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Interactive Multimodal Narrative as an Approach to Developing Emergent Literacy in Early Childhood Education

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At present, the Portuguese education system promotes the development of new literacies in all education levels in response to new requirements of the digital world which imply changes in children's education. In fact, reading and writing are no longer limited exclusively to books, rather they are associated with diversified digital media integrating text, sound, image, and video. In this context, we developed an exploratory study in a kindergarten with the children and their family members. Data were collected through participant observation, children conversational interviews, and digital narratives produced by children. Data analysis is based on content analysis with NVivo software support. The emergence of literacy is evident in verbal interactions in peer-group work, in contact with the written text, in "writing" in various media, and in sharing knowledge, discoveries, and digital narratives produced in an online community (http://janelajardim.ning.com). This paper presents: (1) a systematic literature review in the field of digital narrative and emergent literacy; (2) the description of children's activities concerning interactive multimodal narrative; (3) the results of this work; and (4) the conclusion about contribution of multimodal narratives to the emergence of reading, writing, and digital skills.

Keywords: emergent literacy, multimodal narrative, systematic literature review, NVivo

Introduction

Before learning to read and write, the child has ideas about the functionality of writing and reading. It is therefore important that, while in the kindergarten, it is familiar with the characteristics of the writing system. On the other hand, the garden-of-childhood is a place to create rich and innovative environments with regard to the use of digital technologies. From the convergence of these two factors, it arose the idea of involving children in creating multimodal digital narratives as a way of exploring digital literacy and emergent literacy, in view of the subsequent acquisition of the written code.

Ohler (2008) argued that "digital narratives allow children to speak their own language" (p. 10), since they live in a world characterized by the multiplicity of means and by multimodality, often coming to school already with high knowledge on digital technologies. By creating digital narratives, children can actively participate: use the digital camera, act, scan representative images of the narrative, and retell and record the story with their own words.

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Among the many digital resources, available and free on the web to create, share, and interact in a network, we highlight in this paper the Myebook and Voicethread to create narratives. Its use promotes writing practices which constitute relevant educational experiences to the development of literacy and arouse interest in books as well as auditory enhancement, particularly the ability to listen to yourself and others.

We enter, therefore, into a new dimension of the relationship between the child and reading and writing, which involves the development of multiliteracies, i.e., the ability to interpret and write in different codes, such as icons, symbols, images, graphics, animation, audio, and video.

Digital Revolution and Emerging Literacies

In the current frame of reference, increasingly marked by the effects of the ongoing digital revolution the problem around literacies is widely debated in scientific events worldwide. The proliferation of multimedia tools in a networked society (Green, 2010) in constant contact and interaction causes a real change in lifestyle (Hill & Hannafin, 2001; LI & Ranieri, 2010;), and brings each individual new and more complex challenges (Hoffman, 2011).

Reading and writing experiments emerge increasingly less confined to books on paper. Indeed, one of the most prominent identity features of the new generation is being digitally early and even dependent on technology (Parette, Quesenberry, & Blum, 2010). However, the consequences of children's exposure to digital media are still poorly known, so it is becoming an increasingly relevant investigative matter (Hisrich & Blanchard, 2009). Some researchers stress the need for schools to find ways to capitalize on the acquired digital experiences at home for the educational context (Levy, 2009). According to them, this is a new opportunity for children and also a challenge for educators to build paths for innovation in a multifunctional and multidimensional scenario (Laffey, 2004). Otherwise, we would incur in a process of school ostracism and of its professionals which Parette, Quesenberry, and Blum (2010) termed as "missing the boat", i.e., we can lose the opportunity to teach and learn in the 21th century, housed in a likely paradigmatic framework, focused on a change of attitude towards the use of technology, which should be an integral part of appropriate procedures and practices to the child's development. Incidentally, Marsh (2006) called educators to meet the new copyright practices so they can offer students appropriate contexts for reading and writing of multimodal texts.

Thus, the traditional idea of the term "literacy", while reading and writing skills, in the current context tends to be replaced by the concept of emergent literacies, in literature review, and envisions a pluri-meaningful and still evolving concept, as maintained by many authors. In order to try to narrow this range semantics, we decided to investigate the expression emergent literacy solely in restricted papers to databases ISI (ISI Web of Knowledge) and ERIC (Education Resources Information Center) from 2005 until August 2012. We highlight two perspectives: first, "digital literacy, the term that emerged with the explosion of digital information and multimedia technology, refers to basic competence in using digital technology" (Jun & Pow, 2011); and second, "the numerous definitions of digital literacy, discusses its relationship to information literacy, and describes applications of digital literacy instruction in Institutions of higher education" (Kenton & Blummer, 2010).

In the context of the emergence of new literacies, books and digital narratives increasingly captivate the eyes of school agents, including researchers, according to Korat (2010), they should be part of the investigative agendas in education. At the same time the use of digital books spreads in the educational context, it is also changing the critical position of the main investigators in the sight of implementing this feature. First, De Jong and Bus (2004), based on test results, reported no significant differences if reading is done in print or digital. Still, there seems to be some advantage of electronic books in relation to printed ones in the transmission of the message. Later, but still in the same line of thought, Zucker, Moody, and McKenna (2009) gave rise to a new reflection on the subject, by presenting a systematic review of the literature on the efficacy of electronic books in the educational field. They concluded, as a result of their investigation, that it is still not meeting the needed consensus to prove the effectiveness of digital books and that justifies its use in the areas of comprehension and decoding. However, more recently, Korat and Blau (2010) and Segal-Drori, Korat, Shamir, and Klein (2010) gave the results of studies undertaken by them, equated more enthusiastic prospects about the effectiveness of digital books. First, Segal-Drori and colleagues reported that it showed more signs of satisfactory progress in reading and phonological awareness. Besides children in contact with digital books have expressed a positive development at the level of phonological awareness, there is a significant development in the recognition and understanding of the meaning of words. They also pointed out advantages, which cannot be disregarded, due to the use of digital books in the educational context and which are related to inherent benefits of collaborative work among peers and teachers. For his part, Korat (2010) also highlighted the significant progress of students in what concerns the overall understanding of stories, the meaning of words, and reading improvement. Although the conclusions of these studies induce to the effective use of digital books, the researchers encourage that more detailed investigations in this area may be done once they are considered of great importance in the strategies of the present and future.

Multimodal Interactive Narratives in Kindergarten

The platform janelajardim.ning.com retrieving from http://janelajardim.ning.com arises as a possible way for the integration of technology in Kindergarten in order to: (1) extend and diversify the skills of communication, socialization, and digital literacies; (2) promote acquisition of a keener domain on oral and written code and, thereby, develop emergent behaviors of reading and writing; and (3) share the developed work with the educational community in a dynamic promotion of autonomy and personal and social education of children.

Moreover, the emergence of new standards and philosophies of learning have put us a challenge that is no longer confined to a space solely directed to the interaction of children-educator, but that promotes the acquisition of new literacies and skills in the use of technological resources with the participation and collaboration of the entire educational community, particularly parents. In particular, researchers as Espinosa Espinosa, Laffey, Whittaker, and Sheng (2006) and Plowman, Stephen, and McPake (2010) concluded that the implications of technology outside school can have meaningful connections in the classroom, whose effects are not yet fully analyzed. Thus, we take into account the use of reading and construction of digital books as a common practice in our kindergarten. In our particular case, we consider that has promoted the development of multiple literacies, from visual to digital, and new skills such as auditory enhancement,

particularly the ability to listen to yourself and others (De Jong & Bus, 2004; Korat, 2010) when we use, for example Myebook and Voicethread. Both devices, each in its own measure, they allow our activities not to end with the publication of the digital story, since callers can interact with comments, through text, audio or video and classify them.

In projects that we present below, there was always the concern of focusing all our pedagogical action in children, for them to develop oral and written skills, aesthetic sensitivity and creative ability, auditory, and sound discrimination and capability and simultaneously reflective and critical sense. We are therefore facing a methodological strategy that not only intensifies emerging processes of reading and writing but assumes an increasing autonomy in this area, to the extent that children are responsible for creating their own text, design, or selection of their pictures and music tracks. Each child can create, imagine, retell, disassemble, and try tales of its imaginary or of its daily learning. Naturally, it is always the responsibility of the educator to oversee the entire process, including the articulation of the texts, sounds, and images that make up each scene. Throughout this process the copyright is respected, since early sensitizing children to the fact that there are rules that must be taken into account when using materials available on the Web.

The examples with the titles “Cinderella Enchanted” and “Legend of S. Martin” are respectively retrieved from the following addresses: http://www.myebook.com/ebook_viewer.php?ebookId=10078 and http://www.myebook.com/ebook_viewer.php?ebookId=55919. The example of use of *Voicethread* is retrieved from https//voicethread.com/share/147441/.

Finally, we safeguard that the creation of narratives is based on a process that follows key steps: (1) create a story line/argument; (2) set the text of each page; (3) select images and/or scanned drawings to illustrate each page; (4) record audio narrative; and (5) integrate all elements in the application.

Building an *ebook* or an application on *Voicethread* assumes all preparation and completion of a script in order to give unity to the categories traditionally associated with the structure of the narrative.

Results

Given the large number and volume of non-numeric and unstructured data from the records of the activities carried out during the investigation, including through field notes, comments on the platform, posts, observation, and other documents produced as part of the school activities, it was necessary to choose a method and software which facilitate its analysis. We then decided to use the NVivo as it is a reliable and effective software in the context of qualitative analysis, and it has been recognized by the scientific community.

In the first stage we performed a systematic literature review and subsequently we analyzed and coded the data with the aid of NVivo.

Figure 1 allows us to visualize the frequency with which words appear in the texts that constitute the corpus of our analysis. This analytical perspective is one of the visible parts of the performed data processing. Thus, this map of word frequency proves that certain actions or situations were more or less present throughout the activities involving reading or the construction of digital books in the emergence of new literacies. So being, in the context of empirical data available, there are the following words: children, stories, writing, recording, collaboration, sharing, project, reading, program, learning, colleagues, process, and words.

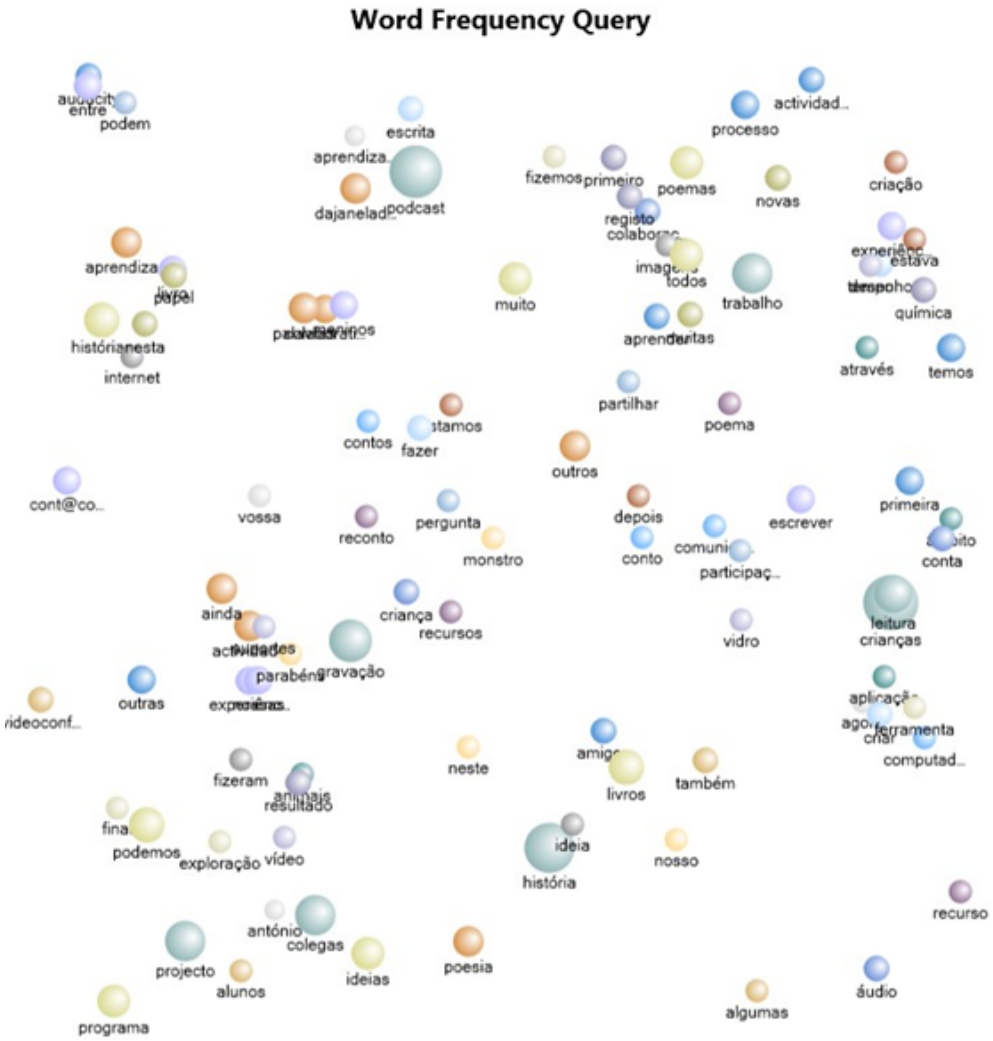

Figure 1. Word frequency query (tag clouds) of empiric material.

Contributions of Digital Storytelling for the Domains of Reading and Writing

We believe that all our experiences of literature review and building of digital books reflect the need for a new commitment of educators to promote multiple literacies and the sustained development of a phonological awareness increasingly accurate in kindergarten. As such, we believe that the activities above outlined reflect levels of involvement, motivation and skills acquisition that justify that in this level of education may be increasingly used to creat devices and read digital media while enhancing a better understanding of narratives. Knowing and mastering new codes and information objects—the use of camera, printer, computer, and applications like *Myebook* or *Voicethread*, among others, will be a proper way to prepare children for the digital revolution.

Centered in a world characterized by the multiplicity and multimodality reading and writing formats, the implications of digital books, as Ohler mentioned (as cited in Zucker, Moody, & McKenna, 2009), allowed the children to express themselves in their own language and to collaborate in the creation of digital stories and its online sharing. The resources for this purpose are under continuous development; their use in kindergarten is crucial to a more meaningful learning process and, in our opinion, more effective.

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