Chapter 14

Reading Comprehension as a Competence to Digital Media Expert Performance

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ABSTRACT

The information and communication technologies (ICTs) present in the Brazilian education system determine the development of technology literacy among teachers and students, which can be measured by ICT performance. The Technology Performance Scale (EDETEC) is a self-reporting psychometric instrument to verify what the students’ conceptions are about ICT and their performance in using technology tools. Considering the necessity of the acquisition of both technology literacy and reading comprehension skills to use ICT resources, this study aimed to know the ICT performance, reading comprehension achievement, and the possible relations among them. The participants were 63 Brazilian students from K10 and K11. The EDETEC and Cloze Test with options were applied by school and grade. The best ICT performance referred to the concept and productivity tools factor (F2), and the ANCOVA (analysis of covariance) statistic test identified the influence of the grade and genre in it. There was positive correlation between reading comprehension and EDETEC.

DOI: 10.4018/978-1-60566-938-0.ch014

LEARNING, TECHNOLOGY AND READING COMPREHENSION

The inclusion of digital media in daily life both as a strategy for teaching-learning and a resource for gaining access to information determines that teachers and students need to develop skills to use Information and Communication Technologies (ICT) (Joly & Silveira, 2003; Leu, Mallette, Karchmer & Kara-Soteriou, 2005; Jones, 2006; among others). The use of ICT as media in education requires from the user high level cognitive abilities such as attention, memory and reasoning. This has to be done because it is necessary to identify, characterize and understand the media technical information (Hobbs, 2002) and then apply it in different situations with specific goals and tasks (Penuel, Korbak & Cole, 2002)
With the presence of ICT there happens a change in the way students relate to one another and to information, as well as to what regards the time and place of study and realization of learning activities (Anderson & Elloumi, 2004; Palloff & Pratt, 2003; Martins, 2008). Snow and Yalow, in 1988 when revising literature regarding the interaction among teaching models using ICT and cognitive skills already observed that the relations among these measures and the learning results are more intensely present in teaching contexts where ICT is present and the responsibility to process information depends more on the student than on the teacher’s method (Martins, 2008).

Besides these abilities, reading comprehension is seen as a basic skill (Solé, 1996; Leu et al., 2005) to acquire technological literacy, because the base of communication is given by the printed language (Joly, 2004; Leu, Kinzer, Cairo & Cammack, 2004; Joly et al., 2005). In the realm of reading specifically, there is a textual and/or hypertextual base (Hug & Hirumi, 2004), thus the relevance of the analysis of users’ reading skills in relation to ICT resources, through decoding (recognition and attribution of meaning to words) and comprehension (interpretation of meaning of written language) as proposed by Flanagan et al (2002).

Reading comprehension is to produce relations among known and new information that has been acquired by means of inferences during the reading process. These inferences are defined by Adrián (2002) as verbal elaboration strategies in order to organize the printed information in a text by means of bonds of recuperation of the previous knowledge. According to Téllez (2005), the inferences that the reader carries through are intimately related to the reasoning processes that allow handling the ideas offered by the text searching coherence between what is known and what the author says, conditioning the reading comprehension to reasoning. Hence, the reading requires from the user both high level cognitive abilities and the use of digital medias.

Reading comprehension has been evaluated according to approaches in the content, by means of reading tests consisting of questions about text excerpts with several possibilities of answers, or in the associated cognitive processes with basis in the human processing theory of information (Téllez, 2005; Marini & Joly, 2006). The evaluation based on the subject matter does not frequently capture the subject’s comprehension level, offering extreme indexes for the test items (right or wrong) related to text details and not to the author’s intention and to the global understanding of what has been read (Koslin, Zeno & Koslin, 1987). The alternative, whose paradigmatic focus, in the last four decades, has been assisted in the cognitive psychology (Téllez, 2005), uses as a method the Cloze Technique and has the objective to evaluate the level of reading comprehension comparing it with other cognitive skills, previous knowledge, acquired after the teaching-learning process (Joly, 2006).

The Cloze technique was created by Taylor, in 1953, and consists of omitting words in a given text, substituting them by blanks that will be filled by the reader with the word that he thinks will be adequate to give meaning to what he has been reading (Joly, 2006). It is used as a trustful instrument to evaluate the reading comprehension level in students from the elementary teaching until the superior level because it requires from the reader many abilities such as the establishment of relations among the elements of the text; the association between the previous knowledge and the printed information; recognition of when it has been understood and when it has not (Joly, 2006).

It must be pointed out that Cloze technique is efficient for developing and implementing reading comprehension. Nonetheless, few studies have been made available since the past decade, in Brazil with 1st to 4th grade elementary school students related by Joly and Marini (2006), high school students (e.g Marini, 2006; Dias, 2008) and with universities students (e.g Joly & Guerra, 2004; Joly, Santos & Sisto, 2006).
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