrument was available printed and online.

Participants were informed that all material produced on the course could be subject to analysis, as the course was linked to the doctoral activities of the research proponent, and the free and informed consent form was applied. Data analysis was based on tabulation in Excel spreadsheets, field diaries, and the involvement of participants in the activities. The closed questions were analyzed with the help of graphs, and the open ones using collective subject discourse analysis (CSD). This technique, used by Lefevre, Lefevre, and Teixeira (2003), proposes to determine the conception of a collective based on individually collected data. This is done by grouping fragments of statements, central ideas, and key expressions, through which the researcher formulates a collective discourse in the first person.

## **RESULTS AND DISCUSSIONS**

The course was held for teachers at a municipal elementary school on the outskirts of a population made up of children of workers in socially vulnerable situations. The parents' level of education was low, with 80% having incomplete primary education. The institution began its educational activities through philanthropy and served 580 school students from the 1st to the 9th year in the morning and afternoon shifts. It had a staff of 40 teachers, all of whom had degrees and most of them had postgraduate courses at a specialization level. It was a large school, with a sports court, secretariat, supervision, and pedagogical guidance, a cafeteria, 18 classrooms, an educators' room, a computer laboratory with internet access, a science laboratory, a reading room, a games room, complementary studies room, video, multifunctional resources for Specialized Educational Assistance (SEA), bathrooms adapted for special students, auditorium, and electronic equipment, such as a stereo and multimedia projector.

### **STRUCTURE OF THE CONTINUING TRAINING OF EDUCATORS IN BLENDED MODALITY**

The course was developed in six monthly face-to-face meetings and with distance learning activities structured around five topics, using Moodle. Each face-to-face meeting lasted approximately 2 and a half hours, in which workshops, practical activities, and debates were held between educators. The activities took place during the school's monthly pedagogical meetings, after the end of the working day, at 6 pm. These meetings enabled dialogue on the topic studied and the collective construction of activities to be developed with students and the school community in general.

The distance stage included 66 hours of theoretical and practical activities as a way of providing

another space for learning and dialogue to complement and deepen the face-to-face meetings. AVEA - Moodle is a teaching and learning management platform that facilitates interaction between teacher and student, as well as the presentation, delivery, and correction of work, as they are available in the environment (LEGOINHA; PAIS; FERNANDES, 2006). As it is an AVEA, it has several training tools, such as chats, forums, Wikis, blogs, questionnaires, texts, audio files, videos, and links, which were explored in different activities throughout the Course topics.

For the development of a distance learning course, during the second face-to-face meeting, AVEA and its functionalities were presented, as well as assistance with access to materials and activities. The course sought to integrate theory and practice, with content and activities distributed across five topics/modules in the virtual environment, with a period of 15 days to complete each topic. During this period, educators could organize their time in the way that best suited them, to carry out the proposed activities, which complemented the discussions in the face-to-face meetings. In each topic of virtual activities, teaching materials for readings and videos were created, specific to each theme, followed by complementary materials, activities such as forums, questionnaires, creation of concept maps and comic books. The materials are available for consultation on the website: <https://carollacerdaped.wixsite.com/curso-form-cont-cts>.

The evaluation was carried out by observing the needs and challenges that existed during the course. With the activities carried out, information was obtained to adjust pedagogical actions according to the development of the course, seeking, according to Hadji (2001), to make students aware of their difficulties and seek new learning strategies. In addition to encouraging reflections, it was possible to follow, step by step, the teachers' trajectory of knowledge construction (HOFFMANN, 1993).

The topics covered in the training process were suggested by educators during the course presentation meeting at the school. Box 1 summarizes the activities and topics covered in face-to-face meetings and in the distance learning part of the course.

**Box 1** - Themes and activities of the face-to-face and distance learning stages of “Continuing Training of in-service educators: the STS approach as an articulator of the integrated curriculum”.

| Topics |  | Face-to-face meetings (14h)   | Distance activities (66h)   |
|--------|--|---|---|
| 1      | Common National Curriculum Base - <i>Base Nacional Comum Curricular</i> (BNCC) | Dynamics with initial reflections on the role of the educator to introduce the topic of Curriculum, based on the discussion about the BNCC. | Presentation forum<br>Didactic material on the topic and debate forum                             |
| 2      | Violence and Curriculum in Schools   | Pedagogical workshop on the BNCC and the inclusion of the theme of Violence in the school curriculum.                                       | Didactic material on the topic<br>Creation of comic books, using Tondoo software<br>Forum debate. |



|   |   |  |   |
|---|---|--|---|
| 3 | Violence, Drugs, and School Curriculum                      | Circle of debates, problematizations, and activities on the topic.   | Didactic material on the topic<br>Preparation of a conceptual map using CMapTools<br>Forum debate |
| 4 | Integrated curriculum: AIDS/HIV as an integration theme     | Workshop on curricular activities that can help change the reality presented by the topic.   | Didactic material on the topic<br>Poll activity<br>Forum debate                                   |
| 5 | Science, Technology Society (STS) and Integrated Curriculum | Debates on the topic and pedagogical workshop covering didactic planning.  | Didactic material on the topic<br>Lesson plan preparation<br>Forum debate                         |
| 6 | Socialization   | Seminar to exchange experiences and socialize the activities carried out during the year at school, involving an integrated curriculum from the STS perspective. | Course evaluation through a questionnaire and issuance of certificates                            |

Source: survey data.

## ABOUT THE FACE-TO-FACE MEETINGS ON THE COURSE

The initial proposal for the continuing education course addressed aspects of science in everyday life to be worked on with the educators. The teachers were motivated by the training proposal and suggested the adaptation of the themes to get closer to the reality of the school. Given this, we sought to meet the institution's demands and adjust them, following the theme Integrated Curriculum and STS approach.

The meetings began with the introduction of the Curriculum theme based on the discussion on the National Common Curricular Base (BNCC-*Base Nacional Comum Curricular*), which was on the national agenda at the time. Firstly, the group seemed shy, maybe due to some of the teachers still getting to know each other and the presence of the researcher. There was little participation when a brief theory on the topic of Curriculum was presented. However, when the conversation about the BNCC began, educators highlighted that they were unaware of the document and its content, others mentioned that they had only “heard about it”. It was possible to observe statements such as: “The Base will help everyone learn the same things”; “From what we are realizing, there is not much point in discussing the Base, it is a waste of time, as it is already there, in its second version and according to the schedule for next year we will already have to implement it”; “we will have a lot of work”; “it will be necessary to review the school project”. According to the educators' speeches, there was general discontent with the proposed implementation of the BNCC and a feeling of impotence in this new education reform.

In the practical activities of the meetings, the educators divided into groups by area of knowledge analyzed the BNCC, and later presented posters with reflections on the changes perceived in the areas. Among the teachers in the initial years, the anguish of the pedagogues was visible when analyzing the

document and reporting how much they lacked the training to develop what the BNCC proposes. This is because they must work beyond literacy, as the new curriculum involves other areas of training such as dance, music, gymnastics, and fighting, and they lack theoretical, practical, and methodological support for this action. This refers to the complexity attributed to the work of early years educators who act in different fields of knowledge without having adequate training. A teacher becomes versatile by appropriating and articulating knowledge from different areas (LIMA, 2007), but without the contents of the subjects taught that have been the subject of their training courses (GATTI, 2008).

Throughout the six meetings, the following themes were presented and discussed: violence, drugs, STDs, integrated curriculum, and STS. We tried to develop practical activities and debate on the topics covered since the reading materials and other in-depth activities were in AVEA. At the last meeting, educators were asked to present an activity carried out with their students during the school year, in which they would have addressed the design of an integrated curriculum and the STS perspective. Everyone presented their experiences orally, being an opportune moment to learn about the different work carried out at the school, as few met to exchange knowledge due to different working hours. The subjects' knowledge comes from the context of their professional trajectory, linked to academic knowledge, pedagogical concepts, and curricular experiences, constructed individually and in the socialization of their work (VEIGA, 2007). Therefore, sharing teaching experiences produces a process of permanent reflection on the practice mediated by other educators and creates the possibility of learning from other co-workers and students, being able to restructure their practice (CUNHA, 2011; PIMENTA, 2006).

## **EDUCATORS' PERCEPTION OF THE BLENDED CONTINUING TRAINING COURSE USING AVEA - MOODLE**

For this analysis, questions about the course structure in AVEA were mapped, through the opinions of educators presented in a questionnaire. The instrument covered questions about the resources used, activities, presentation of teaching materials, complementary materials, content, technological tools, course structure, participation, involvement, and learning.

Table 1 shows the systematization of educators' opinions regarding the course structure in the distance stage and indicates that educators considered the course structure appropriate. This enhances the planning of materials and activities included in Moodle, as we sought to make the environment interactive and provide innovative tools to be used in pedagogical practices. Sosnowski and Borges (2010) highlight that personalized teaching and learning processes, through virtual learning environments, add links, media, content, and materials produced by students that make the educational space more active and dynamic.

**Table 1** - Educators' opinions on the structure of the Course at AVEA

| About the Course structure in Moodle   | (%)     |
|--|---------|
| It was appropriate for the users   | 44 (12) |
| Material resources in the virtual environment follow an appropriate sequence | 37 (10) |
| The environment is easy to navigate  | 26 (7)  |
| It is clear but difficult to access  | 26 (7)  |

**Source:** survey data.

The data in Table 2 indicate that in the materials resources in the virtual environment, each topic was attempted to begin with the following sequence: theme, objective, video of approximately 10 minutes (which presented the contents and activities of the topic), followed by teaching materials designed for reading, suggestions for complementary materials, activities, and forums. However, only 37% of educators agreed with this provision.

Regarding navigation and accessibility in the virtual environment, as shown in Table 2, educators considered it difficult to access. This can be attributed to the need for a computer and internet, as not everyone always had access and skills to use that tool. Furthermore, the presentation of the virtual environment interface may have been insufficient to meet the demands of the course participants, followed by resistance from educators to the use of Moodle. Such issues were also observed by Almasy et al. (2014) when identifying teachers' limitations in the use of AVEA in their research. The authors identified that educators are digital immigrants<sup>2</sup>, who were not born in the digital era and had a traditional training trajectory, without the use of technological resources, which may have made them unprepared for digital learning.

In the content covered, 37% of the participants considered the course content important, as it helped them to rethink their work with their students and create activities. Although there was a low percentage of approval for the course contents, they were planned and adapted according to the requests of the educators. As it was a part of the proponent's doctoral work, the main topic of the Integrated Curriculum and STS approach needed to be maintained. However, when asked whether the content was coherent and met the objectives, 26% said yes, although they highlighted that it was tiring. This fact surprised the researchers, as they sought to make the content and discussions more flexible according to the educators' requests, which leads us to think that what was considered tiring may have been the core themes of the course: Curriculum and STS approach.

<sup>2</sup> Prensky (2001) emphasizes the differences that technology has created in recent decades. He uses the terms “digital natives” and “digital immigrants” respectively to designate those who are born and grew up surrounded by new technologies and those who were not born in the digital era and need to learn how to deal with this technological world. **Most active** teachers are digital immigrants who adopt pedagogical methods based on the experiences they had during their initial training phase. In some situations, teachers' experiences are still very far from the students' reality, and this contributes to some difficulties in the teaching and learning process (PRENSKY, 2010).

When asked whether the course contents helped to reflect and review curriculum concepts, 19% of educators said yes. This data becomes important, even if it has a low percentage, because, when idealizing the training process, the main issue was to provide reflections on the school curriculum at all times of the course.

Regarding the presentation of teaching material of texts, videos, and activities, 44% of educators mentioned that the material presented adequate language and dialogue with the content, 41% highlighted that it is clearly defined, and 37% stated that it is coherent with the goals. Mayer (2011) highlights that in virtual learning environments, resources must be used that make teaching more attractive and that involve the student actively. To this end, the author defined some principles that help learning in Distance Education (EAD), such as: combining images with words; presenting corresponding images and words closely and simultaneously; and using animation and narration rather than written text.

Regarding reading the teaching and complementary material, 48% of teachers highlighted that they read it and 33% said that they liked having teaching material prepared for each topic, 41% pointed out that suggestions for complementary reading are important for deepening the topic studied. However, 37% mentioned that they did not have time to read. An attempt was made to develop teaching material to synthesize and discuss the main perceptions of the topics covered, considering that the articles and texts on the topics were extensive and dense. Links were inserted with access to different in-depth readings on the subject, as well as video suggestions.

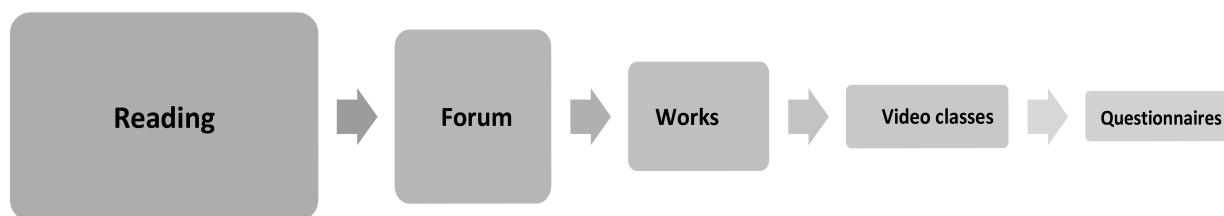
Regarding the activities, 70% of educators mentioned that good strategies were used, such as videos, forums, emails, etc. We tried to use different learning strategies in the virtual environment so that educators, in addition to participating in interactions, could use them with their students in their pedagogical work. A chat group was also created on the WhatsApp application, including practically all the school's educators. In the group, alerts were made about activity deadlines, the beginning of new topics, doubts were resolved, etc. For those educators who did not have this application on their cell phones, text messages were sent, in addition to the emails that were sent to all participants with notices and course information.

The time available to carry out the activities was considered good by 44% of participants. It was observed that at the beginning of the course, in topic 1 and topic 2, there was good participation, but from topic 3 onwards, course participants stopped accessing the virtual environment and carrying out activities. This fact can be attributed to the long period of 15 days between one topic and another. We sought to provide participants with learning situations compatible with their personal and professional needs, which is why it was thought that 15 days would be adequate to combine the course with other daily activities.

Regarding the tasks in Moodle, 41% of participants indicated that the activities were a suggestion for working with their students; 26% highlighted that they interacted with colleagues in the forums, responding and presenting their ideas; and 22% highlighted that they do not feel comfortable sharing their knowledge virtually. Educators were offered spaces for collective interaction and exchange of experiences, through activities and forums, as they could share ideas and different perspectives on the topics covered; however, it was noticed that they did not appreciate exposing their knowledge virtually.

Figure 1 shows the systematization of the technological tools most accepted by educators in the virtual learning environment. The activities involving reading were considered the best tool. Therefore, the importance of preparing teaching material specific to the reality of the course and the subject covered stands out, as reading materials legitimize training. Furthermore, they make the content more accessible, organized, and illustrated, considered as a form of pedagogical mediation (GUTIERREZ; PIETRO, 1994).

**Figure 1 - Educators' opinions on the technological tools used**



Source: survey data.

In Figure 1, forums and works are well-regarded by educators, as they consider them important tools for the learning process in virtual environments. Furthermore, they are excellent interaction strategies in distance education, as they allow interaction between teachers, students, and tutors, making the discussion collective and public (PAIVA; RODRIGUES JÚNIOR, 2004).

The work and activities were considered important, although they received less attention during the evaluation. Maybe this was due to the demand for time, as to carry out the work, it was necessary to read, research, use creativity, and write. Although complex learning processes are fundamental, as they encourage students to build knowledge and promote different learning situations, for teachers, it sounds like another demand for extra-class work.

Video classes and questionnaires, as highlighted in Figure 1, receive little prestige from educators. This can be attributed to the fact that videos require audio to watch and not all computers have a speaker. Another restriction is access to public spaces where it is not possible to listen, as headphones would be required.

Regarding participation in the distance learning of the course, there was minimal involvement, since only five of the group of 44 educators completed the 80 hours of face-to-face and distance activities. The others only participated in face-to-face activities during school meetings, and the few activities they carried out at AVEA were at the beginning of the course, but they later abandoned them. Therefore, the question was: why did they not complete the distance learning stage of the course? What factors influenced this result?

We aimed to answer these questions with the methodology of collective subject discourse, in which educators point out why they did not carry out distance learning:

Due to the lack of time, every teacher works a lot outside of school with planning, and correcting tests, and assignments, leaving little time for improvement. Also, because I work at more than one school, have a lot of work to do at home and several deadlines, in addition to having a two-year-old daughter who demands a lot of my time. Another reason was that I like talking to people, to understand their reactions to my interactions, and because I believe that the distance learning course minimizes the possibilities of interaction and socialization between learners. Finally, I couldn't get in because I have difficulty with computers (COLLECTIVE SUBJECT SPEECH).

Different reasons were identified that led to low participation in the distance learning course, such as lack of time, preference for the face-to-face modality, and difficulties with the use of technology. In the lack of time, it is observed that, as remote learning had to be accessed at home, it became yet another demand, added to the tests, reports, readings, and planning that are already part of the extra-class work routine of the teacher. Therefore, according to Vanlente (2003), and after this experience, it is necessary to provide spaces within the teacher's formal working hours to carry out studies. In other words, continued training should be part of the workload of teaching work.

The preference for the face-to-face modality can be attributed to the resistance of educators to the use of technologies and the lack of political and economic investments that provide adequate technological training within the profession. According to Coelho (2001), the difficulties faced by teachers in distance learning courses are considered dropout factors, especially when they have little knowledge of computers and the internet, as these become obstacles to following and developing activities.

Given the limited access to Moodle, the educators were asked in the evaluation questionnaire: if another collaborative platform were used, in the distance modality, such as Facebook, would there be more participation? Which tool do you suggest and why?

The educators' collective discourse pointed out that:

Maybe so, but I think lack of time was the main reason, as it's not the platform, but rather the time to get involved. I find Moodle a little complicated. Perhaps the Facebook application would be better, as it is easy to access. I think the theme was very tiring (COLLECTIVE SUBJECT SPEECH).

From the educators' speech, we observed that the lack of access to the virtual environment was due to several factors, the main one being the lack of time, followed by the complexity of using the technological tool and the theme not being attractive. The lack of time, highlighted as the main factor in the lack of access to the course, is a subject that has also been criticized by educators. Due to the intensity of teaching work, they reach the point of no longer having time to go to the bathroom or have a cup of coffee (APPLE, 1995). This tiring context becomes little motivating for teachers to update and innovate in their pedagogical practices. Therefore, it is necessary to offer real conditions for teacher learning, as it is not enough to modernize laboratories in schools, without offering the teachers technical, emotional,

and pedagogical support to carry out a dynamic work. Moran (2004) highlights that to have a quality education we fundamentally need well-prepared, well-paid teachers with good pedagogical training.

When it comes to distance education, one has the false impression that it is easy to carry out activities at home; however, this perspective does not consider the personal lives of educators and their necessary hours of rest. In this sense, Belloni (2002) highlights that one of the main factors behind the low effectiveness of teachers in continuing education courses in distance learning is that they occur outside the working day, without there being a specific time in the institution for training in this type of education. Also, the lack of the habit of frequently accessing the virtual environment becomes a factor in dropout, as it leads to an accumulation of activities and a lack of interaction with the group (RODRIGUES; CAPELLINI, 2012).

In general, we asked how the course contributed to the training of educators, and through the collective discourse it was possible to observe that:

It contributed to stimulating the use of new interactivity tools; in the discussion of the proposed themes, observing the opinions of supervisors and colleagues, as colleagues' reports are very important; I was able to review questions and apply them to my students; contributed to the understanding of the integrated curriculum; encouraged us to make changes; It contributed to greater integration with the group, as well as bringing new ideas to my classes (COLLECTIVE SUBJECT DISCOURSE).

Although educators pointed out difficulties with the virtual learning environment, the course was important in encouraging the use of new interactivity tools. This is highlighted by Ponte (2000) in the possibilities of collaborative work, sending messages and documents, creating collective pages, interacting with other schools, and monitoring what is happening in other countries, possibilities taken advantage of by many teachers with the use of technological tools.

Furthermore, the exchange of experiences between colleagues was considered important for reflections on teaching practice. These exchanges were provided in face-to-face meetings through debates and work presentations; on the distance learning course, they occurred through debates in forums and activities. However, due to little participation in the virtual environment, the exchange of experiences occurred more in person. Regardless of how these experiences occurred, this perception of educators is seen as one of the most positive aspects, as the course allowed the exchange of knowledge arising from everyday work experiences. For Tardif (2014), it constitutes the foundation of practice and professional teaching skills, as it is a way of acquiring and producing knowledge.

Finally, to evaluate, rethink, and draw new perspectives on the training processes, educators were asked what they consider should be improved in the course offered. The educators mentioned that:

The entire course was positive, the only negative was the time. If it were during class time, perhaps if we could be freed up in a shift to do it, it would be better used. I don't like remote activities; I prefer to present ideas in person to avoid any misunderstandings in interpretation. I just didn't participate as actively as I would have liked due to the excess of activities (COLLECTIVE SUBJECT DISCOURSE).

The educators' statements reinforce what has already been identified previously, such as the lack of time, specific to the workload, to carry out distance activities and resistance to the use of AVEA. These are elements that contributed to the evasion of distance learning since the face-to-face meetings did not obtain evasion due to being held during the pedagogical meetings, although they took place through a call, at 6 pm, outside the work shift. Rodrigues and Capellini (2012) showed similar data in a study carried out, such as fear of using the computer, lack of time organization, lack of internet access, mistaken thinking about Distance Education, and difficulty in carrying out activities, etc.

These questions suggest greater responsibility and encouragement for the culture of professional learning at school, as it constitutes a central aspect of the cultural and educational role of school managers. Furthermore, in a community of learners, as the school is characterized, teachers and managers have a fundamental role in demonstrating the behavior they expect from students (DAY, 1999).

## **FINAL CONSIDERATIONS**

The reflections systematized in this text are open-ended, given that the topic of continuing education for educators is in a constant process of change and evolution. However, although it is considered a legitimate field of study, it still lacks research and investment. Social, political, scientific, and technological transformations contribute to changes in education, which affects the need to build new teaching knowledge. By valuing the continued training of educators, it will be possible to have teachers who are reflective and follow the transformations.

Given this situation, this work aimed to analyze the perception of Basic Education educators about carrying out a blended course, as well as the limits and potential for continued training. It was found that, even though educators pointed out difficulties with AVEA, for them the course was important to encourage the use of new interactivity tools and facilitated the exchange of pedagogical experiences between colleagues, arising from daily work at school.

However, as it was a blended course, there was greater participation from the group of educators in the face-to-face course and little engagement with the distance learning course. At the beginning of the course, everyone participated in both modes: face-to-face and distance learning. From topic 3, after a month and a half of the course, participants dropped out of the distance learning course. Given this, we understand that, in the case of continuing education courses for educators, in the distance modality, they need to be short and concentrated, as long periods of activities contribute to dropouts.

Another factor that contributed to the evasion of the distance learning course was the fact that teachers were not adapted, were resistant, and considered themselves unprepared to use digital technologies. Although there was a low percentage of approval for the course contents, it should be noted that they were planned and adapted according to the educators' requests. As it was a part of the proponent's doctoral work, the main topic of the Integrated curriculum and STS approach needed to be maintained.

This shows that the continued training of educators needs to arise from the real needs of the



school, which implies training policies within the institution so that school management can configure training plans developed at the school, taking responsibility for the teaching-learning culture. Even a training proposal that seeks to adapt to the reality of the school cannot meet the needs and captivate educators; they must discuss, study, and exchange experiences about their everyday problems at school. Perhaps training will be more successful if planned by management, together with teachers, and external training proposals come in as a partnership to complement what is already developed.

Furthermore, lack of time was a key element for the dropouts, since the distance learning course had to be carried out at home, being yet another demand for extra-class work by the teachers in their domestic routine. This fact highlights the need for space and time for teacher training integrated into the workload, even in the case of a distance learning course. This issue needs to be rethought by education departments, by the country's educator training policies, and by managers.

The course's face-to-face activities were planned considering educators' access to the virtual environment. As there was minimal access to Moodle, there may have been gaps in learning and achieving the course objectives, due to the lack of reading the teaching materials and carrying out the activities, as these complemented the discussions in the face-to-face meetings. Therefore, if the course had been carried out in a concentrated manner, in a shorter period, and with a specific study time in the teacher's workload, more engagement could have occurred.

However, the continued training of educators through a course was one of the possibilities presented to reflect on teacher learning. We also believe in other forms of building knowledge within the profession, such as study groups, interdisciplinary projects, meetings with colleagues from other institutions, encouraging the writing of texts, and groups reporting on good pedagogical practices in which younger people learn with the most experienced ones, while the most experienced groups receive updates from the younger groups. That is, spaces for interaction and critical reflections on practice. A training that allows the educator to be an agent of their training and the training of their co-workers, leaving aside the position of listening teacher to be valued in terms of their abilities. Therefore, it is suggested that more research like this be carried out so that we can investigate the continuing education of teachers, given that this work deals with a single course carried out with a specific group of teachers.

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## **AUTHOR'S CONTRIBUTIONS**

Author 1 - Active participation in data collection and analysis, such as writing the article.

Author 2 - Data analysis, writing, and review of the article.

## **CONFLICT OF INTERESTS**

The authors declare that there is no conflict of interest with this article.