



## Educational software and reading and writing practices: didactic and methodological possibilities

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**ABSTRACT.** In this article we present an excerpt from Landin's master's research (2015) on the pedagogical analysis of three educational software aimed at the area of literacy and literacy, with the aim of broadening his reflections on the didactic and methodological possibilities for the promotion of practices reading and writing with such resources. Therefore, we briefly discuss the main characteristics of Landin's research (2015), which was based on the qualitative analysis of educational software in the process of teaching literacy and literacy and interviews with teachers, in order to reflect on the teaching knowledge (Tardif, 2012) necessary for the didactic and methodological use of these resources in the teaching process. At the end, we propose some reflections for the expansion of possible reading and writing practices and, we also risk, to reflect on some training needs for this.

**Keywords:** technological information and communication resources; literacy and literacy; teacher training.

### Softwares educativos e as práticas de leitura e escrita: possibilidades didáticas e metodológicas

**RESUMO.** Neste artigo apresentamos um recorte da pesquisa de mestrado de Landin (2015) sobre a análise pedagógica de três *softwares* educativos voltados para a área da alfabetização e do letramento, com o objetivo de ampliar suas reflexões sobre as possibilidades didáticas e metodológicas para a promoção das práticas de leitura e escrita com tais recursos. Para tanto, discorreremos brevemente sobre as principais características da pesquisa de Landin (2015), a qual se baseou na análise qualitativa dos *softwares* educativos no processo de ensino da alfabetização e do letramento e entrevistas com docentes, a fim de refletir sobre os saberes docentes (Tardif, 2012) necessários para o uso didático e metodológico destes recursos no processo de ensino. Ao final, propomos algumas reflexões para a ampliação de possíveis práticas de leitura e escrita e, nos arriscamos também, a refletir sobre algumas necessidades formativas para tanto.

**Palavras-chave:** recursos tecnológicos de informação e comunicação; alfabetização e letramento; formação docente.

### Softwares educacionales y las prácticas de lectura y escritura: posibilidades didáticas y metodológicas

**RESUMEN.** En este artículo presentaremos un recorte de la investigación de máster de Landin (2015) sobre el análisis pedagógica de tres softwares educacionales orientados hacia el área de alfabetización y del letramiento, con el objetivo de ampliar sus reflexiones sobre las posibilidades didáticas y metodológicas para la promoción de las prácticas de lectura y escritura con tales recursos. Para tanto, discurremos brevemente sobre las principales características de la investigación de Landin (2015), la cual se basó en el análisis cualitativo de los softwares educacionales en el proceso de enseñanza de la alfabetización y del letramiento y entrevistas con docentes, con el fin de reflexionar sobre los saberes docentes (Tardif, 2012) necesario para el uso didático y metodológico de estos recursos en el proceso de enseñanza. Al final, propusimos algunas reflexiones para la ampliación de posibles prácticas de lecturas y escritura y, nos arriscamos también, a reflexionar sobre algunas necesidades formativas para tanto.

**Palabras-clave:** recursos tecnológicos de información y comunicación; alfabetización y letramiento; formación docente.

## Introduction

The development of the *internet*, specifically, in the final decades of the twentieth century and its popularity and expansion, arising over almost two decades of this twenty-first century, promotes new spaces for the dissemination of information, sales, communication, entertainment, studies, etc. It is called the cyber space (Fialho & Matos, 2010; Kenski, 2007; 2012), a place where data are stored virtually, which are transmitted through informational languages and codes (Fernandes, 2003) and can be accessed from anywhere in the world. world and anytime.

With the advancement and ever more intense development of digital technologies (Belloni, 2012) and, consequently, of technological information and communication resources (Kenski, 2007; 2012), we observe the use of these resources in various spheres of our daily lives -day, from the use of cell phones, computers and notebooks for communication, work, leisure activities or to stay informed.

In the educational field it is no different. Although the use and qualitative presence of technological information and communication resources (ICT) in school environments and curricula are still insignificant, Alonso (2008) and Kensky (2007; 2012) point to government investments and public policies, both for expanding the presence ICT in school spaces, as well as for teacher training curricula.

Landin (2015), in his master's research, from a database of Grupo Horizonte<sup>1</sup>, points out that academic productions (specifically Doctoral theses) are still ephemeral in the area of teacher training and information and communication technologies, while on the tripod that supported his research - teacher training - literacy and literacy - information and communication technologies - no production had been found. In order to achieve its central objective, to analyze teaching knowledge (Tardif, 2012) for the didactic and methodological use of educational software in the process of literacy and literacy, Landin (2015), also carried out a bibliographic survey to reference his analyzes, researched the presence of educational software aimed at literacy and literacy present in the cyber space (Carvalho, 2009; Fialho & Matos, 2010) and also interviewed six teachers from the early years of elementary school in the state of São Carlos (SP), listening to them, through a semi-structured questionnaire (Gil, 2002), about his pedagogical experiences with educational software. From the data collected in these interviews, the researcher analyzed qualitatively the software cited by the teachers regarding the theoretical foundations that support their literacy and literacy activities, presenting a reflection on the teaching knowledge necessary for a greater didactic and methodological exploration of these resources in the process of teaching and learning.

In this article we present an excerpt from Landin's research (2015) regarding the educational software analyzed and the theoretical foundations that support the aspects of literacy and literacy, as well as the methodological paths that the researcher followed until reaching the analysis of the analyzed software.

According to Soares (2002, p. 148)

Considering that literacy designates the state or condition in which literate individuals or social groups live and interact, it can be assumed that writing technologies, instruments of social reading and writing practices, play a role in organizing and reorganizing that state or condition.

In this sense, we will deepen our qualitative analysis of the educational software presented, also analyzing and reflecting on the reading and writing practices made possible by them.

## Alphabetization and literacy: socially (re) constructed concepts and practices

Reading and writing practices are essential for communication, information dissemination, knowledge acquisition, entertainment and leisure: reading a book, searching the internet, consulting an instruction manual for a video game and getting information about cell phone applications. they are some examples of the reading and writing skills present and fundamental in personal and social relationships, even in the midst of so many technological resources of information and communication.

Although the concept of literacy and literacy is something historically constructed, retaining social and political influences (Soares, 2013), we can understand it basically as being the skills of encoding and decoding graphic signs for social understanding and purpose of using textual messages inscribed in it (Soares, 2013; Landin, 2015). In this perspective, the mastery and critical understanding of reading and writing in a graphic society are relevant, as they guarantee the individual a certain social status in front of those who do not master it (Kleiman, 1995).

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For Soares (2013) the term literacy brings a very broad and multifaceted concept, considering the skills not only of coding and decoding, contextual understanding of the uses and social purposes of written messages, but also the social aspect of language acquisition and development. Still, according to Soares (2013), being a social skill and a register of our spoken language, writing carries in itself the social and linguistic marks of social groups, that is, if there is variation in the speech from a social group to another is a fact that the writing also has these marks.

Through the increasing use of technological information and communication resources, the critical mastery of reading and writing skills, as well as understanding the textual messages and media languages provided by these means, to the concept of literacy and literacy, the digital and media and informational adjectives are added. These adjectives do not de-characterize the historical and social concept of literacy and literacy, but expand the understanding of these concepts, associating the necessary skills for the appropriation and more critical use of such resources. Soares (2002, p. 146), thus, refers to literacy

[...] the current moment offers an extremely favorable opportunity to refine it and make it more clear and precise. It is that we are living today, the introduction, in society, of new and incipient modalities of social practices of reading and writing, provided by the recent technologies of electronic communication - the computer, the network (the web), the Internet.

For Fantin and Girardello (2009), literacy and digital literacy correspond to the domains of languages offered by digital technological resources, such as software, websites, computer and cell phone applications. These languages, however, are not only characterized as written messages, but also the informational languages present in these means of communication, which enable and expand the forms of communication, “[...] as images, graphics and colors, and others access resources used by them” (Landin, 2015, p. 57). The mastery of informational languages, such as the keyboard, colors, applications and links to access are fundamental for the acquisition and development of literacy and digital literacy skills (Fantin & Girardello, 2009).

With increasingly easy access to computers and virtual environments, made possible with the advance and greater expansion of the internet and, consequently, contact with the text messages produced and disseminated in these resources, media and information literacy is also relevant for training criticism of the reader and writer. For the document 'Media and Information Literacy' (Wilson, Grizzle, Tuazon, Akyempong, & Cheung, 2013), reading and writing skills, in and through technological information and communication resources, should promote critical reflection on the political and ideological aspects that support such information and / or means of communication, such as social networks, educational software, information sites, curricula for teacher and student training, etc.

It is in this sense that we understand literacy and literacy skills, reading and writing. Broad and multifaceted social and historical concepts, which receive social, political, historical, epistemological and technological influences. Understanding reading and writing practices in the current context, both in digital technological media and in 'traditional' technological media, their characteristics and particularities, is fundamental for the formation of critical readers and writers, from the principles of the development of literacy and literacy.

## Reading and writing practices

Reading and writing are essential skills in a graphic society (Mill & Jorge, 2013), so that we can have access to information, knowledge, entertainment, written communication, etc. Mastering these skills satisfactorily within their literacy and literacy aspects (Kleiman, 1995; Soares, 2013) is indispensable and brings a certain 'social status' to the individual (Kleiman, 1995), being relevant that the teaching and learning of both occur simultaneously.

However, throughout our history, these skills were not always important and did not even delegate to the right individual '*social status*'. The relevance of teaching and learning to read and write had different importance, according to the social and political context of each Brazilian historical period (Monteiro, 2010), as well as from the theoretical influences in the field of literacy and literacy, the which have supported and supported, up to the present moment, the experiences and practices of reading and writing.

From the Brazilian colonial period to the early decades of the twentieth century, reading and writing practices were based on the traditional teaching perspective, whether in the synthetic or analytical method,

with learning to read being emphasized as being less expensive, while the development of writing was limited to the most economically privileged layers (Monteiro, 2010). For those who had more economic resources, the domain of reading and writing aimed at continuing their studies, while for the more popular layers they represented only the domain of simple messages, such as reading and writing small notes and / or signing their own name (Monteiro, 2010). During this period, there was no concern with the development of literacy (Monteiro, 2010), that is, the reading and writing practices developed did not aim at understanding the uses and social purposes (Kleiman, 1995; Soares, 2013) of the various textual genres, emphasizing the encoding and decoding of graphic signals (Soares, 2013) without a process of reflection on writing itself.

At the beginning of the 20th century, with the expansion and influence of the Modernizing movement, at the international level, and with the democratization of teaching, at the national level, reading and writing skills began to expand their functions within society. Mastering only the encoding and decoding of graphic signals, in a passive teaching process, was no longer enough. With the influence of the modernizing studies, the need arises for a more active teaching, in which the student is the producer of his own learning (Mortatti, 2000; Monteiro, 2010). Reading and writing come to be seen as skills capable of expanding mental experiences. In this context, reading and writing receive more incentives and their practices are developed (Mortatti, 2000; Monteiro, 2010). In this period, nomenclatures also appear to differentiate those who mastered reading and writing skills, such as literate and illiterate (Monteiro, 2010).

At the end of the twentieth century, particularly around the 1980s, the constructivist perspective of teaching started to strongly influence literacy practices. Mainly represented by the studies of Emília Ferreiro, the constructivist perspective brings the student as the main agent of their learning, breaking once and for all with the passivity of teaching (Ferreiro, 1994). Ferreiro's studies (1994) corroborate for a new analysis of the teaching process of reading and writing, both in the perspective of 'error' - seen as the student's writing hypotheses in his attempt to represent oral language in writing, as in the perspective of how to teach - phoneme representations in graphemes come from the student's experience with writing and should not follow a rigid teaching pattern through simply decoding - coding (as in traditional methods), as well as reading and writing skills must occur simultaneously.

Also, in the final decades of the twentieth century, we observed the influences of the sociolinguistic perspective in the teaching practices of reading and writing (Monteiro, 2010; Soares, 2013; Landin, 2015). In this perspective, written language is seen as a representation of oral language, being influenced by social, cultural, economic and geographical contexts.

Understanding written language as a graphic representation of oral language, sociolinguistic studies contribute to the understanding of how this representation will be constructed in different ways. For this perspective, it is essential to consider the social, cultural and historical aspects that influence the dialects presented by individuals (Landin, 2015, p. 68).

In this sense, the possible spelling and grammatical errors presented by the students, as well as the way they develop their records (textual productions), are related to socioeconomic and cultural experiences. Linguistic variations (Cagliari, 2009), presented in oral or written language, should not be treated as errors, but as variations of the standard language, characterizing the dialects (Cagliari, 2009). For Soares (2013) the failure of the teaching process of reading and writing in Brazilian schools is related to the teaching of standard language without considering aspects of linguistic variations. According to Monteiro (2010), the process of teaching literacy cannot neglect linguistic variations, both in their standard norms and in their dialects, and must promote the teaching of cultured language in a critical and reflective way, without detailing the dialects presented. by the students.

Studies on the concept of literacy (Kleiman, 1995; Monteiro, 2010; Soares, 2013) also contributed significantly to new reading and writing practices in the late twentieth century. For Soares (2013), literacy and literacy are not distinct concepts and / or skills, but literacy is a facet of literacy, concerned with the aspect of reading and writing within social uses and functions. However, the development of literacy skills is not a sine qua non relationship to the literacy process, while only the domain of written code. In other words, an illiterate person can benefit from knowledge and mastery of the social functions and uses of reading and writing (Kleiman, 1995; Soares, 2013). For Kleiman (1995), literacy can present itself in different degrees or modalities according to the individual's textual and cultural experiences, and such experiences can be initiated even before the acquisition of the written code, that is, before the individual is literate. Also, according to Kleiman (1995), the degrees or modalities of literacy are related to the quality and / or academic performance of the student, and the school process aims at the

development of autonomous literacy, that is, “[...] it is seen as a personal attribute, referring to the individual possession of reading and writing skills [...]” (Soares, 2013, p. 30), disregarding the socio-cultural and economic aspects that involve its acquisition process.

In this topic, we seek to present the main theoretical influences that permeate the teaching practices of reading and writing in the early years of elementary school. We do not intend, however, to exhaust discussions about literacy methods and / or perspectives. Below, we briefly present the educational software that was the object of study by Landin (2015), from the teaching experiences with students of the early years of Elementary School, providing a contextualization of what the educational software is and the characterization of those that constituted the sample. researcher's analysis. At the end, we present a reflection on educational software and its possibilities for reading and writing practices.

## **Technological information and communication resources**

The use of technologies to carry out daily activities, work, study, leisure, among others, are already so socially and culturally inserted in our daily habits and customs that, many times, we are not aware of their presence or give them the proper conceptualization. This concept comes from “[...] the understanding of common sense, rooted in our society, of technology as something sophisticated, which requires complex knowledge for its development, appropriation and use” (Landin, 2015, p. 79).

However, Kenski (2007) indicates that technologies and their daily uses are present throughout the entire human historical process, with technological development being the driving force for the survival and evolution of this species. Technologies have evolved according to the social, political and economic needs of each group, with each ‘technological era’, or technological period, retaining peculiar characteristics (Lévy, 1993; Kenski, 2007; 2012). For Kenski (2012, p. 18), technologies are a “[...] set of scientific knowledge and principles that apply to the planning, construction and use of equipment in a given type of activity”.

In the 20th century, particularly in its second half, we witnessed the rapid development of digital technologies and the emergence of so-called information and communication technologies (ICT). For Kenski (2012, p. 21, emphasis added)

Linked to intelligence technologies, we have the ‘communication and information technologies’ that, through their supports (media, such as newspapers, radio, television ...), perform access, the transmission of information and all the others forms of communicative action, worldwide.

Information and communication technologies still “[...] articulate various electronic forms of storage, treatment and dissemination of information. They become ‘mediatic’ after the union of information technology with telecommunications and audiovisual” (Kenski, 2012, p. 25-26, emphasis added). Thus, with the expansion and popularization of information and communication technologies, technological resources, such as cell phones and computers, combined with internet access, have enabled communication, access to information and knowledge, entertainment and studies, among others. daily activities, almost instantly.

Researcher Kenski (2012) also notes that any change and / or technological advancement brings the need for [re] adaptation to their social and cultural uses and customs. For Lévy (1993) this [re] adaptation to the new is only possible thanks to intelligence technology. However, the use of these and other technological information and communication resources (Belloni, 2012) is currently so present in everyday life and in our daily activities that we are no longer aware of social and cultural changes (Fantin & Rivoltella, 2012) that ICT has brought.

Among the various technological resources of information and communication that we find in our society, we have software.

## **Educational software: what they are and how they are characterized**

The term software, although often understood as specific resources to be installed on computers and / or other technological information and communication resources, is much broader. Software is understood as “[...] programs developed through informational languages and codes, capable of transmitting information to and through machines” (Landin, 2015, p. 91). For Fernandes (2003, p. 29, emphasis added)

[...] software is a virtual artifact, unable to perform work unless there is a machine that loads and interprets the instructions and information contained in it, which results in the construction of another machine, of a higher order, with which it interacts the user.

Thus, software is all informational and digital programs that enable the functioning of technological information and communication resources. They range from simple actions - such as turning on and off - the use of popular features - such as text editing programs - to programs that can be installed with more specific skills and functions, from licensed CDs or even found on websites on the Internet.

Software can be considered free and not free, open or closed. Free software is software that does not have a copyright on your data and information, while non-free software has this right and still “[...] are licensed programs with the rights reserved to their owners and their acquisition is subject to licenses. use and commercial costs” (Landin, 2015, p. 91). The classification of open or closed refers to the configuration of your data, since closed source software cannot be modified in your database, while open source software has a “[...] 'language' that allows changes in its coding base” (Landin, 2015, p. 91, emphasis added).

For Dall’asta and Brandão (2004) and Pereira (2008), educational software can be understood as being any and all computer program with educational objectives and content, with or without educational intention. In cyber space (Carvalho, 2009; Fialho & Matos, 2010) we find many of these digital resources available either for download or for online use. For Fialho and Matos (2010), these softwares can offer visual and auditory resources, interactivity and dynamism to the teaching process.

The use of technological information and communication resources, alone, in the educational process, does not guarantee more quality in teaching (Kenski, 2007; 2012), but rather what the teacher will do with the resources, his didactics and methodology, his analyzes the pedagogical possibilities and limitations that will make a qualitative difference in the teaching process, specifically in the work with educational software. However, for the use of educational software to add more quality, interactivity and dynamism to the teaching process, it is necessary for the teacher to have teaching knowledge (Tardif, 2012) that supports his pedagogical analysis regarding the possibilities and limitations of teaching and learning, the methods and perspectives of literacy and literacy that support the activities offered, as well as the reading and writing practices that digital technologies promote.

In this perspective, we have analyzed, pedagogically, the free software “HagáQu” (2014); “*Show do Milhão Infantil*” (2014); Word search and Hangman game, present on the website “*Racha Cuca*” (2014), according to Landin’s research (2015).

## Educational software under a pedagogical analysis

Landin (2015), in his master’s research, pedagogically analyzed the free educational software HagaQuê (2014); *Show do Milhão Infantil* (2014); Word search and Hangman game, present on the website “*Racha Cuca*” (2014), used by teachers from the early years of elementary school in some of their literacy and literacy practices. From interviews, the researcher analyzed which teaching knowledge (Tardif, 2012) is necessary for the didactic and methodological use of these resources, in order to provide a more qualitative use in the teaching process.

Landin’s research (2015) took place in 2014, in the city of São Carlos (SP). In order to carry out data collection and analysis, at first the researcher made a survey on the internet about educational sites and software and with content related to literacy and literacy, available online or for download on the internet. However, due to the instability of these resources in the cyber space (Fialho & Matos, 2010; Kenski, 2007; 2012) and his objective in analyzing the teaching experiences with the resources, Landin (2015) opted only to keep educational software for analysis used and indicated by the participating teachers.

To compose the sample of his research, Landin (2015), first, invited all state schools in the urban perimeter of São Carlos (SP) of the Elementary School to participate in the research. To those who accepted the invitation, the researcher delivered a questionnaire, with open and closed questions, directed to the pedagogical coordination and / or direction of the school units, because she believes that these professionals have an overview of the didactic and methodological functioning of the school unit.

From the questionnaires, Landin (2015) mapped the data obtained and selected the school units for the second stage of his research that pointed out the use of educational software in the teaching practices of literacy and literacy, as well as having the state program room “*Acessa Escola*”<sup>2</sup>. However, only two schools agreed to continue the research and appoint teachers to conduct the interviews, which also occurred with the pedagogical coordinators. In the two participating schools, six teachers were interviewed, who worked in

<sup>2</sup> See: <http://www.educacao.sp.gov.br/acessa-escola>

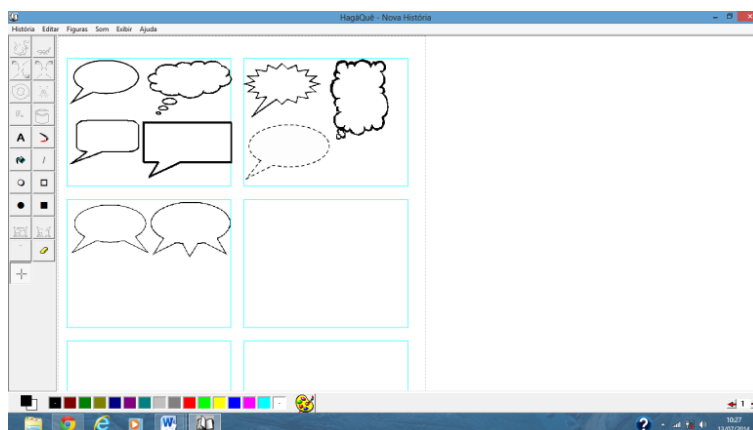
classrooms from the 1st to the 3rd year of elementary school. The interviews followed a semi-structured script (Gil, 2002), through which it was possible for the researcher to direct her questions according to her objectives.

In this work, we aim to present a pedagogical analysis on the reading and writing practices made possible by the educational software cited by the interviewed teachers. The educational software in question are: HagaQuê; Word search and Hangman Game - present on the website Racha Cuca; and Milhão Children's Show. We emphasize that the research author was not interested in pointing out flaws and / or exhausting the possibilities of analysis of the software presented, but to present a pedagogical analysis according to theoretical references regarding the reading and writing practices that the resources allow. In this way, we intend to contribute to the production of references that may come to support new pedagogical experiences with these and other educational software.

## Educational software and its reading and writing characteristics

In this topic, we present a brief pedagogical description of free software, analyzed by Landin (2015) in his master's research, to later reflect on the didactic and methodological possibilities offered by such resources for the teaching of literacy and literacy. We do not intend to exhaust the characterizations and / or analyzes regarding the indicated software, but to point out the characteristics of the reading and writing practices present in the activities offered, based on the theoretical references previously mentioned.

We start with the description of the free software HagaQuê, a resource developed by the research group Nucleus of Informatics Applied to Education (NIED<sup>3</sup>) of the State University of Campinas (UNICAMP). This is free software available for download on computers. Its main characteristic for reading and writing practices is the development of the comic book textual genre, presenting “[...] resources similar to popular software, such as the tools to invert images, delete, copy, paste, save files, among others” (Landin, 2015, p. 125). According to a bank of images already present in this resource, it is possible to produce comics with characters and scenarios colored or coloring; it is also possible to select images from a computer database. The balloon icons to characterize the dialogues of the characters are also part of the database of this software, making it possible to select the balloons according to the intentionality of the lines, as we can see in Figure 1



**Figure 1.** Screen of the HagaQue software: balloon models for creating dialogue between the characters.

Source: Landin (2015, p. 126).

All the resources presented above can be accessed using the mouse peripheral resource and the selection is made by informational languages, such as the arrow selection buttons, forward, backward, color, save, open file, ok, among others (Landin, 2015), as in popular software, such as text and / or image editors.

The software Word search game and Hangman game are present on the website Racha Cuca and are online resources, with no need to download them on your computer. On the Racha Cuca website, we also find other online software, both with educational content, as well as resources with more entertainment-oriented features. From the visual presentation of this site, we can infer that it is a commercial site,

<sup>3</sup> See: <https://www.nied.unicamp.br/>

although it was not possible to verify the origin of the site, as it presents many advertisements and advertisements amid the activities offered (Landin, 2015).

We started our description with the software *Caça Palavras*. This feature has very similar characteristics with a 'traditional' word search, whose main objective is to find certain words in the middle of a letter frame, which can be spelled in the conventional sense of our writing (horizontally from left to right) or in unconventional ways (right to left, crosswise or vertically - from top to bottom). The words to be found always belong to a specific semantic group and / or theme, which must be selected before the activity starts.

The word search board is formed by ten lines horizontally and ten lines vertically, with the words written on the board next to it. All letters are spelled in stick type (uppercase or uppercase). When a correct word is selected there is visual feedback, the word being spelled out in highlight color. According to Landin (2015, p. 132), in this activity "the user is required to decipher the written code, that is, the distinction and correct selection of the letters that make up the words within the frame". The use of the mouse is essential to carry out this activity, and through it, the necessary selections are made for access and performance of activities.

The Hangman game software also has characteristics similar to the 'traditional' game, such as the fact that each wrong letter corresponds to the design of a part of the human body. When the letter selected is the correct one, it will appear in the correct place. For the selection of correct or incorrect letters there is visual feedback, respectively in green and red (Landin, 2015). This game "[...] consists of three words to be written, not necessarily in order or on the same theme, with a bank of letters for the user to choose and select" (Landin, 2015, p. 135). Just below the game there is a small box containing tips on the words that make up the round, which may or may not be displayed.

However, the font models for this feature vary between uppercase and lowercase / uppercase letters, in certain locations. For example, capital letters appear in the bank of letters to be selected and also in the spelling of words on the gallows; while lowercase/uppercase letters appear both in the hint bank and in a short explanatory text about the game at the bottom of the page.

Finally, the game 'Show do million children' is a digital version of the television game already performed by presenter Silvio Santos, public and artistic name of Senor Abravanel (Possenti, 1995), presenting visual and auditory resources similar to the televised game, "[...] such as cash prizes, help options (cards, cards, guests, jumping, stopping) and the questions and answers to be asked to the player (s)" (Landin, 2015, p 138). This feature:

[...] is characterized by being a game of questions and answers, with children's themes, such as films and drawings, curiosities and education, contemplating questions in the areas of Mathematics, Sciences, Portuguese Language, Geography and History, totaling a database of around 300 questions (Landin, 2015, p. 138).

With the characterizations briefly described above, we present below some reflections on the possible practices of reading and writing that can be performed with the resources cited from the activities offered. We reaffirm our position on the importance of using technological resources in the teaching and learning process, since these resources are increasingly part of our daily lives inside and outside school environments. But we also reaffirm our perspective on the relevance of didactic interventions and methodological proposals to be developed by teachers in order, in fact, this software to provide more dynamism and quality to the development and learning process of reading and writing.

## **Educational software and (possible) reading and writing practices**

Before starting our reflections and analyzes on the possible reading and writing practices provided by the software *HagaQuê*, *Caça-Palavras* and *Hangman* game - present on the website *Racha Cuca* - and *Show do Milhão Infantil*, it is important to emphasize that we do not intend to point out flaws but reflect pedagogically on the possibilities of reading and writing practices that are implicit in their formatting.

As previously punctuated, the *HagaQuê* software aims to produce text within the context of comic books. For Micarello and Magalhães, (2014, p. 160)

Genres are, then, a way of placing the subject's voice at the center of the learning process: seeking daily life practices of language production, common to social subjects, and bringing them to school can renew the necessary motivation to language learning. It is necessary, as has already been said, that the subjects, at school, read and produce texts

The practices of writing and reading, made possible by this resource, have characteristics that refer the student / user to active methods of alphabetization and literacy, placing them as active agents in the process of building the textual message (s). For the textual production there is no previous database, making the



writing production carried out by the student himself, assuming that he has mastery over the alphabetical reading and writing process, as well as knowledge about the textual genre comic strip.

Based on the construction of the characters' speeches, it is possible to put into practice their knowledge of the writing and writing process, relating them to the context of the story being produced and to its use and social function, that is, in addition to the skills specific to literacy in terms of writing itself, this resource enables the development of literacy (Kleiman, 1995; Soares, 2013). And yet "[...] it is important to note that, in the production of the text, with regard to the formal aspects of the language, the child leaves very clear evidence of what he knows about writing and what he still needs to learn [...]" (Costa & Gontijo, 2017, p. 426), therefore, it is an activity in which the teacher can also evaluate the student's learning process, problematizing what the student still needs to learn.

However, it is necessary to consider that the student must master / know the uppercase and lowercase letters, because on the computer keyboard they are presented in capital letters and when typed they are represented on the screen in lower and uppercase letters. This activity also provides the teaching and learning of punctuation marks throughout the textual production, as well as their relationship with the textual reading processes, relating to the global understanding of the text and the emphases to be given throughout the reading.

The software Word search game has the main feature of deciphering words within an alphabetical frame. Although they belong to a certain grammatical class, these words are not inserted in a textual context, which may not represent a significant reading from the perspective of literacy (Kleiman, 1995). However, it is also worth noting that analyzing the learning of word reading in the strict sense of literacy (Abud, 1987), "[...] that is, the learning of the linguistic code itself [...]" (Landin, 2015), this activity brings significant contributions, even for Costa and Gontijo (2017, p. 423) "[...] a word or a sentence becomes a statement depending on the communicative situation in which they are used". However, these situations demand from the teacher a constant and attentive intervention to direct students in reading in the unconventional senses of alphabetic writing (transversal, from bottom to top) - specific characteristics of this type of game, as well as contextualizing the game itself, creating a didactic situation for the meaningful learning of these words.

However, it is up to the teacher to explore the reading practices that can be performed in a playful activity. Contextualizing the Word Search Game with a specific theme to be studied and/or using it to deepen some studies, such as grammar or spelling, are didactic possibilities. In this way, the teacher will provide learning to read words within their social function (Soares, 2013), also encompassing the broad meaning of literacy (Abud, 1987).

Regarding the Hangman Game software, the same considerations previously registered regarding the reading and writing practices present in the Word search game software are valid, but with the exception that the Hangman Game provides the reading of the rules and tips about it, which already initially it allows a meaningful and contextualized reading.

It is worth noting that, as they are online games, they also require attention and teacher preparation for possible interventions to keep students in the activity, because, in addition to being an environment with many visual stimuli (Landin, 2015), there are access links for other pages of the same site and for others.

The Show do Milhão software assumes, in addition to knowledge about the areas of knowledge related in the game, that the player or apprentice dominates reading with understanding and autonomy, as the questions and answers must be read by the participants. The writing skill is not present in this feature. There are auditory and visual feedbacks for the correct answers and also for the incorrect ones, being reproduced with the voice of presenter Silvio Santos. The reading practices provided by this resource are contextualized within a game of questions and answers, enabling the teacher to explore this textual genre.

## Conclusion

Although we know that the social and technological context currently brings the importance and the need for the insertion of technological resources of information and communication in the teaching and learning process, we cannot ignore that the analyzed software, by itself, does not provide more dynamism, innovation and quality to this process.

We consider that the activities offered by the software in question do not bring reading and writing practices that we can evaluate as innovative to the process of literacy and literacy, as they are easily reproduced with traditional technological resources, such as pencils, paper, whiteboards. In this way, the

teaching role and function are essential for there to be innovation in the teaching and learning process with educational software, from the choice of the software to be used to the didactic and methodological interventions that will be planned and proposed.

For that, it is necessary to provide teachers with pedagogical and curricular knowledge (Tardif, 2012) in line with ICT, so that they have theoretical subsidies to analyze and pedagogically explore educational software, its possibilities and limitations, in order to promote new and innovative reading and writing practices with such resources.

Teacher training on the pedagogical use of software - the technological resources of information and communication in general - are extremely important. As the document 'Media and information literacy' (Wilson et. Al., 2013) proposes, this training should cover not only the instrumental and / or technical aspects of ICT, but, and especially, its pedagogical, ideological and political aspects. In other words, the teacher must not only be trained to use ICT in their informational languages, but also have subsidies to evaluate them as to their contributions to the teaching and learning process, which ideologies and policies support and support the activities offered and / or websites used, in order to also promote this critical training in their students.

The proposal of Fantin and Girardello (2009) is extremely relevant, so that digital literacy can be promoted among teachers and, consequently, students. Technical knowledge and the use of informational languages offered by software are also relevant in the teaching process with the purpose of promoting different didactic situations and, thus, qualitatively exploring the specific resources they bring.

Finally, proposals for reading and writing with the technological resources of information and communication cannot lose their primary characteristic: providing and promoting communication. Thus, didactic and methodological planning to promote situations of writing and reading, even with activities such as those presented (Hangman, Word Search), are fundamental to contextualize them within their communicative functions. According to Micarello and Magalhães (2014, p. 158)

[...] the role of writing, the subjects associated with it and the context of use are extremely important for literacy practices to have an impact on the lives of subjects / students. Treating writing as a matter of individual skill means adopting a simplistic and reductionist theoretical stance for teaching: it means separating subject, language and life.

However, we know that, for these proposals to happen, as already pointed out, it is important that teachers have teaching knowledge (Tardif, 2012) that supports both the technical and pedagogical analysis of the technological information and communication resources, as well as the planning didactic proposals for reading and writing that promote literacy and literacy in a broad and contextualized way. This teaching knowledge (Tardif, 2012) must permeate the entire process of teacher training, that is, it is necessary to reflect on teacher training curricula, promoted by institutions and their theoretical approaches.

At the same time, the importance of interaction between different areas of knowledge - such as the area of teacher training and information and communication technologies - is observed for the development of educational software that promotes greater interactivity between teachers-students-resources and the literacy and literacy practices.

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**NOTE:**

The authors were responsible for the design, analysis and interpretation of the data; writing and critical review of the content of the manuscript and approval of the final version to be published.