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Communications scientifiques

Preservice Elementary Teachers' Views towards integrating comics into teaching

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Despite the growing body of research suggesting the benefits of integrating comics into teaching practices, research on teachers' attitudes towards using comics in education is scarce. The aim of this study was to examine comic book reading habits and attitudes of preservice elementary teachers regarding the use of comics in education. The results revealed a lack of comic book reading habits: 37% indicated they have never engaged with this medium, and among those who have, the majority have not read any comic in the past year and only 16% had read science comics. Moreover, preservice teachers recognized the educational benefits of comics, such as engagement and contextualizing complex concepts, but also noted challenges like potential oversimplification and distraction for students with learning difficulties. The study highlights the need for strategies to enhance comic book reading habits and their effective integration into education.

Introduction

Numerous researchers have sought to define the essence of comics. Some definitions focus solely on the medium itself, distinguishing between form and content (McCloud 1993 ; Eisner 2008). While these definitions vary, most agree that comics fundamentally consist of pictures arranged in a sequence and that text, while common, is not essential (Prat 2009). McCloud (1993) aligns with this notion by defining comics as «juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or to produce an aesthetic response in the viewer» (p. 20), emphasizing comics' versatility in embracing diverse genres, styles, and themes. Other definitions delve into aspects related to content, with many highlighting narrativity as a defining characteristic. For instance, Carrier (2000) suggests that

comics is «a narrative sequence with speech balloons» (p. 4). However, Meskin (2007) suggests that while narration is common in comics, it shouldn't be seen as essential, but rather as a standard feature, given that other art forms, predominantly narrative, aren't inherently narrative. Nevertheless, Pratt (2009) argues that even when some comics lack a narrative structure, the predominant phenomenology of reading comics involves the pursuit of stories, thereby reinforcing the notion that comics are primarily a narrative medium.

Thus, while some authors prioritize essential features, others emphasize standard characteristics commonly associated with comics. For this study, the variety of elements typically found in comics, though not always obligatory, such as narrative, drawing, and dialogue are acknowledged. This approach embraces the medium's complexity, fostering a richer understanding of its potential.

This study investigates the attitudes of preservice elementary teachers in Portugal toward the use of comics in education, aiming to identify challenges, opportunities, and strategies for their effective integration.

Comics and their use in education

In recent decades, comics have gained widespread recognition as a legitimate form of art and literature in many countries (Lopes 2006 ; Humphrey 2020). Moreover, their use in education has gathered increasing attention due to their potential to enrich learning experiences. Several arguments support the integration of comics into education. Morrison, Bryan, and Chilcoat (2002) present three main reasons for using comics in education: i) given that popular culture plays a significant role in the lives of most students, incorporating comics can help bridge the gap between their experiences inside and outside of school; ii) comics, with their visual nature, provide an effective medium for developing students' critical media skills; iii) the inherent popularity of comics within popular culture makes them inherently appealing and engaging to students. Yang (2003) further emphasizes the strengths of comics, noting their popularity, visual appeal, and motivational qualities. Additionally, Yang identifies two more strengths: permanence and intermediary nature. The permanence of comics refers to their static visual medium, which contrasts with the time-bound and transitory visuals of film and animation. This permanence grants students autonomy over their learning pace. Furthermore, comics can serve as an intermediate step to difficult disciplines and concepts. They have proven successful in addressing literacy issues and scaffolding learning across various disciplines, including history and science.

In the field of science education, comics have emerged as valuable tools for enhancing conceptual learning. Studies indicate that compared to traditional written materials, the use of comics not only improves comprehension but also enhances memory retention of scientific content (e.g. Aleixo & Sumner 2017). Additionally, comics not only have the potential to spark interest in, foster enjoyment of, and cultivate positive attitudes toward science (e.g., Hosler and Boomer 2011), but they can also promote self-identification as scientists, particularly among students who may initially lack a strong science identity (e.g., Spiegel et al. 2013).

Teachers' attitudes towards integrating comics into teaching

Despite the growing body of research suggesting the benefits of integrating comics into teaching practices, the attitudes of educators are crucial in determining their adoption. Without recognition of the pedagogical value of comics by teachers, their integration into the teaching and learning process is unlikely (Aleixo et al. 2021).

Research on teachers' attitudes towards using comics in education is scarce. However, there are noteworthy exceptions. For example, a survey conducted by Lapp et al. (2012) with 60 elementary teachers revealed that although there was general support for comics to enhance literacy, their utilization was hindered by factors such as a lack of instructional models, limited availability of graphic novels in the classroom, and teachers' own comfort level with the genre.

Recently, Aleixo et al. (2021) conducted an exploratory qualitative study investigating teachers' perspectives on the use of comic books in education. The findings suggested that teacher attitudes toward employing comics in educational settings fall into three broad categories: i) Comics are primarily viewed as an entertainment medium aimed at children and are not associated with educational purposes; ii) If used in education, comics are perceived primarily as aids for lower-ability pupils requiring additional support, serving as resources reserved for atypical, struggling, or lower-level students; iii) While teachers generally support the idea of incorporating comics into schools, their actual utilization is minimal due to the scarcity of readily available, high-quality resources that teachers can easily incorporate into their teaching practices. This notion highlights the potential for comic books to represent a 'missed opportunity in education', as they have yet to realize their full pedagogical potential.

Study goals

Despite the growing interest in the educational potential of comics, research in this field remains relatively limited, particularly in specific contexts such as Portugal. This study aims to address this gap by exploring the attitudes of preservice elementary teachers regarding the use of comics in education as well as factors that may mediate these attitudes. By examining the attitudes of preservice teachers, this research seeks to elucidate the opportunities and challenges associated with integrating comics into the educational practices and to identify strategies for promoting their effective use.

Methodology

Context of the study

The study was developed prior to the testing of a webcomic about evolution developed within the ECOSCOMICS project. ECOSCOMICS is an Erasmus+ project that aims to provide to the European science education community original and motivating teaching resources in form of a series of eight scientific webcomics named «The Megatroupers». Each webcomic constitutes an episode of the series, and it will focus on different key scientific concepts and models (Maron, Bordenave & Govin 2019).

Research approach

A convenient sample of 118 preservice elementary teachers participated in this study. Participants were enrolled in three different Portuguese higher education institutions. Data collection employed an online questionnaire comprising open and closed questions concerning comics reading habits and attitudes towards the integration of comics in education. Prior to participation, all participants provided oral consent. Questionnaires were administered anonymously.

Descriptive statistics was performed to describe the preservice elementary teachers reading habits and attitudes. Moreover, qualitative data were coded and then grouped and analyzed (Milles & Huberman 1994).

Results and discussion

The findings reveal that the majority of preservice elementary teachers (62,7%) reported having read comic books, while 37,3% indicated they have never engaged with this medium. The absence of comic books at home, along with a preference for engaging in other activities during free time, are the most cited reasons for never having read comic books. Additionally, some individuals reported not loving this medium and having difficulties reading images and text simultaneously.

Among those who reported having read comics, a significant majority (77%) had not read any comic books in the past year. The remaining students had read between 1 to 3 books (20,3%) or more than 3 books (2,7%) during this period. These results indicate that the surveyed future teachers do not exhibit regular comic book reading habits. This observation is further supported by the notable number of respondents who were unable to recall the title of the last comic book they read (28,4%). Among those who could recall, there was a diverse range of titles, although a predominant genre emerged, notably adventure and comedy. Moreover, among those who reported having read comics, only a minority (16,2%) mentioned reading science comics. The fact that comic books have the potential to make science more engaging and accessible was reported as the main reason for reading this type of comics.

Like any type of book, comic books have their own unique language. The difficulty some preservice teachers report - disliking reading and looking at images simultaneously - is noteworthy. In a recent study exploring the reading preferences of students across different academic disciplines at Portuguese higher education institutions, just 17% favored comic books, while 28% expressed a dislike for this medium (DGEEC, 2023). However, specific data regarding preservice teachers is not available.

In this point it is worth noting that in Portugal, despite growing recognition of comics' artistic and literary value, they remain limited in mainstream literature and education. This is quite different from other countries where comics are widely accepted as legitimate literature. For example, in Japan, manga enjoys widespread popularity across all age groups and interests (Ito, 2005), while in France and Belgium, comics are recognized as an integral part of national culture and identity (Groensteen 2007; 2013). This cultural discrepancy affects how comics are perceived and produced (Brienza 2010) and could partially account for the low levels of comic book reading habits among the surveyed pre-service teachers.

Regarding the perspectives of future teachers about the role of comic books in science education, there seems to be a high consensus. The overwhelming majority believes that comic books can be an asset in the teaching and learning process.

According to future teachers, there are several factors that can facilitate student learning when using comic books. Many students appreciate the engaging and enjoyable nature of comics, citing them as a dynamic and interactive medium for learning. The presence of visually appealing artwork in comics is seen as a significant advantage, as it can captivate and stimulate students' interest. Comics are also valued for their ability to contextualize complex concepts and make them more relatable through the use of characters and everyday situations. In addition, some acknowledge the visual aspect of comics as beneficial for memory retention, facilitating easier recall of information for students as well as the capability to foster critical thinking skills, as they present information in a format that encourages interpretation and analysis.

However, negative aspects are also noted. Future teachers reported concerns about: i) students associating comics solely with schoolwork, potentially diminishing their enthusiasm for reading; ii) the challenges in interpreting the visual and textual elements of comics, especially for students with learning difficulties; iii) students having difficulty distinguishing between fictional and real elements of the story; iv) the potential distracting effect of the storyline specially for students with more difficulties; v) the potential oversimplification of disciplinary content.

It is noteworthy that some limitations mentioned had not been previously recorded in the literature. For example, some future teachers view an aspect widely regarded as an advantage—the presence of both text and image—as a limitation. These views may stem from limited exposure to the medium itself.

A potential area for future research would be to explore how the introduction of comics during initial teacher education shapes early perceptions, and how these views are subsequently influenced and refined through practical classroom experience.

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