

The use of Digital Educational Resources:

The contribution of research in the Supervised Teaching Practice in Basic Education

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Abstract— This article aims to reflect on the impact of Information and Communication Technologies (ICT) in the educational context, focusing on the potential contributions of the use of Digital Educational Resources (RED) in the process of teaching and learning. For this purpose, the results of the use of the RED will be presented: *Digital Classroom - The World's 1st Year Carochinha*. The study was accomplished in a class of the 1st grade of the 1st CEB, composed of 27 students, aged 6-7 years in Castelo Branco City Schools Group within the Supervised Teaching Practice. The results obtained after the analysis and processing of the data showed that when using this RED students show they have acquired the content covered by the fact that they enhanced levels of greater interest, commitment, motivation, commitment and initiative in the course of activities proposals. But, perhaps because they are students of 1st year of the 1st CEB, do not neglect the presence and monitoring of the teacher and the use of paper-based resources. This means that there should be a complementarity that reconciles the human factor (teacher), with the use of digital media resources and paper support resources (Manual).

Keywords— *Basic Education; Digital Educational Resources; Information and Communication Technologies; Supervised Teaching Practice.*

I. INTRODUCTORY FRAMEWORK

The current society has come to rely increasingly, to a range of digital resources to the different areas and services. The use of these tools has been done in order to improve procedures and, in short, improve the quality of life of citizens. This means that it has become important access and the respective acquisition of digital skills to enable a natural social inclusion. In this sense, the school must promote spaces and strategies that facilitate the use of digital resources. Currently there are new media and digital resources that assist in the organization of learning, making them more flexible as regards the promotion of activities that lead to the generation of different ways to promote the process of teaching and learning.

RED accompanying manual can be associated with an innovative feature with regard to the inclusion of different methodologies associated with new ways to present, demonstrate and structure the learning. RED has become more flexible guidelines contained in the textbook on paper, in that

it contains documents in different formats (text, audio and animations) that are realized in a multimedia presentation.

By integrating the RED activities is introduced also a more playful component. In this sense, the use of RED should be seen as a dynamic and flexible tool. This flexibility is remarkable in that it can combine multiple manual contents with various interactive features designed to support teaching and learning in the classroom context.

This article is structured in sections. a brief theoretical framework on the importance of ICT in educational contexts will be presented, will be presented the concept of RED, the respective qualitative attributes and their importance in the process of teaching and learning. In the third section will be presented the question-problem and objectives that guided the research and methodological options and research instruments that were considered adequate. The fourth section is devoted to the processing and analysis of data, data collected from questionnaires given to students, the semi-structured interviews to classroom teachers and opinions obtained within the practices of intervention sessions with the RED "Aula Digital - The world of Carochinha 1st year of the 1st CEB." Finally, in the fifth section will be presented a final thought related to the main reached conclusions.

II. ICT IN BASIC EDUCATION

A. *Integration of ICT in Basic Education*

Currently, there are means and resources that support the organization of learning, the elimination of inflexibility with regard to the creation of different approaches and ways of developing activities. In this sense, ICTs can be promoters of new contexts that may provide the process of teaching and learning.

According to [1], teachers have the opportunity to create other methods of organization, contributing to the creation of knowledge and innovation based on the use of digital resources. The integration of technology in school can promote learning experiences, contributing so that they can introduce various forms of approaches to content, thus counteracting a mere transmission of knowledge. In this perspective [2] stresses that ICT entered in various fields of human activity, making now an integral part of our culture and, as such, can not fail to have an important role in school. Similarly, [3] also indicate that younger people are attracted by technology, but not always the school takes advantage of this enthusiasm to integrate. Thus, it is necessary to take advantage pedagogically the opportunity to use ICT in

teaching and learning, causing it to revert positively in favor of student learning. This means that the use of ICT is not just integrate computers in specific curricular activities, but rather to provide stimulating learning environments. In this context, the [4] mentions some guiding principles for curriculum that values the diversity of methodologies, strategies and learning activities, in particular with the use of ICT..

B. The teacher's role in the integration of ICT

In this context, [5] argues that ICT can be considered as excellent resources to support teaching and learning process, as they allow access to software that have various teaching resources. The author states that the use of these resources have as a factor that can and should foster innovation processes. In this sense, the teacher must have the interests of promoting the knowledge in students, looking for strategies that motivate and meet their needs. Playing a key role in the integration of ICT in the teaching process and learning.

According to [5], with the use of ICT it is intended to be able to establish a close relationship between teachers and students, where they can introduce new approaches for carrying out the activities.

To this end, the use of ICT can be a driving instrument of interaction between teachers and students, in response to any needs that may arise in the education within [6] states that this process must be carefully analyzed using the program, curriculum goals and using strategies and supporting materials appropriate to the grade in question. Thus, the teacher will have to adapt their teaching method before their students to go to meet the requirements that the company will request them.

C. Use of Digital Educational resources in an educational context

In recent years, textbooks have joined in a complementary way, a manual in digital format (CD-ROM). In [7] opinion, a Digital Educational Resource (RED) can be a collection of documents with some properties, such as an inherently educational purpose; that meet the needs of the Portuguese education system; who have identity and autonomy; and which correspond to previously defined quality standards. In this sense, [8] complements this definition, noting that RED can be considered as a digital tool of great importance in allowing accelerate the blurring of boundaries between formal and informal learning.

However, the existence of digital resources creates new opportunities and new challenges to teachers for their teaching practice. The use of the RED can contribute and facilitate the development of educational approaches, as they allow, by teachers, other activities proposals. Also according to [8], RED can still contribute to a diverse range of learning resources, as they allow the use of organized educational materials and consistent with the objectives and the content contained in school textbooks, since they can including text files, images, sounds and videos in digital format. Thus, these instruments can be potentiating agents of teaching strategies enabling therefore innovation in teaching practices and greater involvement of students during their learning process.

Some of the tools contained in RED have a component that can be assumed to have a more playful character. As regards the use of the RED, students easily adhere to such proposals. Students tend to appreciate this valence, which will facilitate their involvement in the activities proposed by the teacher, in addition to the students adhere very easily to RED. In this context, [9] when referring to educators / teachers, believes that for these use is not the most direct and easier. One possible reason for this statement may be related to the fact that we are facing two kinds of people with very different digital competence, as referred to by [5], to mention the importance of realizing how digital natives and digital immigrants using ICT.

It is important to realize and reflect on the key features that RED should contain and what its educational potential. For this purpose, [10] and [11] refer a RED suitable for students must meet a set of features that include: encouraging imagination, exploration and problem solving; reflect and reinforce what the child already knows; contain audiovisual features such as sound, music and voice.

III. METHODOLOGY ADOPTED AND STUDY DESCRIPTION

Regarding the type of research, we opted for a qualitative methodology, which was paid to an action-research, which was implemented during the Supervised Teaching Practice. This data collection was the direct participation of students in the class, the Cooperative Advisor, the "Pedagogical pair" and classroom teachers of EB1 Quinta da Granja Castelo Branco. As data collection techniques were used field notes, participant observation, semi-structured interview, questionnaire survey and photographic records. It is important to note that were applied two surveys to students, validated by the method of the judges (experts in the 1st CEB and ICT): the first was applied in previous early intervention sessions in order to gather information about the views and knowledge of students on ICT; the second survey was applied after the intervention sessions in order to collect data related to the assessment that students made use of the RED.

With the investigation was intended to determine the extent to which the complementary use of a resource in digital format with the use of a resource on paper, can improve the motivation and involvement of students to promote learning. The research question that guided the practical intervention was: To what extent the use of RED - Digital Educational Resources - can improve the process of teaching and learning? Starting from this question, formulated objectives were as follows:

- 1) *Promote the use of ICT in educational context.*
- 2) *Framing the use of RED - Digital Educational Resources - in the process of teaching and learning.*
- 3) *Investigate what the potential of RED in promoting more meaningful learning.*
- 4) *Implement the diversification of educational resources in the context of the classroom: paper size (textbook) and digital format (RED).*

IV. MAIN RESULTS

As mentioned earlier, this research has a qualitative character, trying to describe and understand the importance of RED (specifically the RED "Aula Digital - The World of Carochinha 1 Year") in the process of teaching and learning in a class made up by 27 students of the 1st year of the 1st CEB. In this sense, beyond the description of events observed in the classroom context, he sought to understand and interpret the perspective of all stakeholders in addition to the students, including the "Pedagogical pair 'means the Cooperating Guidance and holders teachers in Basic Education.

This RED was used and implemented in the course of practice, however, for the purpose of research, will focus on three sessions. These activities were based on:

- 1) **Correction of work:** solving exercises taken from the RED "Aula Digital - The World of Carochinha 1st Year" and correct them using the RED.
- 2) **Presentation of new grapheme:** exploration of spelling (grapheme grapheme manuscript and press) and phonics form. Examples of words related to the grapheme to address.
- 3) **Conducting interactive games:** conducting interactive games in order to systematize the content covered.
- 4) **Activity Presentation:** explanation of activities, using the projection of the manual and the records book.

To this end, the analysis and processing of the data will be presented chronologically related to its effectiveness.

Initially, we requested the authorization of the Guardians, for data collection through records, questionnaires and photographs of their children.

After treatment of the initial questionnaire data it was found that the class consisted of 27 students, belonging to 9 males and 18 in females, aged between 6 and 7 years. Regarding the use of computers by students in their homes, it was important to know if they had, in order to be able to have the perception regarding access to this tool. According to the data collected, all students reported that they had a computer at home. With regard to the use that students make the computer at home, as can be seen naFigura 1, it has several purposes, with a distribution of responses in the various items. Most (52%) said that he liked to use the computer to 'Play'. Then the registered preference was for "Watching videos / movies" (26%).

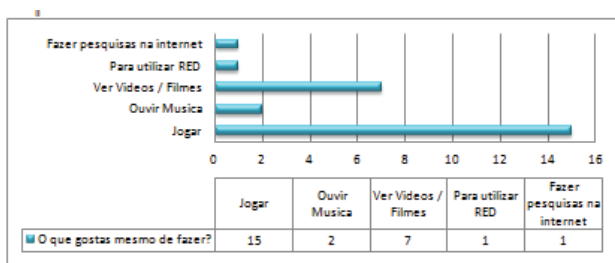


Fig. 1. « If you have computer at home, what use we make of it? »

With regard to the use of computers at school, the overwhelming majority of students said that this school year has used the computer.

The type most commonly reported activity relates to games (45%) and operation / use of educational programs was the second most referenced option (42%). Of the outcome, there is a preponderance of computer use in the subject area of the Portuguese, as a result of a more extensive use in reading texts (stories).

In this questionnaire survey was also included a question about the level of education in which students first used the computer. The overwhelming majority (81%) said that the first use of this resource was in pre-school education. A minority (15%) claimed to have used the first computer in the 1st CEB and only one student said he had never used the computer.

With regard to where use the computer (the students could choose more than one option) 60% of states that use the computer in "House" and 19% of students in "House of family."

With regard to data obtained from intervention sessions, collected through field notes, it can be said that the use of this RED involved students 'voluntarily', ie no need for a reminder to carry out the activities.

In terms of balance, on the use of RED, it can be said that this feature was well received by students and has facilitated new learning. As can be seen through some examples of field notes, the collected examples demonstrate that students appreciated the inclusion of RED:

(A1): "It has more color and things stir up."

(A4): "The pieces had color and leaf not."

(A8): "It has sound."

(A12): "I liked it because it is a game."

(A27): "I like to do on your computer. Because it's working."

Students pointed out, essentially, three aspects that should be highlighted: the feeling that came RED them to create conditions for better able to learn new content; the animations have viewed the new content, which for students found to be very suitable because they felt it meant an aid to the achievement of knowledge; Finally, the fact that these animations be associated sound has also been understood as very important and positive. The existence of multimedia resources can be referenced as key in bringing the student to the digital resource for them to be given the notion that there is a 'dynamic' and not the presentation of a 'static' feature.

Regarding the use of RED in the classroom context, it was important to gather the views of students on the use of this tool in the course of activities. To this end, the application of a post-questionnaire survey was conducted to ascertain the views of students to use the RED in the classroom context. In conclusive terms, the opinions of students regarding the use of RED in the learning process were very positive when they stated they intend to continue to use it also in their homes and

to refer to prefer compared to the school manual (paper) as You can be seen in Figure 2:

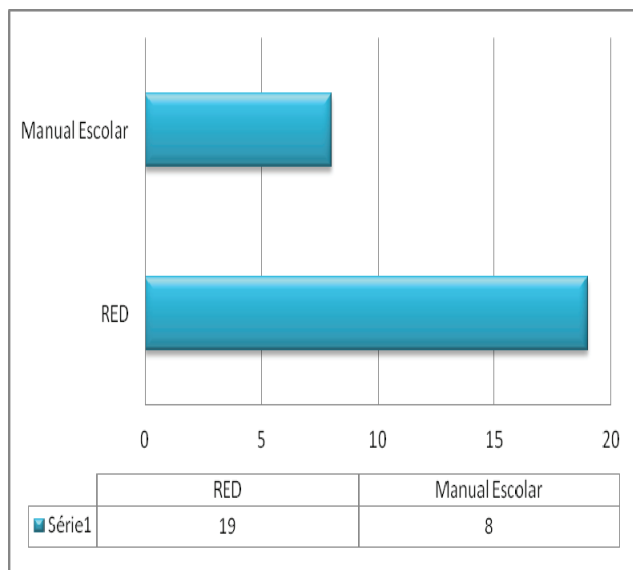


Fig. 2. « Preference between the use of the RED or School Manual.»

These data encourage the use of RED in a more systematic way, for reasons connected with the media and play valences that provide a more attractive environment and more motivating for students.

The main results obtained in relation to interviews to Orientadora Cooperating and classroom teachers can highlight the importance they attach to the use of ICT in the 1st CEB. In general, it is clear that ICTs are already part of the daily routines of teachers in the classroom context.

However, the use of ICT emerges as a strategy approach to teaching and learning, verifying that such use was made based on only one type of expository approach.

As regards the use of RED, although claiming teachers that it is a tool that can be more motivating promoter learning environments not appear to be a more extensive use of this feature. Failure to use these resources can be directly connected with the lack of computer equipment that allow them to monetize this feature and other digital tools.

During the investigation it became a different approach to RED, was operated in conjunction with students and was intended to be seen as another resource, a complementary manner or not, in promoting more and better learning.

In general, the results obtained after the analysis and processing of data, showed that when using this RED students demonstrated a greater commitment in carrying out the activities. Potenciando is thus higher levels of interest, commitment, motivation, commitment and initiative in the course of activities proposed by the researcher.

V. MAIN CONCLUSIONS

In this study, the existence of numerous different digital assets in association with easy access to them makes very early children have a privileged contact with the digital resources. Use in non-formal spaces of these digital resources is carried out with different objectives and purposes. Generally, these uses are carried out to their advantage which highlights, preferentially, a playful environment that generates the students levels of motivation and satisfaction high.

These data encourage the use of RED in a systematic way, for reasons connected with the media and play valences which consequently provide a more attractive and motivating environment for students.

In general, the results obtained after the analysis and processing of data, showed that when using this RED students demonstrated a greater commitment in carrying out the activities. It was possible the observation of higher levels of interest, commitment, motivation, commitment and initiative in the course of activities proposed by the researcher. The teacher must take care to provide students, as well as different strategies and approaches, a variety of resources to serve as support in order to make their learning.

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