SCHOOL RESEARCH IN THE DIGITAL CONTEXT: A LOOK AT STUDENT EDUCATION

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ABSTRACT
Technological development has imposed the redirection and modeling of what and how one learns, considering the cultural practices in which the professional, social and personal life of learners are inserted on a daily basis. In the construction of this article, we sought to investigate how students see school research as a pedagogical tool. It is that research carried out in digital media, which aims to contribute to the formation of critical-reflective students. The theoretical framework was based on books, academic articles and *e-books*. The methodology was based on a qualitative research, carried out on *Google Forms.* It was possible to perceive, from the data analyzed, that the learner progressively incorporates and adopts the knowledge acquired from school research, although pedagogical investment is still needed to improve this learning resource.

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INTRODUCTION

In the period prior to the presence of digital technology in basic education schools, promoting research depended exclusively on the existence of books, magazines, newspapers or physical documents. With the advent of the internet, students began to have at their disposal a range of information arranged in a plurality of languages and varied ways of reading and writing.

On the other hand, in the digital environment, these actors taste different aspects of knowledge that lead them to the various text options. Certainly, one cannot forget the power of information provided by the internet, but it is necessary to pay attention to the fact that the virtual environment allows each one to tell a certain event or interpret a given theory in their own way. Therefore, it is necessary for the student to pay attention to the content researched; however, to do so, it needs guidance and training.

Research is recognized as an ally in teacher training, but school research is a subject that has a production of academic works that is not very expressive in terms of the student's vision.   In view of this reality, it is believed in the pertinence of this work that was structured as follows: the theme was developed from the chapter "School research in the digital context", composed of the following subtitles: concept, objective and purpose of school research, followed by the formation of the student by research and the student of the digital age.

The methodological path was based on an exploratory research, supported by a questionnaire built on the *google* platform, through the *google forms* application, which aimed to know the opinion of Basic Education students from the second segment of Elementary School (6th to 9th grade), from a public school in the State of Bahia, about the object of study, which is "School research in the digital context".

The analysis of the results was based on a qualitative approach, whose discussion was based on books, *e-books* and academic articles, with the objective of understanding how students face school research and what is the value of this didactic-pedagogical resource for the formation of critical and reflective students in the face of advances in digital technology.

Finally, it can be seen that from the point of view of most students who answered the questionnaire, school research is a didactic resource that contributes to the development of knowledge and deepening of topics relevant to the construction of knowledge. However, one cannot lose sight of the reality we experience in teaching practice when the student loses the opportunity to treat the information received in a critical and reflective way, which

demonstrates the need for the collaboration of the school community in the formation of the student-researcher.

SCHOOL RESEARCH IN THE DIGITAL CONTEXT

The importance of the media as a device for the socialization and education of children and adolescents is highlighted by several authors, such as Junqueira (2020), Goméz (2015), Santos (2020), Moran (2018) among others. In view of the new reality imposed with the advent of Digital Information and Communication Technologies - DICTs - and the Web in the educational context, it is necessary to understand how the media work in order to understand the process of appropriation of knowledge, messages, products and expressive resources made available to young people.

From Almeida's (2019) lessons, it can be learned that the proposal to insert DICTs in school curricula as a public policy took place in the mid-1980s, a period prior to the expansion of the internet, through the EDUCOM project, which was the first public project to deal with educational informatics, having been gestated in meetings articulated by the Ministry of Education -MEC.

The introduction of DICTs in education was pursued, according to Almeida (2019, p. 95) to propose "[...] a curriculum that presented a critical reflective formation, articulating the use of technology for the selection, acquisition, dissemination of information, always with the ultimate objective of building knowledge and modifying the context [...]".

From the proposal to the implementation of actions for the use of DICTs in education, the absence of significant collaboration between technologies and teaching was perceived, an obstacle that has not been overcome in recent decades by the programs and actions that replaced EDUCOM. In this scenario, the pedagogical proposals that use school research as a support for new discoveries by the student of Basic Education, needed to seek or improve mechanisms that show the paths of critical and reflective construction of knowledge, in order to overcome the barriers between what the curriculum proposes aimed at the integration of DICTs and the daily life of the classroom.

SCHOOL RESEARCH: CONCEPT, OBJECTIVE AND PURPOSE

According to Beillerot (2010), part of the theorists recognize a certain procedure as research, if the following conditions are present: a production of new knowledge; a rigorous production of referral and communication of results. From the criteria presented, it is possible to infer that school research, keeping the due proportions, also fits the parameters established for the different types of research carried out in the university environment.

Regarding the production of new knowledge by students in training, it is worth mentioning Beillerot's (2010) position that, for this public, the results found in the research programmed by the teachers are new knowledge. As for the path of research, it is possible for basic education students to mitigate methodological rigor, but it does not dispense with rationality and understanding. Finally, there is the communication of the results, the critical discussion and the reasoned conclusions of what was found.

In a simplified way, the main objective of academic research, brought by Beillerot (2010), can be transmuted to school research, based on the assumption that the research produced in the universe of Basic Education is also based on the search for information and/or knowledge. In the words of Beillerot (2010, p.72) "[...] The notion of research is employed in numerous fields of social practices, since the common place of its use is "simply", that of the effort to find an object, information or knowledge".

School research, in parallel with the purpose of scientific research, outlined by Beillerot (2010), is located in the field of research that aims at the transformation of actions and practices based on the new knowledge produced. It should be noted that we do not want to establish univocal comparisons between academic research and school research, but to use definitions linked to those that serve the latter. In this context of research as a proposal for pedagogical activity, although the initiative for the search for knowledge does not start from a spontaneous restlessness or intrinsic interest of the student researcher, the conceptualization of research is achieved, as well as its objective and purpose, even if in a rudimentary way.

Student education through research

Beillerot (2010, p. 88) ponders that contact with research is capable of "developing the capacities of analysis and investigation, of avoiding confusing the evidence with the demonstrated fact". In the same direction, Silva and Grezzana (2013, p. 85) corroborate Beillerot (2010) when they argue that "research, extension and quality teaching, with a "rational" foundation. " argumentative", and "logical" (scientific and philosophical) constitute the basis of the university educational project [...]".

The aforementioned authors refer to university research, however, broadly interpreting articles 22 and 26 of the Law of Guidelines and Bases of Brazilian Education - LDB, (Brasil, 1996), it can be affirmed, in our view, that there are implicit indications of the need to train a student researcher. This is what article 22 provides. "Basic Education aims to develop the student, ensure him the common training indispensable for the exercise of

citizenship and provide him with the means to progress at work and in further studies".
(Brazil, 1996, n.p.)

In view of the legal determination of development and training for the exercise of citizenship and professional and intellectual progression, extending the understandings about the role of research in the formation of Higher Education students to those who are in Basic Education is pertinent and necessary. In addition, with the implementation of the National Common Curriculum Base - BNCC (Brazil, 2017) -, as stated in article 26 of the LDB, (Brazil 1996), the role of the student researcher is evident in the construction and reconstruction of knowledge, privileging the critical and conscious participatory construction of knowledge, linked to the reality experienced, explained at the end of article 26, which provides:

> The curricula of early childhood education, elementary school and secondary education must have a common national base, to be complemented, in each education system and in each school establishment, by a diversified part, required by the regional and local characteristics of society, culture, economy and students (Brasil, 1996, n.p.).

The legal diploma in question expands the need to use research as a didactic-pedagogical tool, when it leaves it up to each system and/or school establishment to choose the diversified part to compose the curriculum, emphasizing that the curricular diversity referred to needs to contemplate the reality that surrounds the student, considering the social, cultural and economic field. Thus, using research to achieve the purpose of knowing and learning about the characteristics of where one lives is a consistent step in the formation of citizenship proclaimed by the LDB.

In the not too distant past, the lack of libraries or the absence of a substantial collection in schools were among the main causes that prevented research from adding to the knowledge built by the student in his school career. Nowadays, with the internet, the biggest complaint is the quality of information. In the next topic, we will address, in a tight synthesis, what is observed in the student who has always inhabited the world that knows the internet.

THE STUDENT OF THE DIGITAL AGE

How to overcome the emptiness of knowledge based on empty rhetoric, useless to guide action and that helps each individual to build themselves in an autonomous, but at the same time shared way? This is the challenge of the educator of the digital age. (Goméz, 2015). We are dealing with students who belong to the generation that was born under the aegis of technology, but who often prefer to ignore it in educational settings. These actors

live in two distinct worlds: one analog, in which the school is built, and the other digital, that of social relations. The internet, Junqueira (2020) teaches us, has been characterized, since its emergence, by the freedom to unite information, content, and *software* with the human will to innovate. It is typical of network life to determine connections, create and spread new content, participate and reinvent ways of being and doing.

The new generations, especially the younger ones, says Goméz (2015) are mediated by virtual social networks, which incite new ways of life and action. The speed with which everything happens makes young people get used to multitasking, dedicating partial attention to each of the tasks and demanding instant communication and gratification, which causes a decrease in their patience and increases their anxiety in the face of the lack of the habit of waiting. Also according to Goméz (2015), the new generations have in their favor the fact that they are skilled in the digital environment, being able to choose to consume, search, compare, process, evaluate, select and create information.

Thus, the *deficit* of this generation, in general, is not due to the lack of information and data, but to the significant and relevant organization of the knowledge they receive and build. In this line of thought, Moran (2018) argues that the student should not use something ready and finished. To this end, there is no doubt that there is a need for strategies related to school research that stimulate students in the search for and collection of reliable information and that guide them in the interpretation, reflection, discussion and sharing of the results found.

RESULTS OF THE RESEARCH PREPARED BY THE AUTHOR

Based on a research based on a qualitative approach, an exploratory study was carried out with Basic Education students from the last four years of Elementary School, sixth to ninth grade, in a public school of the state network, located in the city of Salvador-Bahia, aiming to know the opinions of the students on the researched theme, in order to understand the distance between the real situations of use that involve school research and the situations conceived by many teachers as ideal.

The contact with the students was systematized through the use of a questionnaire composed of ten objective questions, elaborated on the *Google Forms platform.* It is considered salutary to bring the information that the choice for objective questions, instead of subjective questions, was due to particularities inherent to the target audience, composed of students of the second cycle of elementary school, who show difficulties and/or rejection in expressing themselves in writing.

The questions present in the questionnaire dealt with school research, addressing predominantly subjective topics such as preferences, expectations and measurement of values, without leaving aside more objective questions, such as how and where they carry out school research and how they socialize it. The dynamics to obtain the participation of the students was carried out as follows: the researcher, on two occasions when she developed activities with the coordination, used one of the *chromebooks* belonging to the field school to carry out the research, with students from the opposite shift, who carried out monitoring activities, within the scope of the + Studies (More studies) program, which is a peer monitoring program, established by the Government of the State of Bahia.

DATA ANALYSIS AND INTERPRETATION

The analysis of the collected data is based on post-structuralist studies, which will be briefly presented, before the aforementioned analysis, based on the lessons of Williams (2012) under the studies in focus. According to the author cited here, the understanding of a given reality from a post-structuralist perspective is not subject to affirming the observed situations as safe truths just because the patterns are repeated. Thus, the delimitation of knowledge is based on the various variables that compose it, defining the limit as something without borders, in which situations, in continuous movement, are transformed and resignified. Williams (2012, p. 16) defines this limit as follows: "The work of the limit is to open the limit and change our sense of its role as stable truth and value. What if life had different standards? What if our established truths were different, not the supposed one?"

It was decided to analyze the data obtained from the answer thirty-eight students of the aforementioned field school, under the prism of post-structuralist educational studies, because it is understood that in the context in which the research was carried out, such studies are consistent with the reflection, devoid of judgments based on common sense, which is intended to be made about school research.

The following analysis was made from the capture of the images obtained in the results organized by *Google Forms*, referring to some questions that concern the researcher's concerns about school research. Certainly, there are several variants to be considered under the theme in focus, but one can also observe a pattern in the form and function of how research is carried out in basic education. Therefore, by focusing the present analysis on students from a single public school, it is intended to draw attention to some particularities inherent to school research, observed both in the literature on the subject and in the daily practice of this teacher.

School research as a learning resource

From this moment on, the aforementioned questionnaire is analyzed, relating it to school research in the digital context as an inherent resource for the learning of basic education students. When asked about their preference to carry out the surveys requested by the professors, 47% of the participants signaled positively, while 28.9% opted for the eventuality of the request and 15.8% linked the realization of the survey to the score determined by the professor for this procedure (Figure 1). Regarding the importance of research for their own learning, 97.44% of the students recognized the positive role of research in the construction of their learning (figure 2). On the other hand, the primacy of research on *websites* and books did not exorbitantly surpass those built only with the support of the internet (figure 3).

Figure 1 - Students' opinion about the pleasure of conducting the surveys
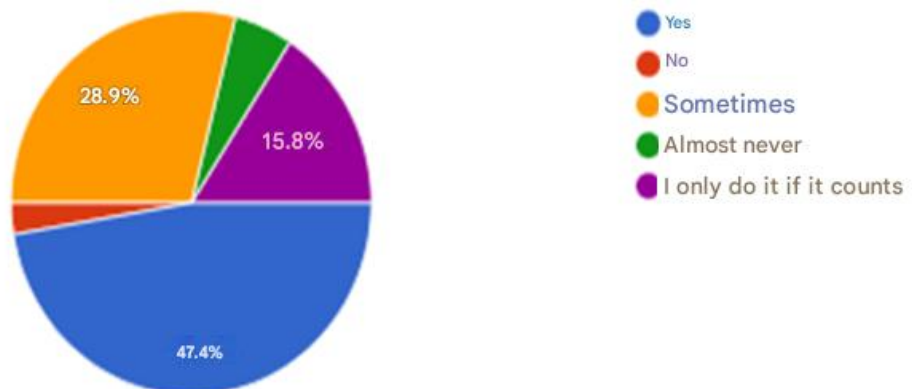
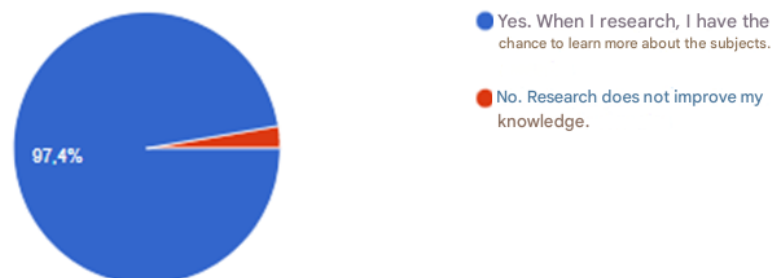Source: Prepared by the author, from a graph built by *Google forms*.

Figure 2 - The degree of importance of research for learning itself
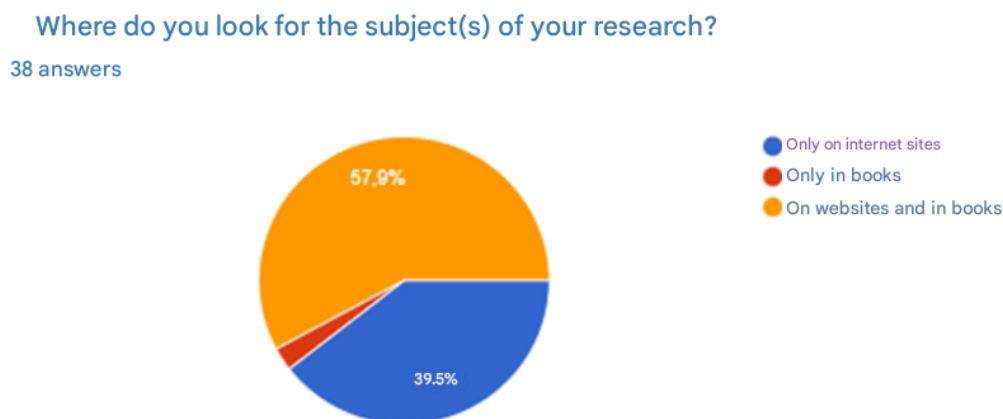

Source: Prepared by the author, from a graph built by *Google forms*.

Figure 3 - Sources of research carried out by students

Where do you look for the subject(s) of your research?

38 answers

- Only on internet sites
- Only in books
- On websites and in books

Source: Prepared by the author, from a graph built by Google *forms*.

The three figures above bring questions related to school research in the digital context and its contribution to learning. Costa (2011) states that cyberspace cannot yet be considered a place frequented by all students, alerting us, however, that the earlier children and adolescents "[...]' invade it' and be able to control it, but they will develop in their motor, linguistic and cognitive capacities." (Costa, 2011, p.26).

In this research, it was found that the internet is frequently used in order to elaborate school research, being considered a weighty instrument by the participants in the search and construction of knowledge.

The word 'invasion' combined with the word 'control', both used by Costa (2011), draws our attention. We understand that such actions are essential for Basic Education students to be able to understand the inaccuracies and improbabilities present in the contents spread throughout the network. It should be noted, however, that distortions of reality are not typical of the internet, nor are they peculiarities created only by the digital world, since incorrect information is part of the history of civilization (Palfrey and Gasser, 2017).

The content conveyed by newspapers, books, printed magazines, *blogs* and social media are some of the *online* and *offline* means of disseminating the various types of content made available to people, on a daily basis. Thus, the new generations need to be willing to reflect on what they consume, what they reproduce and what they create, based on their research. At this point lies one of the biggest challenges for teachers who work in Basic Education: to train a student researcher.

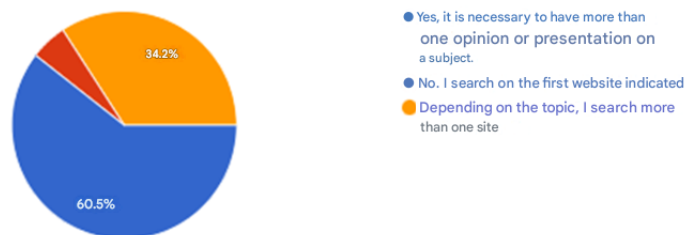### The role of research in the formation of Basic Education Students

With regard to the student's training for research, there are more specific characteristics for the development of a student researcher, but, in general, the paths

pointed out by Moran (2018) and hooks³ (2020), just to name a few authors, seem to us to be paths that value students' previous knowledge, respecting their cultures, while encouraging them to seek new discoveries, thus stimulating the autonomy of these subjects. Next, two questions will be analyzed, whose emphasis is on the attention given to information (figure 4) and to authorial construction (figure 5), based on the contents of the research.

Figure 4 - Preparation of the content of the school research by the student

When you find the subject of your research on the internet, you read more than one of the options shown by the search site to create your search?

38 answers

- Yes, it is necessary to have more than one opinion or presentation on a subject.
- No. I search on the first website indicated
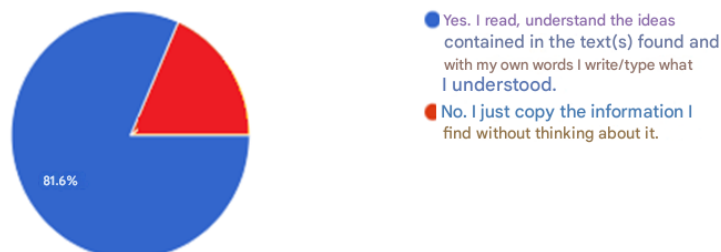- Depending on the topic, I search more than one site

34.2%

60.5%

Source: Prepared by the author, from a graph built by *Google forms*.

Figure 5 - Evidence of authorship

Once you find the subject of your research on the internet, you read the texts on the subject, before writing or typing your research?

38 answers

- Yes. I read, understand the ideas contained in the text(s) found and with my own words I write/type what I understood.
- No. I just copy the information I find without thinking about it.

81.6%

Source: Prepared by the author, from a graph built by *Google forms*.

Using a confession by hooks (2020) that exposes and tells of his teaching practices, at the beginning of his teaching career, he will refer to the contentist approach, made explicit in the narrative of the aforementioned author to allude to the teacher's performance in the formation of the student-researcher.

> When I started working in the classroom, as did many teachers, my biggest concern, perhaps obsession, was whether or not a substantial amount of information would be addressed. To make sure I had time to work in class on the material I believed was really important, I avoided taking the time for students to introduce themselves or share some information about their backgrounds, desires, and dreams." (hooks, 2020, p.25)

The student-researcher's training goes through the path that the teacher imprints in his classes. If the content-based concern goes beyond the need to make students know themselves and the world around them and beyond, the awakening of autonomy proclaimed by hooks (2020), which was influenced by the work of Paulo Freire, becomes increasingly distant. In this scenario, digital technologies facilitate learning through school research, although, as Moran (2018, p. 11) brings us, there is "[...] countless problems, challenges, distortions and dependencies that must be part of the pedagogical project of active and liberating learning".

Returning to the analysis of the two graphs presented in this topic, from the perspective of the teaching practice experienced by this teacher-researcher, when it comes to school research in digital media, it is clear that students understand, to a certain degree, that it is important to research in more than one *site*/source, and that the understanding and interpretation of the material collected on the internet is part that is linked to the act of researching, although, in practice, the indications of authorship in the research seem to be infrequent.

Still on the role of the teacher, Silva and Grezzana (2013) point out that the performance of the student-researcher depends on the action of advisors capable of providing the learning of methods and techniques of scientific research to the supervised student, in addition to contributing to the student's overcoming of his fears. There is no denying that students tend to carry with them insecurities that undermine their adventures as researchers, even though in Basic Education the methodological rigor of academia is not required.

FINAL CONSIDERATIONS

Using information technology becomes more and more defining of the capacity of services, work and exchanges, which will be increasingly accessible only through the network. In this scenario, there is an urgent need to train new citizens to live in a new digital environment, in which the school is also inserted and where the contemporary student accesses a quantity of fragmented information that often exceeds his ability to organize, causing the dispersion of his attention and saturating his memory, leaving him stunned and insecure about his authorship capacity.

In this work, it was possible to perceive that the learner incorporates and progressively adopts the knowledge and culture of the community, while participating in global and, to a large extent, virtual social practices, demanding from the school the commitment and engagement in this shared process of social construction of knowledge.

In view of this finding, the practice of research instituted by the school, even if using the internet, continues to present itself as a mechanized activity that lacks meaning. Even today, many students see research work as a mere task to be accomplished, with no commitment to the construction of their apprenticeship path. Changing this reality is one of the challenges of the school in times of research in digital media.

The research presented here did not analyze the importance of school research in the digital context within the scope of active methodologies, so it is suggested that future studies investigate school practices based on pedagogical activities that foster active learning in Basic Education.

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