

# **The Incorporation Of Digital Information And Communication Technologies In The Pedagogical Practices Of Rural Education: A Comprehensive Analysis**

Leandro de Almeida,

*Doctoral candidate in education and technology, International University Center - UNINTER*

Joana Paulin Romanowski,

*Doctor in education, International University Center - UNINTER*

Margareth Fonsêca de Mattos,

*Doctoral candidate in education and technology, International University Center - UNINTER*

Maria Cristina da Conceição Oliveira,

*Doctoral candidate in education and technology, International University Center - UNINTER*

Reginaldo dos Santos Simoes,

*Doctoral candidate in education and technology, International University Center - UNINTER*

---

## **Abstract:**

*This study aims to promote an in-depth analysis of the use of Digital Information and Communication Technologies (TDIC) in the pedagogical practices of teachers who work in rural education. In international symposiums and specialized magazines, various myths related to the use of these technologies are often discussed, such as the supposed autonomy of digital generations in learning, the belief that computer programs will expand personalized teaching and the idea that digital resources are more stimulating and motivating. The present study is based on a qualitative systematic review and its main purpose is to present the Brazilian academic production, including theses, from 2019 to 2020, in order to highlight the relevance of the studies carried out and emphasize the importance of giving voice to researchers when it is about rural education, especially in relation to the role of the teacher.*

**Keywords:** *Pedagogical practices. Digital information and communication technology. Field Education.*

---

Date of Submission: 23-08-2023

Date of Acceptance: 03-09-2023

---

## **I. INTRODUCTION**

Initially, our speech shows that rural education has occupied a place in the political agendas of municipal, state and federal powers in recent years, since such instances have sought to respond to the “[...] demands of workers' movements and social organizations rural areas” (SOUZA, 2008, p. 1090). In this place, rural education shows a new look at the countryside and, consequently, at the rural worker, a vision that outlines and strengthens the class character of the struggles for education. For Souza (2008, p. 1090) this point of view of rural education overthrows the concept of a peasant population synonymous with backwardness and highlights the knowledge associated with “[...] knowledge of the peasants' social practice and emphasizes the countryside as place of work, housing, leisure, sociability, identity [...] a place for building new possibilities for social reproduction and sustainable development”.

Another speech pertinent to this study concerns technology, which expands borders and dynamized global communication, however, it cannot be said that it is a homogeneous phenomenon, although some societies and their institutions seek to show equality, the classroom reflects a completely different reality. Michel Serres (2013), French philosopher who died recently in June 2019, in his famous speech to the French Academy spoke of a generation that uses the thumb to communicate, referring to the teenager who writes messages on the cell phone. In a work called *Polegarzinha*, the French scholar aims to show the place of the pedagogue and the teacher in this digital society, noting that “[...] in the past, knowledge was supported by the erudite body, the aedo, the storyteller. Living libraries: this was the faculty of the pedagogue” (SERRES, 2013).

The philosopher points out that in 1900 most people worked in the field, more than a hundred years later, this number of the peasant population dropped significantly, which the author considers to be one of the greatest ruptures in history since the Neolithic (SERRES, 2013). In Brazil, the Brazilian Institute of Geography

and Statistics (IBGE) exposing data from the 2015 National Household Sample Survey (PNAD) revealed that 15.28% of Brazilians live in rural areas. Here lies our study, in which rural education and technology meet and dialogue to increasingly uncover the fissures, crevices and gaps to be filled.

Aiming to present a critical analysis of the academic production of the last five years of theses in education, discussing the points of approximation and distance between them. To this end, we will use, as research in progress and not yet conclusive, the descriptors: rural education and information and communication technology, exclusively in the database of the Brazilian Digital Library of Theses and Dissertations (BDTD) having as period the years from (2019–2020). Thus, we present a systematic review of the literature, based on a qualitative meta-analysis, which prioritizes data that associate information technologies with rural education.

## II. METHODOLOGY

Qualitative research is characterized as a type of investigation that is based on significant human actions. This approach incorporates questions related to meaning and intentionality as elements inherent to acts, relationships and social structures. Furthermore, both the emergence and the transformation of these structures are considered as significant human constructions (MINAYO, 2010, p. 31).

The methodology of qualitative research can be represented using the following flowchart:

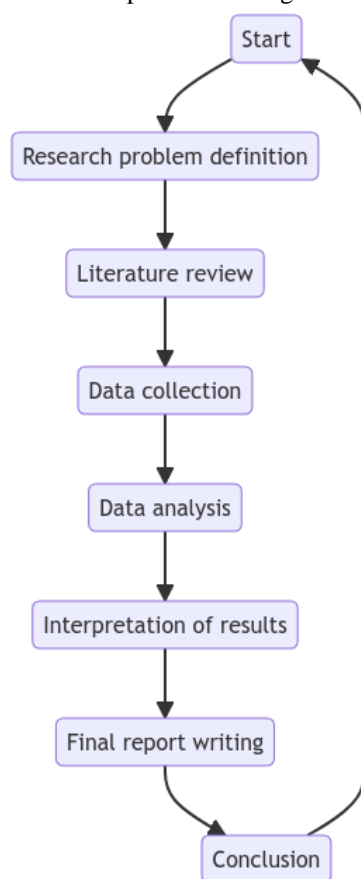


FIGURE 1: Adapted from (De Oliveira et al., 2018).

Explanation of the methodology steps:

**A. Start:** This stage marks the beginning of the qualitative research process, where the researcher identifies and formulates the research problem to be investigated.

**B. Research problem definition:** In this stage, the researcher clearly defines the research problem, establishing the objectives and questions that will be addressed throughout the study.

**C. Literature review:** The literature review is conducted to gather existing knowledge on the research topic, analyzing previous works, books, articles, and other relevant sources. This helps to theoretically support the research and identify gaps or unresolved issues that will be addressed.

**D. Data collection:** In qualitative research, data collection is conducted through techniques such as interviews, participant observation, focus groups, document analysis, among others. In this stage, the researcher interacts with research participants and records relevant information to answer the research questions.

**E. Data analysis:** After data collection, the researcher analyzes the collected material systematically and organizedly. This may involve categorization, coding, and identification of recurring themes in the data.

**F. Interpretation of results:** In this stage, the researcher interprets the results of data analysis in light of the theory and research objectives. Interpretation involves critical reflection on the meanings and emerging patterns in the data, seeking to understand the nuances and complexities of the studied phenomenon.

**G. Final report writing:** Based on the interpretation of results, the researcher writes the final research report. This report includes a detailed description of the methodology, research findings, conclusions, and recommendations.

**H. Conclusion:** This stage marks the end of the qualitative research process, where the researcher finalizes the report and concludes the research work.

It is important to note that qualitative research is flexible and iterative, which means that the steps in the flowchart can be adjusted or repeated as needed throughout the research process.

This approach focuses on the set of human phenomena that make up social reality, since human beings are distinguished not only by their actions, but also by reflecting on their actions and interpreting them based on the reality experienced and shared with their peers. similar. (MINAYO, 2010). According to Creswell (2016), “[...] employs different philosophical conceptions; research strategies; and method of data collection, analysis and interpretation”.

In the qualitative approach, bibliographical research as a collection procedure and the systematic review of the literature as source capture, is easily confused with a bibliographical review, as it is “[...] a type of investigation focused on a well-defined question, which aims to identify, select, evaluate and synthesize the relevant evidence available” (GALVÃO: PEREIRA, 2014). The bibliographic review is an operational step that takes place in any research, both for theoretical foundation forming the research corpus, and in the acquisition and selection of data to be used to achieve the objectives outlined (GONSALVES, 2018; MINAYO, 2010).

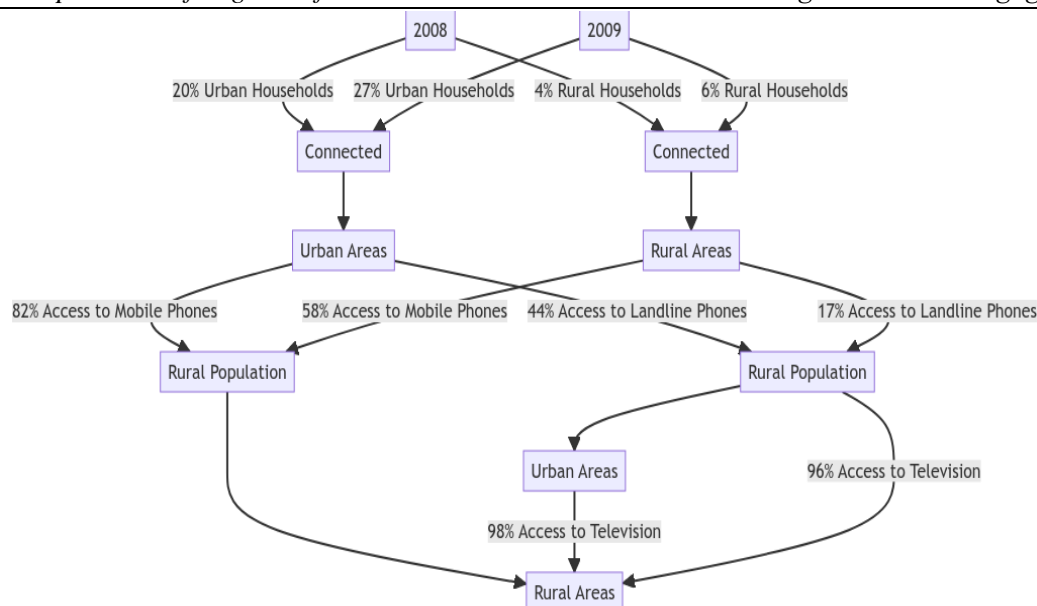
In this sense, we present a methodology that responds to what we intend, which is, in part, to carry out a survey of the academic literature on the use of ICTs in the classroom in Rural Education. In this sense, the use of a systematic review responds to the aspirations of this study, observing what Galvão and Pereira (2014) point out as stages, construction of the question, search in the literature (state of the art), selection of articles; data extraction; data extraction; assessment of methodological quality; data synthesis (meta-analysis); assessment of the quality of evidence; and the final wording, the subsequent publication of the results.

In the case of research in Rural Education and ICT, we must respect the multidisciplinary involved in these researches, which depart from this particularity to understand an object that is plural every day, essentially because it includes qualitative studies in the human sciences, we chose the BDTD database . As an eliminatory character, the work must bring the descriptor “countryside education” and be a research carried out in a postgraduate program of Education and Information and Communication Technologies, or even in related lines of research. Another issue to be considered is that the selected studies are only theses, therefore discarding dissertations. There was no selection by author or HEI, or research group, thus ruling out conflicts of interest in this research.

The survey showed a marked difference between the indicators relating to the rural population and those living in urban areas. In terms of the socioeconomic profile of the rural population, the indicators show that, in 2004, around 30.8 million Brazilians lived in rural areas, with only 6.6% of the economically active people in this population having an average real income above 3 minimum wages. minimum while in the urban zone, this percentage was 24.2% (INEP / MEC, 2007, p.13).

Illiteracy is another critical indicator and, in the Northeast, the problem is exacerbated, as can be seen in the National Household Sample Survey: the Northeast has the highest illiteracy rate (20%), a rate well above the national average of 10%. . Among the rural population, these rates are even higher: 23.3% of the rural population in Brazil. The same survey shows that the level of education of young people in rural areas was 30% lower than that of young people in urban areas, 9.0% of young people in rural areas were still illiterate, against 2.0% of young people in urban areas (IBGE , 2007) That is, “the least developed regions, small towns and rural areas are the ones with the worst indexes” (CASTRO, 2009).

Another socioeconomic indicator is the possession and use of information and communication technologies, called digital technologies. The survey on the use of information and communication technologies in Brazil - ICT households and ICT companies, carried out by the Internet Management Committee in Brazil, in the 2008 edition, covers the country's rural area for the first time. Previous research has pointed to costs and the lack of ability to manage them as a major barrier to computer and Internet ownership. In this matter, a new element stands out, the lack of availability of these technologies in rural areas, which presents location as one of the main obstacles to digital inclusion in the country (CGI.br, 2009), figure 2.



**FIGURE 2:** Availability and access to communication technologies in urban and rural areas of Brazil (2008 – 2009).

The broadband internet offer is not available or does not serve Brazilians living in rural areas. From 2008 to 2009 there was an improvement in the relationship, pronounced in the urban area. In 2008, 20% of urban households were connected and only 4% of rural households were connected. In 2009, these rates increased to 27% and 6%, respectively. The same inequality holds for access to other technologies. In rural areas, 17% of the population has access to landlines and 58% to cell phones, while in urban areas the percentages are 44% and 82%, respectively. The survey indicates a greater balance between urban and rural areas, just in terms of access to television: 96% in the rural area and 98% in the urban area (CGI.br, 2010).

The rural area of the country, together with the urban areas of lower purchasing power, represent "a significant social stratum that is excluded from the phenomenon of the information society and the expansion of the infrastructure of digital networks" (CGI). br, 2009, p. 68).

In terms of education, the outlook for educating in the countryside highlights problems such as curricula that are not related to rural practice and culture, insufficient and precarious physical facilities in most schools; difficulties of teachers and students in accessing schools; lack of qualified and effective teachers; inadequate curricula that favor an urban vision of education and development; among several others (INEP/MEC, 2007, p.8), resulting in low quality education in these schools and highlights the differences between rural and urban schools.

All these data reflect the insecurity of rural education. Despite the lack of access demonstrated by the indexes above, it is correct to say that rural schools, when they do not exist, do not meet the needs of the local population. Much of this picture is due to the lack of public policies or the inadequacy of existing ones in this context. According to Arroyo, Caldart and Molina:

Educational policies in Brazil suffer from a lack of definition of directions. And policies for the field even more. The school in rural areas started to be treated as residue of the Brazilian educational system and, consequently, the rural population was denied access to the advances made in the last two decades in the recognition and guarantee of the right to basic education. (ARROYO; CALDART; MOLINA, 2004, p. 10)

So much uncertainty leads rural social movements and universities, based on the demands and projects experienced over the last 20 years, to fight for the approval of the Operational Guidelines for Rural Education (CNE, 2002), which, among other things, recommends the creation training courses in rural education, aimed at training teachers in the last years of elementary school, and today these courses are already a reality in several Brazilian states.

The policy is justified by the absence of specific training spaces for multidisciplinary teaching, in accordance with the needs of teaching organization in the areas of knowledge in rural schools, as well as the need to build alternatives for school and pedagogical organization that allow the its expansion to primary education in and in the countryside, thus meeting the needs and quality required by social dynamics. The decision to send primary and secondary education students to urban schools, to remove them from their life context, "means breaking the bond, not continuity with the students' previous experience" (CANÁRIO, 2000, p.

135) and unfeasibility of the rural world as a complex social group, composed of a series of cultural and ecological values that are essential to it.

The formation of teachers, at the higher level, is presented as a problematic situation in Brazil as a whole, it has deteriorated in the field. The indices show that, in 1996, of the 2,129,274 teachers who worked at different levels of education, 65,968 had not even completed primary education and another 916,791 (43% of the total) had only completed secondary education (BRASIL, 2001, p. 96). In the same year, the Law of Guidelines and Fundamentals of National Education (LDB) was published (Law 9,394, of December 20, 1996), which provides, in its art. 62, that all teachers who work in elementary education must be trained at the higher level, in an undergraduate course, with a full degree (BRASIL, 1996), reinforcing the need for specific training for a large contingent of professionals who worked in schools throughout the country.

The implementation of this training must be foreseen in the State Plans of the Decade, according to the National Education Plan, which took place in Bahia in 2006, through Law n. 10,330, on September 15, 2006. This document contains worrying data about education in the country, informing that, in 2004, of the 183,046 Bahian teachers, only 54,693 were trained, which corresponded to less than 30% of the country's teachers. (BAHIA, 2006, p. 50).

In particular, in rural areas, the situation is critical. Among teachers who work in rural schools, according to PEE Bahia (2006), less than 7.5% have a degree (3,703 out of 50,104). Thus, they teach only in high school or even in elementary school (complete or incomplete). Rural education, in a historically constituted context, presents great shortages in quantity and quality, reproducing the concept that "the rural does not need studies" (anonymous speech in JP Bahia, p. 45), which makes those who want to learn for the city and those who stay in the countryside will end up not having a good education for the transformation of the social situation. The poor quality of education, especially within this context, is manifested in the alarming illiteracy rates among rural inhabitants, as well as in the high dropout rate in rural areas, which are unable to meet the demands of this portion of the population.

This whole scenario reinforces the peripheral character of rural schools (VENDRAMINI, 2004), aggravated by the scarcity of public policies, the absence of alternatives for young people and the inadequacy of contemplating the complexity of this context. Despite representing about half of Brazilian schools, rural education institutions face numerous structural difficulties. This reality is corroborated by the Countryside Education Panorama, which highlights the precariousness of school infrastructure, starting with the lack of electricity, affecting approximately 766,000 elementary school students. In addition, the lack of libraries in schools makes it difficult for approximately 4.8 million students to learn. "The overwhelming majority of rural schools do not have access to educational technologies, depriving students of learning opportunities through television, video and the Internet" (INEP/MEC, 2007, p. 30). This precariousness is experienced and denounced by the teachers who work in the field:

Rural schools have a very large lack of access to certain elements that develop skills in students. For example, schools do not have enough libraries, toys, and teaching materials. With regard to technological resources, the shortage is even more extreme. (VAS, student of the Degree in Rural Education UFBA/UFRB, 2009.)

Research and experience confirm the need for public policies aimed at structural issues in rural schools, basic issues for the constitution of dynamic learning environments, saturated with materials and conditions for students to explore, produce and socialize the knowledge produced, in general and of their community in particular, in order to articulate rural cities, local-global contexts. Infrastructure, teacher training, curriculum, pedagogical practices, context, are all elements that make up the framework of education and must be consistent, so that we can effectively talk about the quality of teaching.

### III. INITIAL RESULTS

Between 2019 and 2020, 71 works were found, including theses and dissertations, computed up to November 2020. Below, we present the **Table 1**, containing the authors and titles, institutions and year of publication of the theses.

**Table 1** - Theses and dissertations from the BDTD database.

| ° | Authors/titles/year/number of pages   | Institution (acronym) |
|---|---|-----------------------|
|   | SANTOS, Jenijunio dos. Degree in rural and riverside education: challenges and potential in training educators for resistance in the Amazon. 2020. 236 p. | nB U                  |

|   |  |        |   |
|---|--|--------|---|
|   | ANJOS, Maura Pereira dos. Institutionalization of the degree in rural education at UNIFESSPA: advances and contradictions. 2020. 325 p.  | nB     | U |
|   | DALMOLIN, Antonio Marcos Teixeira. In the shadow of this jacaranda tree: articulations between natural sciences and rural education in teacher training. 2020. 263 p.  | FRS    | U |
|   | CARVALHO, Jailda Evangelista do Nascimento. Relations between the Agricultural Engineering course at Sertão Sergipe Campus and the public policy of higher education in the countryside. 2019. 177 p.              | FSE    | U |
|   | MODESTO, Monica Andrade. Along the road you go with yearnings in your chest and feet on the ground: between wants and actions of environmental (trans)training in rural education. 2019. 204 p.                    | FSE    | U |
|   | FERNANDES, Fernando Luis Pereira. Literacy practices of mathematics teachers undergoing training in rural education. 2019. 230 p.  | FSCar  | U |
|   | SALVADOR, Paula. Agenda 21 as a tool for teaching and discussing sustainability in rural education. 2019. 160 p.   | FES    | U |
|   | CARVALHO, Jailda Evangelista do Nascimento. Relations between the Agricultural Engineering course at Sertão Sergipe Campus and the public policy of higher education in the countryside. 2019. 177 p.              | FSE    | U |
|   | MARQUES, Luiz Otavio Costa. Foreign Language Teaching, Field Education and Critical Literacies: weaving dialogues. 2019. 335 p.  | SP     | U |
| 0 | BEGNAMI, John the Baptist. Training by alternation in the degree in rural education: possibilities and limits of dialogue with the pedagogy of alternation. 2019. 403 p.   | FMG    | U |
| 1 | SILVA, Maria Divanete Sousa da. Popular educational practices in the degree in rural education, in the territory of the Tocantins Amazon. 2019. 239 p.   | FPA    | U |
| 2 | FARIAS, Maria Celeste Gomes de. Pedagogical alternation in educator training: contributions of the degree in rural education from Unifesspa. 2019. 318 p.  | FPA    | U |
| 3 | GONÇALVES, Felipe C. Audiovisual language and Rural Education: praxis and political awareness in audiovisual paths. 2019. 290 p.   | nB     | U |
| 4 | PEREIRA, Marcelo Fabiano Rodrigues. The degree in field education at UnB and the teaching praxis in the transformation of the school form based on the performance of its graduates. 2019. 325 p.                  | nB     | U |
| 5 | NASCIMENTO, Juscelino Francisco do. Linguistic policies for rural education and teacher training: a journey from UFPI to Massapê do Piauí. 2019. 119 p.  | nB     | U |
| 6 | GONÇALVES, Micheli Suellen Neves. Gender and teacher training: analysis of the training of women in the field of the Degree in Field Education at the Federal University of South and Southeast Pará. 2019. 383 p. | nB     | U |
| 7 | CARCAIOLI, Gabriela Furlan. Rural education, agroecology and science teaching: the tripod of teacher training. 2019. 242 p.  | NICAMP | U |

|   |  |       |   |
|---|--|-------|---|
| 8 | BORGES, Guilherme Martins Teixeira. Education, field and contradictions: the Evandro Lins e Silva group (UFG/2012). 2019. 244 p.   | AN-GO | C |
| 9 | LOZANO, Daniele. The interface between special education and rural education in a municipal school in the interior of São Paulo: a case study. 2019. 308 p.  | SP    | U |
| 0 | ANGELO, Aline Aparecida. A study on the political-social practice of graduates of the degree in rural education at FaE/UFMG: possibilities and challenges for the formation of rural educators. 2019. 315 p. | SP    | U |
| 1 | COSTA, Lucieius Marinho. Pedagogical practices in multigrade classes: insertion of popular education in the curriculum of rural schools. 2019. 175 p.  | FPB   | U |

**SOURCE:** BDTD database (2019-2020).

Of the works researched in the BDTD database, 353 titles are presented with the name education and field, not necessarily education in the field, hence the need to cut this time lapse even further to the last two years and theses, which appear in a total out of 71, with two repeated works, therefore this number drops to 69 theses and dissertations, thus, we chose to select, based on previously defined criteria, the 21 theses, being: 06 from UnB; 03 from USP; 02 from UFSE; 02 from UFPA and the rest, the institutions - UFPA; UFSCar; UFES; PUC-GO; Unicamp and UFMG have 01 work each, defended and exhibited at BDTD.

In the contemporary context, thinking about quality education cannot be disconnected from the processes of knowledge production and citizenship building. The connection with knowledge construction processes is due to the fact that these processes require thinking, thinking, discussing and acting. When reflected, thought about and discussed by social entities, knowledge becomes incorporated into the life context of these entities or communities, becoming meaningful to them and representing the set of knowledge they use to live and behave on a day-to-day basis. continuous movement and transformation of these contexts.

The construction of citizenship is a political process, it aims to guarantee "equality of access to the public space as a condition for the existence and survival of men as members of the political community" (CORRÊA, 2002, p. 221). access "goes beyond overcoming poverty and social inequality through compensatory measures; it is a legitimization of human rights, often denied to social entities, especially rural entities. "The public space", on the other hand, "is not a territory [...], but above all a legal and political concept, [...] it arises from the action of its members" (LAFER, 1988, p. 219) , that is, the public space is "the space for affirming the effectiveness of human rights" (BERWIG, 1997, p. 11).

Based on these assumptions and the following considerations: 1) that, through technologies, various digitally-based information and communication spaces and resources have been distributed in recent years, forming a dynamic and constantly expanding communication space - cyberspace<sup>2</sup> - through which social, economic, political, cultural and subjective processes flow; 2) that generalized communication is "a fundamental social process, a basic human need and the basis of any social organization" (WSIS-03, 2003); 3) that the right to information and communication constitute fundamental human rights, according to article 193 of the Universal Declaration of Human Rights of 1948 (UN-Brazil, 2004); 4) that citizenship is effective through collective coexistence in the public space; It can be recognized that cyberspace is also part of the modern public space and that access to the means of communication constituted by ICT constitute the role of human rights in our society. Through these means, various movements and groups are organized to carry out demonstrations, demands, proposals for common objectives, for debates, organization of petitions, circulation of information that is not normally conveyed by the mass media.

of social organization, digital technologies enable the "creation of extremely powerful environments" (DIAS, 2000, p. 157) for the joint production of knowledge and the realization of learning. Due to the hypertextual nature of digital networks, it is possible to interfere with the knowledge that other people and groups have built or are building, so that "the construction of knowledge is not a one-sided product of isolated human beings, but of vastly distributed cognitive collaboration" ( ASSMANN, 2000, p. 11).

The presence of information and communication technologies in rural areas cannot be understood only as a form of expropriation of the subject in the field of his country and culture and the worsening of social inequalities, as happened with the introduction of technologies for the modernization of the country. agriculture (VENDRAMINI, 2004, pp.151-155).

It should be seen from its collective potential, as a form of social articulation and knowledge production, as learning environments and citizenship production, basic processes of valorization of the subjects in this field. "The appreciation of the rural world arises today from new forms of articulation with the urban

world and from the preference for other forms of collective life” (CANÁRIO, 2000, p. 127), digital technologies being essential elements of this perspective. Therefore, they must be included in rural education, not as simple tools, as an opportunity to build new social relationships and knowledge (LÉVY, 1999).

Therefore, the technological networks of modern society, that is, the digital networks, must be taken as one of the foundations of the principle expressed in the Guidelines. Reinforcing and guaranteeing this perspective, the document, in its article 13, provides that teacher training for teaching in rural schools must include:

I - Studies on diversity and the effective role played by rural children, young people and adults in building the social quality of individual and collective life, in the region, country and the world;

II - Pedagogical proposals that value, in the organization of teaching, cultural diversity and the processes of interaction and transformation of the field, democratic management, access to scientific and technological advancement and respective contributions to the improvement of living conditions and loyalty to ethical principles that guide solidary and collaborative coexistence in democratic societies. (CNE, 2002, p. 25)

The basic channel for realizing the protagonism of social entities, interaction and production of cooperation, today is cyberspace. Much of social articulation takes place in digital environments. Information and communication technologies increasingly constitute the “physical infrastructure of the new space of time” (SANTOS, 2001, p. 47), at the same time, a space for organizing initiatives and overcoming obstacles on the part of communities and a privileged time frame for global powers. It is a fundamental moment-moment for the articulation of the subjects of the area, for the understanding and transformation of their social reality.

The provision of quality education to the population identified by the village was discussed and systematized by the 1st and 2nd National Conferences on Rural Education, held in 1997 and 2004, respectively. The last document of the II Conference (2004) presented several requirements, among them the valuation and specific training of educators and teachers in the area through specific and permanent public policies. Then, in 2006, the Ministry of Education proposed the realization of undergraduate courses in rural education. Four pilot courses were created in the largest teaching centers in the country - UFBA / UFRB, UFS, UnB, UFMG - to train teachers in the last years (second segment) of elementary and high school who work in this area.

In this context, the Faculty of Education of the Federal University of Bahia - UFBA, together with the Federal University of Recansavo da Bahia - UFRB - and the Ministry of Education, in partnership with the Municipalities of Bahia, carried out in 2008, within the scope of the Course Teacher Training Program Faced / UFBA, Rural Education Licensed Course. It aims to train teachers according to the context of the area, that is, it trains teachers to work in Elementary Education in rural schools, capable of managing the educational process and developing pedagogical strategies aimed at training autonomous and creative autonomous human subjects capable of producing solutions to inherent issues. to their reality, related to the construction of a sustainable field and a development project for the country (UFBA, 2008).

Therefore, information and communication technologies are inserted in the pedagogical proposal of the course as a structuring element of the dynamics as an element loaded with content, as a representative of new ways of thinking, feeling and acting that constitutes itself in modern society, which redirects its use of operational rationality for complex, open, polyphonic rationality” (BONILLA, 2005, p. 208).

In this course, in addition to the specific disciplines that deal with the relationship between teaching and technology that are offered throughout the process, digital technologies are inserted as components in the field of Languages and Codes, but also outside this area, as transversal elements., as a "backdrop" for all other activities.

To this end, technologies are treated from three interdependent perspectives: 1. Science, technology and society, from which we approach the economic, political, ethical, social and cultural aspects of modern technological development; 2. Languages and codes, from which we address issues related to literacy, logic and digital interfaces; 3. New forms of knowledge production based on network dynamics, in which we approach the educational, pedagogical, knowledge production problems that arise in modernity and how this affects the training processes of teachers in the area. Learning, research and university development actions are developed to enable approaches, always in dialogue with all areas of knowledge, seeking to create a dynamic that incorporates digital technologies in the various pedagogical practices developed throughout the course.

We seek to understand the technological reality of the field with its dichotomies, contradictions and difficulties, to propose activities that favor the incorporation of modern technologies in the context of the field, both in schools and in communities, articulating institutional activities with public policies and actions that favor the formation of entities in the field of use and understanding of the role of technologies in the social reality in which they are inserted. At the same time, we aimed to analyze the dynamics caused by the incorporation of technologies in this context and the formation of entities for their appropriation, as well as the limits and potential of these processes of transformation of reality in the field, building a pedagogical theory and producing knowledge in the area (FACED , 2009).



This addition, just to show the panorama of the research, is relevant quantitative data to be transformed into a qualitative study later. We also advance that the majority of UnB does not happen by chance, since it is in this institution that, in 2017, the Degree in Rural Education completed 10 years of the first entrance exam. The University of Brasília is one of the pioneer educational institutions to offer a degree that prepares educators to teach in rural areas. In its scope, the course seeks to meet the shortage of specialized labor in primary and secondary education in these regions.

#### **IV. FINAL CONSIDERATIONS**

As an initial stage, this research needs to be deepened further and does not intend to be reductionist to the point of attributing exclusively to UnB and other renowned institutions the pioneering spirit. However, it can be initially presented as the most important in scientific production, without disregarding the importance of a more in-depth study. Aspects of the teacher's role, both those limiting and liberating the use of technologies in rural education classrooms, are being raised for the composition of this study. Another relevant aspect to be considered is the role of the professor, his training and the moment he becomes a trainer, since many doctoral studies involve professors of degree courses in rural education, pedagogy and related areas, always referred to this context.

In the Brazilian context, the field is characterized by insufficiency or inadequacy of public policies in relation to its reality. Historically, what is considered a right for the population in general has been denied to the rural population, which faces the worst socioeconomic indices, such as low income, high illiteracy rates and lack of access to technology. Despite receiving a precarious education, with curricula that do not meet their needs, poor infrastructure and teachers without adequate training, this population needs to be contemplated. Therefore, it is necessary to better understand this context, which requires access to technology and greater articulation between teacher training, different languages, digital culture and pedagogical practices, in order to ensure understanding of the realities of the field and the opportunities offered by technology to its transformation. and related areas, always referring to this context.

In this sense, we sought to discuss these possibilities through the analysis of academic productions on the incorporation of digital information and communication technologies (TDIC) in the teacher training process. With the increasing use of digital technologies, Brinjolfson and McAfee (2014) state that sectors of the knowledge society have modified and conditioned the way we live, behave, communicate, learn and generate new knowledge.

The use of technology in the pedagogical practice of teachers in rural education can help students understand the content addressed. When the teacher uses technological resources properly, he provides a differentiated, more dynamic and interesting class. However, precautions must be taken, as the use of the Internet, for example, can disperse students during class.

What happens daily in the classroom has an influence on the teacher's training and learning process, and learning is one of the main objectives of all pedagogical practice. When the teacher is leading a class that he has planned, but students bring new information that was outside his plan, he needs to have the flexibility to incorporate this new information and redirect the class according to his plan. This skill is acquired through practice.

The teacher's role, the limiting and liberating aspects of the use of technologies in rural education classrooms are data that are being raised for the composition of this study. Another relevant aspect to be considered is the role of the teacher, his training and when he becomes a trainer. It is important to point out that many doctoral studies have the participation of professors from degree courses in rural education, pedagogy and related areas, always related to this context.

From these studies, it is observed that the use of digital technologies in rural schools is interpreted in different ways, producing multiple meanings and a variety of nomenclatures. It is noticed that, although there is a vast bibliography that conceptualizes the term, its definition is not always clear. In fact, all descriptions aim to address how people should deal with digital information and communication technologies (DICT) in different areas of life.

#### **REFERENCES**

- [1]. SOUZA, Maria Antonia De. Rural Education: Políticas, Pedagogical Practices And Scientific Production. Educ. Soc., Campinas, V. 29, No. 105, P. 1089-1111, Dec. 2008.
- [2]. GALVAO, Taís Freire; PEREIRA, Mauricio Gomes. Systematic Literature Reviews: Steps For Their Preparation. Epidemiol. Serv. Health, Brasília, V. 23, No. 1, P. 183-184, Mar. 2014.
- [3]. MOLINA, Mônica Castagna; ANTUNES-ROCHA, Maria Isabel. Countryside Education: History, Practices And Challenges Within The Scope Of Educator Training Policies – Reflections On Pronea And Procampo. Reflexão E Ação Magazine, V.22, N.2, P.220-253, Jul./Dec.2014.
- [4]. De Oliveira, Magno., Lima, V. M., Yamashita, S. M. A., Alves, P. S., & Portella, A. C. Experimental Planning Factorial: A Brief Review. International Journal Of Advanced Engineering Research And Science, V. 5, N. 6, P. 264164, 2018.

- [5]. ARROYO, Miguel Gonzalez; CALDART, Rosellie Salete; MOLINA, Monica Castagna [Organized]. For Field Education. Petrópolis, RJ: Voices, 2004.
- [6]. ASMAN, Hugo. The Metamorphosis Of Learning In The Information Society. Information Sciences, Brazil, V. 29, No. 2, May-August 2000. P. 7-15.
- [7]. BARROS, Daniela Melare; BRENTI, Maria Jose. Information And Communication Technologies And Teacher Training: Weaving Some Connection Networks. Inside: RIVEIRO, Klia; GALO, Silvio (Organ.) Teacher Training In The Knowledge Society. Bauru, SP: Edusk, 2004. P. 125-144
- [8]. BRAZIL, Law Of National Guidelines And Fundamentals Of Education. 1996. Available At:
- [9]. <<http://www.planalto.gov.br/ccivil/leis/L9394.htm>>. Accessed On: June 4, 2009.
- [10]. BRAZIL's National Education Plan - PNE / Ministry Of Education. Brazil: Inep, 2001.
- [11]. BRAZIL. Operational Guidelines For Basic Education In Rural Schools. Brasília, DF, 2010.
- [12]. BONILLA, Maria Helena. Digital Inclusion And Teacher Training. Education Magazine (Department Of Education, FCUL), Volume XI, Number 1, 2002, P. 43-50.
- [13]. BONILLA, Maria Helena. School Of Learning: Outside The Information Society. Rio De Janeiro: Quartet, 2005.
- [14]. CALDART, Roseli Salete. Dictionary Of Rural Education. Sao Paulo: Expression, 2012.
- [15]. CANARY, Rui. The School In The Rural World: Contributions To The Construction Of An Object Of Study. Education, Society And Cultures, Lisbon, N. 14, 2000, P. 121-139
- [17]. CASTELLI, Manuel. Network Society. 1st Village São Paulo: Paz E Terra, 1999. (Information Age: Economy, Society And Culture)
- [18]. CRESSWEL, John W. Research Project: Qualitative, Quantitative And Mixed Methods. Trans. Magda France Lopes; Consultancy, Supervision And Technical Revision Of This Edition: Dirceu Silva. 3.Ed. Porto Alegre: Artmed, 2010.
- [19]. DAYS, Paul. Online Learning Communities. INNOVATION, Lisbon, V. 14, No. 3, 2001. P. 27-44.
- [20]. OPERATIONAL GUIDELINES. For Basic Education In Rural Schools, Basic Education And The Rural Social Movement. Brasília: Unb, 1999.
- [21]. FACED/UFBA. Information And Communication Technologies And Teacher Training In The Context Of The Area: Opportunities For Transforming Social Reality. El Salvador, 2009. Available At <http://www.gec.faced.ufba.br/twiki/bin/view/GEC/Licampopesquisa>. Accessed On 03-30-2021
- [22]. GONSALVES, Elisa. Conversations About Initiation To Scientific Research. 6.Ed. Campinas: Editora Alinea, 2018.
- [23]. KENSKI, Vani Moreira. Education And Technologies: The New Pace Of Information. 8. Ed. Campinas, WC: Papyrus, 2012.
- [24]. LÉVY, Pierre. Cyberculture. Sao Paulo: Ed. 34, 1999.
- [25]. MINAYO, M.C.. The Knowledge Challenge. So Paulo: Hucitec, 2010.
- [26]. CNE/CEB Resolution 1/2002. Federal Official Gazette, Brazil, April 9, 2002. Session 1, P.32.
- [27]. SERRES, Michel. Polegarzinha – A New Way Of Living In Harmony, Of Thinking About Institutions, Of Being And Of Knowing. Rio De Janeiro: Bertrand Brazil, 2013.
- [28]. UNESCO. ICT Competency Standards For Teachers: Standard Competency Modules. Paris: UNESCO, 2006. Available At: <Available At: <http://unesdoc.unesco.org/images/0015/001562/156207eng.pdf>>. Accessed On: 30-03-2021
- [29]. UNESCO AI. ICT Competency Standards For Teachers. London, 2008. Available From: <Available From: [http://portal.unesco.org/ci/en/ev.php-url\\_id=25740&url\\_do=do\\_topic&url\\_section=201.html](http://portal.unesco.org/ci/en/ev.php-url_id=25740&url_do=do_topic&url_section=201.html)>. Accessed On: 30-03-2021
- [30]. VENDRAMINI, Celia Regina. The School Focused On The Rural Multilayered. Florianópolis - Brazil, V. 22, No. 01, January / June. 2004, P. 145-165.
- [31]. II NATIONAL CONFERENCE On Rural Education. Final Declaration (Plenary Version). By Public Policies For Rural Education. Luzinja, CSO, August 2-6, 2004. Available At <<http://www.red-ler.org/declaracion-ii-conferencia-educacao-campo.pdf>>. Accessed On 03-30-2021
- [32]. ANGELO, Aline Aparecida. A Study On The Social Political Practice Of Graduates Of The Degree In Rural Education At Fae/UFMG: Possibilities And Challenges For The Training Of Rural Educators. 2019. 315 F. Thesis (Doctorate In Education) – University Of São Paulo, São Paulo, SP, 2019.
- [33]. ANJOS, Maura Pereira Dos. Institutionalization Of The Degree In Rural Education At UNIFESSPA: Advances And Contradictions. 2020. 325 F, II. Thesis (Doctorate In Education) —University Of Brasília, Brasília, 2020.
- [34]. BEGNAMI, John The Baptist. Training By Alternation In The Degree In Rural Education: Possibilities And Limits Of Dialogue With The Pedagogy Of Alternation. 403 F. Thesis (Doctorate In Education) – Federal University Of Minas Gerais, Belo Horizonte, 2019.
- [35]. BORGES, Guilherme Martins Teixeira. Education, Field And Contradictions: The Evandro Lins E Silva Group (UFG/2012). 2019. 244 F. Thesis (STRICTO SENSU Graduate Program In Education) - Pontifical Catholic University Of Goiás, Goiânia, 2019.
- [36]. CARCAIOLI, Gabriela Furlan. Rural Education, Agroecology And Science Teaching: The Tripod Of Teacher Training. 2019. 1 Online Resource (242 P.). Thesis (Doctorate) - State University Of Campinas, Institute Of Physics Gleb Wataghin, Campinas, SP.
- [37]. CARVALHO, Jailda Evangelista Do Nascimento. Relations Between The Agronomic Engineering Course At The Sertão Sergipe Campus And The Public Policy Of Higher Education In The Countryside. 177 F. Thesis (Doctorate In Education) - Federal University Of Sergipe, São Cristóvão, SE, 2019.
- [38]. COSTA, Lucieus Marinho. Pedagogical Practices In Multigrade Classes: Insertion Of Popular Education In The Curriculum Of Rural Schools. 2019. 175 F. Thesis (Doctorate In Education) - Federal University Of Paraíba, João Pessoa, PB, 2019.
- [39]. DALMOLIN, Antonio Marcos Teixeira. In The Shadow Of This Jacaranda Tree: Articulations Between Natural Sciences And Rural Education In Teacher Training. Thesis (Doctorate In Science Education) Federal University Of Rio Grande Do Sul, Porto Alegre, 2020.
- [40]. FARIAS, Maria Celeste Gomes De. Pedagogical Alternation In Educator Training: Contributions Of The Degree In Rural Education From Unifesp 318 F. Thesis (Doctorate In Education) – Graduate Program In Education, Institute Of Education Sciences, Federal University Of Pará, Belém, 2019.
- [41]. FERNANDES, Fernando Luis Pereira. Literacy Practices Of Mathematics Teachers In Training In The Degree In Rural Education. 2019. 230 F. Thesis (Doctorate In Education) – Federal University Of São Carlos, São Paulo, SP, 2019.
- [42]. GONÇALVES, Felipe Canova. Audiovisual Language And Rural Education: Praxis And Political Awareness In Audiovisual Paths. 2019. 290 F., III. Thesis (Doctorate In Communication)—University Of Brasília, Brasília, 2019.
- [43]. GONÇALVES, Micheli Suellen Neves. Gender And Teacher Training: Analysis Of The Training Of Women In The Field Of The Licentiate In Field Education Course At The Federal University Of South And Southeast Pará. 2019. 383 F., III. Thesis (Doctorate In Education)—University Of Brasília, Brasília, 2019.

- [44]. LOZANO, Daniel. The Interface Between Special Education And Rural Education In A Municipal School In The Interior Of São Paulo: A Case Study. 2019. 308 F. Thesis (Doctorate In Education) – University Of São Paulo, São Paulo, SP, 2019.
- [45]. MARQUES, Luiz Otavio Costa. Foreign Language Teaching, Field Education And Critical Literacies: Weaving Dialogues. 335 F. Thesis (Linguistic And Literary Studies In English) University Of São Paulo, São Paulo, 2019.
- [46]. MODESTO, Monica Andrade. Along The Road You Go With Yearnings In Your Chest And Feet On The Ground: Between Wants And Actions Of Environmental (Trans)Formation In Rural Education. 2019. 204 F. Thesis (Doctorate In Education) - Federal University Of Sergipe, São Cristóvão, SE, 2019.
- [47]. NASCIMENTO, Juscelino Francisco Do. Linguistic Policies For Rural Education And Teacher Training: A Journey From UFPI To Massapê Do Piauí. 2019. 119 F., Ill. Thesis (Doctorate In Linguistics)—University Of Brasília, Brasília, 2019.
- [48]. PEREIRA, Marcelo Fabiano Rodrigues. The Degree In Field Education At Unb And The Teaching Praxis In The Transformation Of The School Form Based On The Performance Of Its Graduates. 2019. 325 F., Ill. Thesis (Doctorate In Education)—University Of Brasília, Brasília, 2019.
- [49]. SALVADOR, Paula. Agenda 21 As A Tool For Teaching And Discussing Sustainability In Rural Education. 160 F. Dissertation (Master In Education) – Federal University Of Espírito Santo, Vitoria, 2019.
- [50]. SANTOS, Jenijunio Dos. Degree In Rural And Riverside Education: Challenges And Potential In Training Educators For Resistance In The Amazon. 2020. 236 F., Ill. Thesis (Doctorate In Education) —University Of Brasília, Brasília, 2020.
- [51]. SILVA, Maria Divanete Sousa Da. Popular Educational Practices In The Degree In Rural Education, In The Territory Of The Tocantins Amazon. 239 F. Thesis (Doctorate In Education), Institute Of Education Sciences, Federal University Of Pará, Belém, 2019.