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USE OF GRAPHIC NARRATIVES WITH PRESERVICE TEACHERS AS A MEDIATED LEARNING TOOL

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Abstract

Despite the use of comics in education as a tool for reading or language learning, little is known about its potential as a mediated learning tool in Higher Education settings. This paper presents a preliminary study, part of a bigger project conducted as an action-research approach which aims to gain knowledge on the use of comics in higher education as a tool to develop comprehension and thinking skills. The study was carried out at one of the Spanish universities located in the Madrid region. The study involved 71 student teachers of an undergraduate course who were trained on how to read and create comics: use of diverse types of software, composition basis, communication elements and conventions of comics' design. Students had the freedom to create their comics choosing the software they felt most comfortable with since the purpose of the study was to analyse the composition of their stories and the way they gave meaning to learning through them. Comics were analysed and categorised according to the story

they told, feelings and emotions they showed, complexity and originality. Even the comics' design was well achieved, students were focused on their graphic composition rather than on the educational problems the comics should have conveyed. Findings suggest that even though comic's creation encouraged students' creativity and critical reflection, developing visual thinking skills takes time and needs to be practised as it is a scaffolding process. Future studies will be focused on developing preliminary visual thinking skills before asking students to express their subject knowledge creating their graphic narratives.

Keywords

Creativity, Critical Thinking, Comics, Higher Education, Preservice Teachers

1. Introduction

New forms of communication prevail in students' life due the rapidly evolving of the Internet and social networks. Youth spend considerable time during the day in phone chats or surfing the Web, leaving them less time for another activity, such as reading books, newspapers or journals. In some cases, first-year university's students face difficulties to understand academic texts that require an in-depth comprehension. Reading is a cognitive process through which the reader interacts with author's ideas embodied in the text, activity that needs a broad language knowledge and, in some cases, a background related to the topic (Doolittle, Hicks, Triplett, Nichols, & Young, 2006; Glenberg & Robertson, 2000). Some studies suggested that people understand best when they read texts containing images versus those that use only words (Cook, 2017; Demirdag, 2014; Whiley, Witt, Colvin, Sapiains Arrue, & Kotir, 2017). Some others submitted that there is a lack of evidence that demonstrates a relation of understanding or learning improvement when using graphs or images into texts (Glenberg & Robertson, 2000). Regardless of whether images could help to understand a written text in a greater or lesser extent, it must bear in mind that pictures or images, either static or in motion, prevail in almost all the means in which young people have access or interact with. However, it might be that some students lack the necessary knowledge to decode or interpret images and its central messages, and in many cases, they haven't used pictures and text together as a communication tool. Visual literacy skills are needed to be able to interpret and make meaning from information represented through images and, in general, few educational programs integrate this type of literacy as part of their regular curriculum (Walsh, 2017). One way to lead students into multimodal literacies is through comics or graphic novels. Graphic novels are more than images that help explain texts, although they can play a role as a tutorial type format to help understand the operation of any appliance, for example. Graphic novels or comics as envisioned in this study are means that

combine visual contents with text that convey messages, ideas, thoughts and feelings. Although it may seem that reading a comic may be somewhat superficial, reading a comic involves carrying out processes that require decoding visual messages along with texts. Reading a comic requires the reader to exercise his visual and verbal abilities. The understanding of drawing's particularities, its perspective, the symmetry, its form and the messages that intrinsically express the images. The verbal skills implies the knowledge of the overlap of grammar, plot and syntax (Eisner, 2008).

A good way to engage students in reading and to help them to understand some difficult topics might be through confronting students with comics as reading materials. (Ball & Kuhlman, 2010; Botzakis, 2013; Dickinson & Werner, 2015).

To verify the validity of graphic novels as a tool to foster teachers' students critical and reflexive thinking, three teachers from a public university in Spain, started a research project along these lines. This preliminary study is part of a bigger project conducted as an action-research approach. The research, which is in its first phase, aims at gaining knowledge on the use of comics in higher education as a mediated learning tool. Technological advancements, an excess of information, globalisation, uncertainty, are some challenges that students must face and be prepared to deal with it in nowadays. In that sense, the university seeks to prepare students to cope with these issues and become citizens for the 21st century encouraging them to be: self-directed learners, concerned citizens, active contributors and, critical thinkers.

In using comics as a tool for learning, we sought to establish the basis for the development of the competencies mentioned above. Reading a comic, apart from attracting reluctant readers, helps to connect students with the popular culture and might foster critical reflection if we encourage them to confront ideas through dialogues with peers and teacher. Students may be immersing in a deep-thinking process if they must make meaning of ideas which are implicit in text and images together (Berger, 1971; Botzakis, 2013; Meskin, 2009).

At another point is placed the comic's creation. Creating a comic implies to select essential elements for the narrative, choosing a perspective from which the reader could see it and, determine symbols which would appear in each vignette. The author needs to make equilibrium between draw-composition and narrative coherence bearing in mind grammar elements and rhetoric.

The study involved 71 first year teachers' students with ages between 18 and 25 years and three researchers: an expert in comics and two teachers of the faculty of education. The profile of the students can be described as regulars to the social networks and, in general, less fond of reading. More than half of them have read a comic book at some point in his life, but only three

of them are regular comic's readers. Twenty of them mentioned that at some time in their previous stage as a student, have made a comic for the art class.

It is not intended in this study to analyse if students learn better when they read comics rather than when they read text content. The aim of the research was to determine what implications on student's learning has the process of interpreting and creating graphic narratives or comics.

Therefore, the study was guided by the following research questions:

When students make a graphic novel to propose a solution to an educational problem or a case, 1) what type of connections, synthesis, analysis are expressed through comic's creation, 2) what kind of tools do they use? 3) what are students' opinions and attitudes toward comics as a mediated learning tool.

2. Methodology

The study was conducted with students attending the course 'School Management and Organisation' which was held in the second term of their first year in the university. Course's aims were: 1) develop students' skills to be capable of analysing, interpreting and reflecting on school's processes: planning, leadership, strategies for change and improvement. 2) get knowledge and understanding of the educational organisation, school climate and, relationships between school and outside institutions. 3) get knowledge on how to confront school's conflicts and resolution procedures such as mediation and peer support. 4) develop students' creativity and critical thinking skills.

To achieve course aims, students attended two seminars on comics' design with an emphasis on the understanding of images, symbols and discourses. After the workshop, they began practical sessions focused towards comics' creation using different digital tools (Cartoon Story Maker, Make Belief Comix, Pixton, Powtoon and Toondoo). During two weeks, students were confronted to Francesco Tonucci's comics (2007), which report the situation of traditional instruction, fixed in archaic methods and undemocratic educational practices. They had to analyse, discuss and interpret Tonucci's comics redoing them afterwards using different scenes, examples and characters. Both researchers, the lecturer and the expert on comics, gave them constantly feedback as a reinforcement on this preliminary exercise. One of Tonucci's comic (Fig. 1) they had to work with was one related to teacher communication and student understanding. Sometimes teachers think they are explaining something in a way students should understand, but they don't. What is going on?

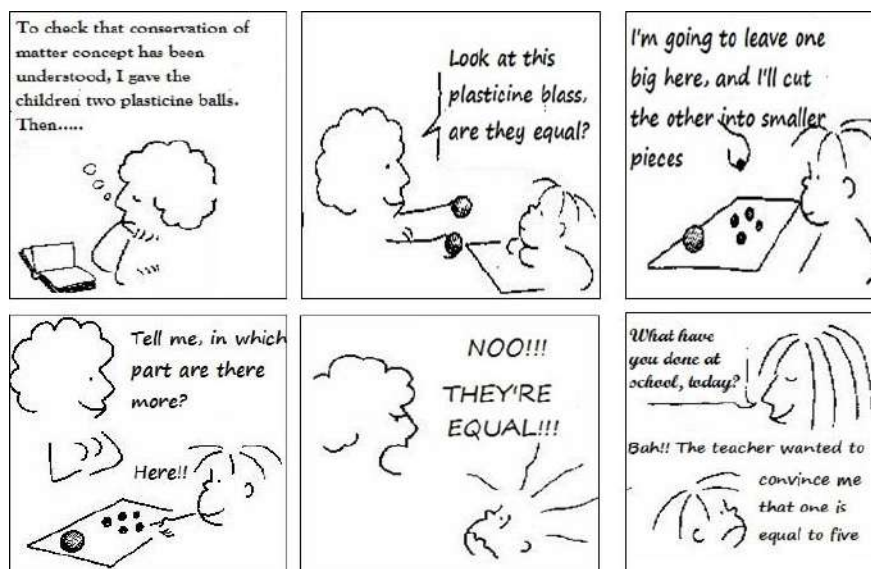


Figure 1: First Tonucci's Cartoon read by the Students (Author's Translation)

Reading Ayres and Alexander-Tanner's book (2010) was mandatory as it is a teaching-related book designed as a comic. After reading some chapters, they had to reflect and discuss, in small groups, over school culture and organisation topics portrayed in it.

When the lecturer considered that students had gained enough background to design comics, she gave them three educational issues, from which they had to choose one to create a comic. In doing the comic, students had to demonstrate the understanding of the problem and expose ways to face it. Problems they had to solve can be outlined as: 1) school as an organisation which pretend to be equal for all the children and at the same time different for each one 2) school as a heteronomous organisation which seeks to achieve children autonomy 3) school seeks to promote an education based on values, solidarity, peace and equality and, at the same time it must prepare children for the actual life.

Based on a social-constructivist approach, teamwork was established (Fitri, 2017; Vygotsky & Cole, 1978). There were 18 groups of around four people in each. Working in groups facilitates knowledge building when students had to confront ideas and intervene in dialogues negotiating roles within the work group and making meaning to concepts and thoughts (Boekaerts & Minnaert, 2006; Palincsar, 1998; Richmond & Striley, 1996).

2.1 What does Research Say?

Research has been demonstrated how graphic novels can promote literacy, reading comprehension, thinking skills and language learning in schools settings (Cook, 2017; Walsh, 2017; Whiley, Witt, Colvin, Sapiains Arrue, & Kotir, 2017). The juxtaposition of images and text can be seen as a more digestible format that facilitates the construction of meaning, making

easier to emergent bilingual students or those who struggle in reading and comprehension (Brenna, 2013; Carano & Clabough, 2016; Jennings, Rule, & Zanden, 2014; Yıldırım, 2013). Even though at higher education level, few studies have been conducted to determine how graphic novels can address critical and reflective thinking skills, some research suggest that it is an important pedagogical tool that promotes multimodal literacies in composition instruction settings (Dickinson & Werner, 2015; Sealey-Morris, 2015).

2.2 Research Method

Although visual research methods depict, somehow, what the participant wanted to convey through his or her drawings, and what's going on in his/her head, analysing image production alone can deflect attention from the social process that surrounds its production (Silverman, 2001). The classroom can be conceived as a social microsystem where social interactions are carried out between all its agents: students-students and teacher-students (Leavy, 2014; McTaggart, 1997). Collecting conversations, feelings and reflections among group members and between groups and teacher can help to understand the visual production of the participants (Emmel & Clark, 2011; Liebenberg, 2009). Therefore, in this study, the role of the participating observer has been considered essential for data gathering. Since there are three roles a participating observer can play: 1) the participant as an observer, 2) the observer as a limited participant, and 3) the observer as a non-participant, the second one has been selected for this research. The observer as a limited participant gives more freedom to the researcher and allows her to move from one group to another and, also, reduces group biases (Bryman, 2012). Comics production was analysed through two models of narrative analyses: thematic analysis, emphasising analysis on the content of the story and, structural analysis, which analyses the way a story is told (Riessman, 2002).

2.3 Data Collection

To get to know students' readings habits they were asked to fulfil an initial survey which helped to draw a students' profile and gave some light on their attitude towards reading comics, previous experience in drawing and creating comics. The participating observer established rapport with the research participants and engaged actively in their activities integrating into the class environment while taking objective notes. The informal conversations, held during the practical sessions between the students and the observer, were recorded to keep a faithful record of students' impressions. She kept detailed notes on classroom activity, on the comic expert's interventions and the explanations and problems proposed by the teacher. Student's comics' production and the process followed to create it (storyboard, drafts and, sketches) were gathered as the main source of data. Students had to attach a document with a

description of the process they followed to build the comic. They had to justify all decisions made before finishing it: why they decided to use a tool to draw it, and if they didn't use a software why not; description of the problem and the process of addressing it and displayed through the comic. This document was a big help when analysing and interpreting students' comics.

2.4 Analysis of Data

Data analysis encompassed comics' production and students' discourse about the methodology of comics as a mediated learning tool. At a first phase, each participant researcher examined and interpreted every single comic separately. In a second stage, the three of them met to discuss, compare and evaluate findings. Analysing each comic was meant to search for: 1) connections expressed and related to concepts studied during the course or related to educational news or problems 2) how the problem was posed and how information and its organisation was expressed 3) how the problem was addressed.

In analysing student's talks, the researchers explored the common themes emerging during the informal interviews and obtained an overview of key issues including feelings and attitudes toward this methodology.

3. Findings

Initial contact amid students and the participating observer (P.O.) was done to know students' attitudes towards comics. Students and P.O. chatted on students' reading interests, feelings toward doing comics and so on. Even though, some of them expressed a negative attitude toward comics, when they were working on their graphic novels, the point of view of some of them (n=67) changed;

When you have to deal with a topic and need to make a comic to express it, it gives you a better understanding of things. You have to focus on the issue, and you have to look for elements to communicate that knowledge. (S30)

It helps you better convey what you know about a subject. It is a more original and creative way that motivates you to learn. (S12)

It helps you to be creative; you can demonstrate with it what you know in a more creative way. It drives you to work more since just writing text. Writing is more challenging and more tedious. (S45)

I didn't know it was going to be so interesting to me, it really engaged me and led me to think how would I use comics with my kids when I become a teacher. This task is completely different from all the tasks we have done during the last semester at the university (S60)

Just four students (5%) remained unenthusiastic with this activity, although they were participating in it and collaborating with their group's peers;

I hate comics; I had never read one because I don't like it.

It is OK, but I rather would like to do a tale instead of a comic.

I don't like technologies, and this activity is so bored to me.

In general, students are reluctant to the challenges that involve extra work and the use of a profound and reflective thought, as it is comic's creation, but some may be feel attracted to it when they realise that it allows them to express their creativity. One of the reasons to ask students to work in a group, was to engage those who were demotivated with comic's creation. Many students may be felt engaged with this way of communication and exert a positive influence in some of their reluctant peers (Boekaerts & Minnaert, 2006).

When students were confronted with Tonucci's comic (Fig. 1), many of them focused their attention only on the fourth vignette, highlighting commentaries as;

Not always the teachers are right; sometimes they are wrong. (G3)

She yells at the child, and she is wrong because five is not equal to one. (G11)

As far as we can see, they did not analyse comic whole story; they couldn't explain what was going on with the teacher, what she wanted to teach them, what Tonucci wanted to depict. They emphasised the relation of power that the teacher had on the children. When asked them to talk about the story revealed in the comic, they reduced it to a single event. There is no doubt that our sight goes mostly towards the most eye-catching vignette, but as it occurs when reading a book, one cannot interpret the story it reflects, by reducing it to a single phrase, the most striking. Looking at the way students understand the comic, it might be that they echoed they empathy with the kid, demonstrating, in some way feelings of rejection towards authority. They are students also, they feel that we teachers, are the authority. None of them thought of their future role as a teacher, reflecting on how a wrong communication process could influence the understanding of a topic.

Other groups emphasised the lack of clarity and the wrong approach to the teacher's question, which led to a misunderstanding;

Many times, we believe that we are communicating something to our interlocutor, but he or she understands it in another way. (G15)

The teacher has an active disposition to explain the problem in a practical way. However, the question was wrong constructed. He despairs because the child does not understand, but she must think that what was not clear was the question. (G19)

3.1 Analysis of Comics created by Students

Students' Comic production was analysed considering the form and the content. On examining the structure, we searched for essential elements of creating comics, as moments, frame, image, words and flow. As for the content and, being a process of greater complexity since they had to respond to educational problems by constructing a story, we sought for connections which demonstrated links with previous knowledge, news or, topics treated either in this class or in another. We analysed how information was synthesised and organised.

3.2 Comic's Analysis; Composition and Style

Considering that it was the first comic created by most students, and the fact that they expressed not being regular comic readers, most of the groups demonstrated (n=14) an understanding of basic principles of comics design. In Fig.2, it is evident to see how students play with frames to decide how closely to mount an action to show details they wanted to be highlighted. They also chose to emphasise a character by colouring it and leaving the remain scenes in black and white. In the same way, they picked the right tools to express human voices, the evocation of senses and thoughts using balloons and signs. To give an example, we can see that on the first page, the third vignette which is zoomed, there is an empty chair in it highlighted with colour. With no words, they tell the reader that there is a kid who is not in his/her place. In the fifth vignette from the same page, a girl is wondering what was going on with her mate; they highlighted it with admiration and interrogation signs. There is no need for words to explain the girl's feelings.

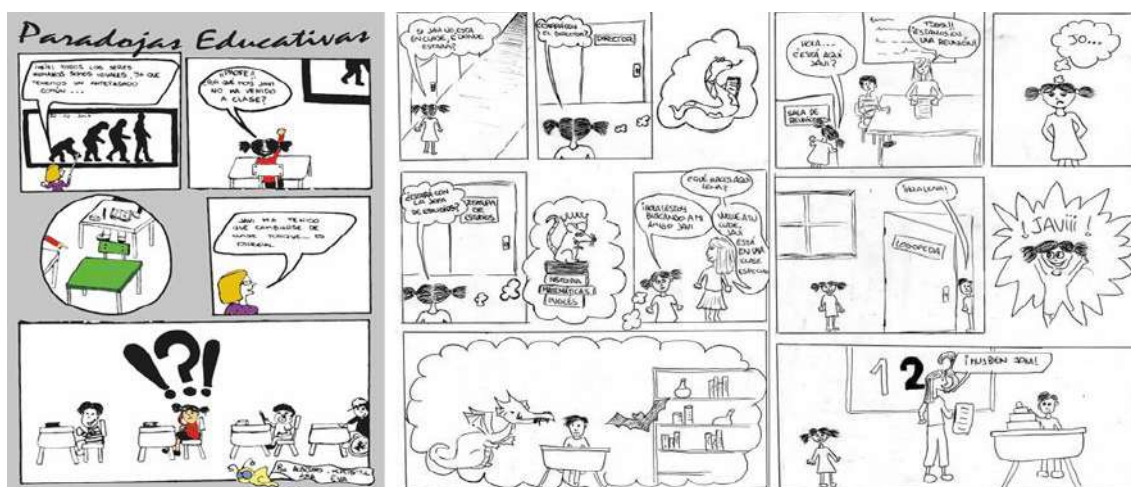


Figure 2: Comic created by group 5

There were some differences in comics drawn by hand from those made with a computer software as it can be seen in Fig. 3. It seems that students couldn't find enough elements to communicate clearly and they left inexpressive characters and boring scenes.



Figure 3: Comic created by group 15

From those groups who decided, at first, create their comic using software (n=4), some of them (n=2) made up their mind, drawing it by hand afterwards. The difference between one and another demonstrates that they understood the basic principles of comics' creation (Fig. 4)

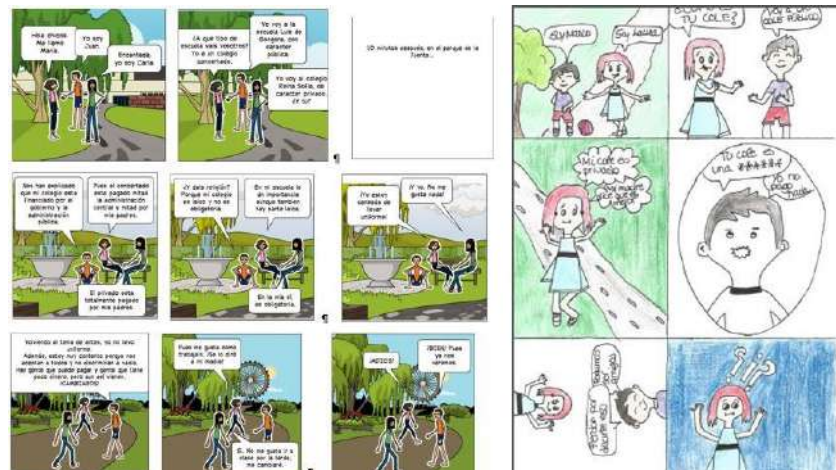


Figure 4: Creating a Comic with a Software and Drawing it by Hand Afterwards

3.3 Narrative Analysis

When analysing the narrative, it was verified that students focused on comics' creation rather than utilising them to explain a problem and to demonstrate their knowledge around the topic. Of the 18 papers analysed, it is verified that none of them, rigorously treats the selected topic nor demonstrates knowledge about it. The narrative could be directed towards a

children's audience with the intention of educating and raising awareness. In no case was orientated to an adult audience and, with the intention to communicate about a problem and its possible consequences or solutions.

4. Conclusion and Further Work

Students who enter the first year of university in Spain, are habituated to work or do activities that demand a rote learning rather than a critical-reflective one. The last baccalaureate course is focused on preparing them to pass an exam which together with their academic record and grades will determine which degree can pursue. Secondary school teachers are under pressure to assure their students cope successfully with this exam and, it might be the reason why instruction, in most cases, tend to focus on a behaviourist approach rather than in a social constructivist one. This situation implies that teacher at the university will find difficult to change students 'dynamics of work and study, moreover if the new methodology requires students' reasoning, critical reflection, understanding and, analysis of situations and problems. However, despite students get engaged with a new methodological model, positive results cannot immediately be reflected. The process of leading students to a critical-reflexive learning takes time and needs to be understood as a scaffolding process. Coordination among teachers would be recommendable to implement activities that challenge students and lead them to develop higher order thinking skills. If the student experiences this kind of activities, developed by most teachers, first, he/she will understand it as an everyday task and, secondly, will acquire the necessary skills to build a critical and reflective mind.

This study demonstrates that there is a need to pay more attention to visual literacies during students' schooling, since they are surrounding of multi-modal elements in their lives and, in general, they consume it but not critically. As Frey and Douglas (2008) states *'being visual literate requires a complex act of meaning making using still or moving images. As with reading comprehension, visual literate learners are able to make connections, determine importance, synthesise information, evaluate and critique'* (p.1). Our students focused their attention on drawing well and were preoccupied of utilising essential comics' elements instead of understanding and reflect on the problems they were confronted with, which would lead them, afterwards, planning a comic or graphic novel.

The results obtained in this study are not entirely negative if we consider that students felt engaged with this methodology which offers to them, a new form of learning to think. In general, they have admitted (n=67) that making a comic allowed them to develop their creativity

and, they experienced with it a new form of communication, previously unknown to many of them.

It was a surprise to discover that few groups (n=4) made the comics using a computer program and the majority (n=14), who drew it by hand, felt that with the programs we suggested they couldn't express their ideas widely.

As this is a preliminary study, further work is planning for the next year which will lead us to enter into the second phase of the action research process. This second phase is designed to last one year long and will cover two academic courses. During the first semester, students will work on visual literacies, not just by interpreting comics but creating some graphic narratives as in the first phase. We must encourage them to build their comics using a freeware and open source comic software creator, as KRITA or one another, since using a digital tool will allow them to develop multimedia literacies. The second cycle of the second phase, which will be held in the second semester, will be focused on building a comic or graphic novel to demonstrate understanding, knowledge building and critical reflection. They will be confronted with educational issues on which they must propose solutions using a comic as a communication language.

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