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THE ANALYSIS OF THE USE OF MOBILE TECHNOLOGY IN 6-8 YEARS OLD CHILDREN'S LITERACY PROCESS

ANÁLISE DO USO DE TECNOLOGIA MÓVEL NO PROCESSO DE ALFABETIZAÇÃO DE CRIANÇAS ENTRE 6 E 8 ANOS DE IDADE

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Abstract: This study aims analyze the use of mobile technology in the literacy process of 6-8 years of children. To accomplish this study I have utilized descriptive, field and analytical research. The results showed that the specialists agreed that the use of mobile technology might help children in their literacy process; it encourages the student's love for reading and writing through many types of texts and tools, especially those available on the iPad or tablet applications. Although technology can help and assist the development of the literacy process, it cannot assist some specific skills in the writing process.

Keywords: mobile technology; literacy process; learning and interaction.

Resumo: Este estudo objetiva analisar o uso da tecnologia móvel no processo de alfabetização de crianças de 6-8 anos. Para realizar este estudo, tenho utilizado pesquisa descritiva, de campo e analítica. Os resultados mostraram que os especialistas concordaram que o uso da tecnologia móvel pode ajudar as crianças no seu processo de alfabetização; Ele incentiva o amor do aluno para a leitura e escrita através de muitos tipos de textos e ferramentas, especialmente aqueles disponíveis nas aplicações iPad ou tablet. Embora a tecnologia possa ajudar e auxiliar o desenvolvimento do processo de alfabetização, ela não pode auxiliar algumas habilidades específicas no processo de escrita.

Palavras-chave: tecnologia móvel; alfabetização; aprendizagem e interação.

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Introduction

The challenges of teaching children how to read and write are numerous, for both the teacher and students. During this stage, the ideal is to develop skills that guarantee a school in which students are placed in an active position, meaning, they are the protagonists of their own learning process. However, this process does not always take place in such a way. Most of the time teaching is simply the transmission of pre-established concepts. Considering the learning processes through which literacy is acquired, common school practices based on the valuation of hypothesis of writing and reading construction of 6-8 years old children displays just how much schools need to move towards the development of a society that establishes a link between the social function of writing and the daily activities proposed by it.

Information and Communication Technologies (ICT) have brought important changes in this regard, as they offer opportunities for students to learn and discuss, in a simpler manner, constructive activities of discussion and exchange of ideas in order to build future knowledge (Gilleran, 2006). Through digital/technological tools combined with other resources, the child at the age of learning how to read and write is likely to encounter new challenges and develop reading and writing more easily in digital environments. The digital process of becoming literate, in turn, with its numerous possibilities provided by the cyber world, may show the interpretations of hypothesis that children are developing when they are learning how to read and write.

Based on the considerations at hand, with this study we aim to present a thorough profile of the educators of a private school with two branches, one located in the city of Londrina and the other in Curitiba, both in the state of Paraná, Brazil. The profile we intent to draw will consider firstly the training and experience these educators have in teaching in the grade in which they currently teach. Secondly we intent to verify if the subjects have smartphone and if they access the internet and particularly their social networks with the

device. Thirdly we will check if they possess technological resources, such as iPads or Tablets, also check their knowledge of educational resources in these devices, whether they use them in their classes or not, and if so, how often. In doing so we hope to ascertain whether they believe it is possible for children between the ages of 6-8 to develop reading and writing more easily in digital environments as opposed to children who are exposed solely traditional paper classes or "paper culture". Fourthly, we want to know, among the educators that use technological resource, iPads, in their classes, if they have noticed any difference in the learning process when using the technological resource. In addition, at which moments of the class they use the technological resource, as well as what specific activities they develop with these devices, and what sort of difficulties have encountered when using iPad technology resource. Finally, my profile includes determining at what moments the technological resource iPad cannot replace the manual activity in the literacy process, and whether they have attended any course related to technical education in their initial training.

The literacy process and technology

The literacy process has a fluid concept, as it depends on cultural, economic and technological characteristics. Functional literacy an expression tailed and used by UNESCO when dealing with teaching programs organized in developing countries, aims to draw attention to this social aspect of literacy (Soares, 2008). The concept of literacy has changed. Being literate today is:

> To be able to move efficiently and without fear in an intricate web of social practices related to writing. That is, it is to produce texts in the terms that the culture defines as appropriate to the different practices, interpret texts of various degrees of difficulty and equally various purposes, seek and obtain various types of data on paper or screen and we must not forget, to enjoy the beauty and intelligence of certain composition mode, a certain peculiar ordering of words displaying the beauty of the literary work (Ferreiro, 2006).

The impact generated by the technological revolution in recent decades has interfered directly in everyday school life. The inclusion of ICT in this universe has opened up new unimagined possibilities for teaching and learning, which provide a reflection on the purposes and challenges to education as a physical school environment.

Society has been directly impacted in the aspect of the educational environment, and thus teachers have today digital tools that go beyond the world of TV and video. We live in a time of interactive whiteboards and, with the advent of the internet; YouTube has become a partner in the attempt to present a class planning closer to school reality. Mobile learning provides students with opportunities uncompressed by space and schedule limitations, in addition to a wider and more flexible range of subjects to choose from, at different levels of difficulty (Schlenker, 2013).

Thus, the use of technology has become a concept of learning that strengthens the personal practice of teaching and learning by connecting students actively to the construction of knowledge, and the teachers' pursuit for answers to their own specific difficulties. The inclusion of digital/technological tools in this context, incorporated into the methodological practice of the teacher contributes to the active promotion of learning and generates an improvement in the teaching and learning process.

Methodology

We have selected three types of research to conduct my research. Firstly, bibliographical or literary research, which we have used to present the theoretical framework related to the teaching methodologies for the acquisition of reading and writing by means of ICT. Secondly, field research, which is clear since the research took place in the school environment in which participants carry out their daily activities; and finally, we have utilized analytical research,

since once the data had been obtained it was the object of reflection and analysis.

Firstly, we designed a data collection instrument composed of 18 questions, 14 objective and 4 subjective. The questions dealt with the usage of mobile technology and digital resources in the literacy of children ages 6-8 years, as well as the perception of respondents regarding the development of the reading and writing skills with the use of digital tools in the classroom. The questionnaire was sent to eight private school teachers in the city of Londrina who work with children's literacy classes. It was also sent to one teacher, also in charge of a literacy class, from another school in the same school system located in the city of Curitiba, Paraná. Both schools have methodology that include the use of technological/digital resources, specifically the iPad in the classroom. In addition, both school provide the teacher with eBooks with the contents of the school year, thus he or she is required to have his or her iPad when entering classroom, teacher also receive a list with suggested apps, which might be helpful in class. The questionnaire was sent to nine participants through Google docs, and all questionnaires have been answered and sent back.

Data Analysis

This section analyzes the responses obtained by the data collection instrument, meaning the questionnaire, sent to nine teachers who were the subjects of the research. The first question was about the educational background of the investigated teachers; among whom 6 or 66.7% have a college and graduate degree, and 3, or 33.3% only have their college undergrad degree. The first three of the nine years the child spends in elementary school are essential, as they are the core of the literacy process or the moment when the child is taught how to read and write. Therefore, according to the new guidelines form the National Curricular Directives this particular stage of development should not be interrupted (Brasil, s.d.). Hence, we have conducted

my research with teachers, who work directly with children's literacy, seeking to identify how much experience these educators had in these three elementary grades. The intention was to verify how much trust these professionals have in the literacy process and how does that affect their usage of technology in class. As a result, three subjects, 33.3% have a professional experience between 1-5 years; only 2 or 22.2% have 5-10 years of experience, and four of them 44.4% have 10 or more years in literacy classes.

The data collection instrument also revealed whether the subjects possessed smartphones for personal use or not and whether they made use of such devices to access the internet. The data showed that 100% of them make use of the internet on their personal devices, characterized as smartphones. The research also unveiled that eight teachers, 88.9%, possess an iPad or Tablet, and only one, 11.1% does not. Among the technological resources known by the respondents, 8, 88.9%, are familiar with iPads or Tablets 5 subjects, or 55.6% are familiar with interactive whiteboard, digital didactic sequence, YouTube and general app, 3 or 33.3%, of the subjects are familiar with Ted Education, and 2 or 22.2%, are familiar with the Forum, and finally 4 or 44.4% are familiar with Video lessons technology. Regarding the use of technological resources in their classes with students, 5 of them, 55.6% use computers and Apps, 7 subjects, 77.8% use an iPad or Tablet, 2, 22.2% use digital didactic sequence and video lessons and 4, 44.4%, use YouTube. Only one, meaning 11.1% use Ted Education.

In regards to the regularity with which the educators utilize the above mentioned resources, 7 of them, 77.8% use them in every one of their classes, while 2, 22.8% use them sometimes. The computer wakes undeniable fascination within students, regardless of age. In this study, the computer is easily replaced by other technologies such as the iPad or Tablet (Nogueira, 2008). When asked whether the respondent agrees that technology can promote the development of reading and writing as a method of differentiation between

the role culture and cyberculture, eight of them, 88.9% agreed, and one, 11.1% had never thought about it.

When asked whether the subject agrees that it is possible for children between the ages of 6-8 to develop their literary skills, reading and writing, more easily in a digital environment, rather than children who are exposed solely to paper classes, 7 educators, or 77.8% agreed with the statement. One of them, or 11.1%, disagreed despite admitting that technology is a part of his or her daily activities. In addition, one of the responding teachers, or 11.1%, had never thought about it. This might lead us to ponder whether it is enough for the teacher to have access to technology, or is it necessary to instruct him or her on how to make use of such technology. Given that the school provides the students with iPads to be used in class, the next question was about the use of the iPad by teachers. The answer showed that eight of them, 88.9% use an iPad or Tablet in their classes and one subject, or 11.1%, did not use since the school does not oblige him to, but only suggests using. Which makes us wonder about the need for the school coordination to assess this particular teacher's educational plan more rigorously, and encourage practices that lead him or her to use the iPad with the students.

The following question sought to ascertain whether the respondents perceive any difference in student learning when they use the technological resource, the iPads or Tablets. The answers indicated that eight, 88.9%, have noticed differences with the use of the resource in class. Only one, 11.1%, subject did not noticed any difference, but this was the participant who did not use the devices in classes, as mentioned earlier, due to lack of practice or teacher inexperience. With the arrival of the iPad to Brazil, many medium and large school system initiatives have arisen to make use of this new technology in the classroom. The answer fragments below show the moments and circumstances in which the respondents make use of the iPads or Tablets in elementary school to aid the literacy process:

> "I use to assess writing and reading activities, as well as everyday literacy activities and as an aid in classes divided into groups". "When I teach classes I use apps or video to complement the class". "In the moments I feel the need to complement the literacy process with Portuguese language games; also as a resource to contextualize words and sentences with images, videos and SDD, and when reading texts in group". "I use the feature to contextualize words and sentences with images, videos and SDD, and when reading texts in group. The usage of apps within classes has helped significantly the development of some skills ". "When I work in small to medium groups within the class, one of the groups always utilizes the iPads". "Every week, depending on the duration of the class ... In any environment: classroom, patio ... Always after planning I use the resource as a means of learning each content". "When I realize I need to make my classes more proactive for the students". "I use it daily. Because the schoolbooks adopted by my educational institution is completely digital, replacing the printed material. In it, the didactic sequence for students is also digital. Even with these pre-arranged resources, it is necessary to complement the proposals."

IPads or Tablets enable literacy, because they allow us to use visual elements that encourage reading and writing, thus they facilitate the learning process, given that they assist in the development of certain skills, when used with specific educational apps. The subject teaches of my research made it clear that they use these resources to complement the teaching process, varying

according to each proposed content in their teaching plans. In the following paragraph, we present the answers given by the teachers to the question: what activities do you provide your students using technological resource, Tablets or iPads?

> "I provide research activities from images to questions or curiosities, app, videos related to the theme of the class". "Activities related to the content of the class, usually to simplify the learning process so that the students seek a different strategy, especially in mathematics." "Activities like word and letter games, motor coordination, etc." "With the app I develop proposals such as: production of small comics, hangman, motor coordination, writing construction, quantification, adding and subtracting, among others." "I always look for apps related to the subject worked in class". "Apps to facilitate reading and writing and interactive stories." "Activities of written registration, photography and content memorization." "I use apps to strengthen the recognition of letters of the alphabet". "I use to extend the proposals offered by the adopted material; I complement my classes with videos, interactive quiz, polls and games."

In education, the use of iPads opens up a range of possibilities. From the teachers who answered my questionnaire, the ones who use iPads in classroom with students demonstrated an ease in finding app available in the technological tool. These apps clearly draw the attention of kids, but the subject teacher have realized that while there are many option, few of them provide challenges and reflections on reading and writing, meaning, technological evolution still does

not guarantee literacy. We have to set new pedagogical practices that go beyond literacy and/or simple practical mechanics of reading and writing, either manually or digitally.

The answer fragments that show the difficulties that teachers face when using the technological resource, Tablets or iPads, indicate that euphoria, the amount of iPads available and the Internet are important factors. Therefore, the teacher confirms that literacy using digital technology, specifically a device that displays the alphanumeric keyboard such as a computer, iPad or tablet, shows the letters of more easy way, since they are already arranged side by side (even if not alphabetical order), because when you click the letter on the keyboard, it automatically appears on the screen. After the child finishes writing, it may or may not be correct, but the computer's own programing will underline the mistake or mistakes in red, pointing the child to the inadequacy. In the attempt to correct his or her writing, the child will insert or exchange letters, favoring their perception about the error. Despite lessons with technological resources being greatly desired by students, these lessons still leave the students euphoric. "The use of computers can enrich learning environments where students, interacting with the objects of this environment have a chance to build your knowledge" (Valente, 1996).

When asked about the moments in which the technological feature, Tablet or iPad, cannot replace the manual activity in the literacy process, the subjects of the research recognized that the development of handwriting is still necessary, and thus the use of pencil and paper. They also pointed out that certain motor skills cannot be developed with the use of technology. The acquisition of motor skills is directly linked to the development of body, space and time awareness and these skills constitute the basic elements for both motor learning and educational activities (Medina, Rosa, Marques, 2006). Thus, it is necessary and important to analyze the amount of time that learners are exposed to technology and the influence of it in their development. Another important

point is the fact that the tracing of the cursive handwrite that involves thin motor management. And although there are IOS and Android apps such as "cursive" that can be used by students on the iPad to train this skill, since the touch screen seems to facilitate the "tweezer" movement, when student use as resource their own finger. It is still very different from what happens when the actual pencil on paper movement takes place, especially since there seems to be more pressure when using the pencil.

Technology is now part of everyday classroom, as showed by the results of the last question. Five of the investigated subjects, or 55.6% of them had, during their college years at least one subject directed to technology directed to education, which is supposed to interfere directly their classroom practices. Four of them, or 44.4%, had no subject related to technology during their college years, which is supposed to be an unfavorable factor in their educational practice, especially in a school system that offers technological support.

Final considerations

This study has examined teachers and educator's practices within children's literacy, specifically regarding the use of technology/digitals as a facilitating tool in the teaching and learning process during the literacy years. The use of digital technologies in the educational field is no longer an exception, and has become a necessity. There is no way to separate the teaching and learning process from the spread of new technologies.

The results of this study showed that most teachers have 10 or more years of experience in elementary schools specifically dealing with literacy classes. All have smartphones and make use of the internet on their phones. Most of them have an iPad or Tablet and use them in class. Most of them are familiar with technological resources developed for the school context. Most of them use technological resources in their classes regularly. Almost all agree that technology might favor the development of reading and writing as an alternative

method to the traditional "paper culture". The same ones agree that children between the ages of 6-8 have develop reading and writing more easily in digital environments as opposed to children who were exposed solely to "paper culture". Almost all participants noticed a difference in student learning when students use the technological resources, Tablet or iPad. Moreover, just over half of the teachers had during their academic life, at least one course dedicated to exploring technology education.

Finally, 100% of respondents agree that the use of mobile technology might help children, awakening passion for reading and writing through several types of texts and tools, especially with new technological tools such as computers, iPads and Tablets. However, we still need to rely on external resources, the amount of iPads available, as well as full time access to the internet. Finally, we have realized that technology cannot replace the development of specific skills in the writing process, such as specific motor coordination, motor vision, muscle tone and attention to the correct tracing of the letter. The manual tools, pencil and paper, and the intervention/mediation of the teacher are still crucial at this stage learning. When we realize the fact that there is a gap in the educational background of the participating educators regarding the use of technology, it immediately begs the question: have these teachers invested in their continued education? Perhaps this is an indicative of future researches - the use of mobile technology in teacher formation.

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