



Learning and intergenerational communication through digital storytelling in the first grades of primary school: *Yesteryear Jobs*

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ABSTRACT

The research reported in this paper examines how two different groups, primary school children and elderly people, could close the generation gap through a digital storytelling-based interaction framework that can result in learning for the younger and intergenerational communication. Yesteryear jobs have been chosen as the theme of this research, based on the premise that, as computers and automated systems increasingly take the jobs humans once held, entire professions become extinct, and some of these endangered professions, from a milkman to an iceman, could become better known to primary school children through storytelling from elderly people. In this respect, the research reported in this paper has combined digital storytelling with techniques as traditional as theatrical games, in order to create a blended framework for intergenerational interactions. The research project was realized in the 15th Primary School of Piraeus, in Athens, Greece during academic years 2011-12 and 2012-13. It has involved a 6-month empirical study and embraced skills such as literature reading, story and song listening, painting, creating digital stories as well as improvising through theatrical games. The evaluation tools for the outcomes of this project comprised a

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questionnaire, participant observation, informal interviews and a video rubric for evaluating the digital creations of schoolchildren.

Keywords: digital storytelling, theatrical games, primary school, active ageing, intergenerational communication, intergenerational literacy

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1. Contextualization of this research

For the research project reported in this paper we take stock of learning theories such as constructivism (Vygotsky, 1986) and situated learning (Lave and Wenger, 1991) that help the creation of an active learning environment in formal education. On top of that, we also take stock of the potential of digital storytelling to establish a framework in which the people involved can actively learn. According to Frazel (2000), digital storytelling combines narrative with digital content, including images, sound and video, in order to enrich a common narration. Digital stories can be historical, persuasive and/or instructional (Robin, 2006), promoting communication in all these cases. Communication, at the same time, is a core objective of intergenerational interactions (Winston, 2001). On this basis, we have tried to combine digital storytelling with intergenerational communication, building on the premise that intergenerational exchange constitutes one of the oldest ways of learning.

In this context, we have embarked on a research that uses digital storytelling and other activities as vehicles for bringing together primary school-age children with retired elderly people, with a final view to learning outcomes on both sides. This research investigates how those two different groups, primary school children and elderly people, can close the generation gap through activities that can provide knowledge to either of these groups with the intervention of the other. At the same time, though not an explicit research goal, this research provides supportive evidence on the ways in which elderly people from the

local community can be integrated within the education processes and formal curriculum of primary schools.

The theme we chose to work on was yesteryear jobs. As computers and automated systems increasingly take up the everyday jobs traditionally held by people, entire professions become extinct. In this context, endangered and so called “old-fashioned” everyday jobs, from a milkman to an iceman, can become better known to children through storytelling from elderly people who, beyond the ability to be physically active, are maintaining their capabilities to participate in social and cultural interchanges.

More specifically, this research has investigated the learning exchanges between 6/7 -year-old schoolchildren and elderly people of local communities and resulted in creating digital stories made by the schoolchildren through their interaction with the elderly people involved. The research project was realized in the 15th Primary School of Piraeus, in Athens, Greece during academic years 2011-12 and 2012-13. It has involved a 6-month empirical study and embraced skills such as literature reading, story and song listening, painting, creating digital stories as well as improvising through theatrical games. The evaluation tools for the outcomes of this project comprised a questionnaire, participant observation, informal interviews and a video rubric for evaluating the digital creations of schoolchildren, adapted from the work of Smaldino et al (2011). 21 primary school students and 4 elderly people of the local community formed the core participants of the entire project, with many more schoolchildren participating in some interim project activities. Details about the research participants are provided in Table 1 and Table 2 below.

Grade and Age	School	Number of Participants	Project phases
Primary school, 7 year old (1 st to 2 nd grade)	15 th Public Primary School of Piraeus, Athens, Greece	21	I, II, III, IV
Primary school, 7-10 year old (1 st to 4 th grade)	15 th Public Primary School of Piraeus, Athens, Greece	57 additional	III

Table 1. Schoolchildren participants in the research project.

As a last note with regards to the elderly participants of this research, it should be mentioned that they have been recruited on an ad hoc basis, through existing contacts and networks that the researchers had established with the local community by means of previous projects on intergenerational communication and learning. This, however, should not be considered as a limitation of the potential of this research design to work in more general contexts since, in all cases, digital storytelling and intergenerational communication research requires preliminary work and contacts on approaching and coaching the participants, prior to entering the core research activities.

Age	Institution of Origin	Number of Participants	Project phases
+75	Social Center for the Elderly of the Municipality of Nikea–Rendi, Athens, Greece	2	II
+65	Theatrical Group of the Municipality of Nikea–Rendi, Athens, Greece	2	III, IV

Table 2. Elderly participants in the research project.

2. Research questions

This effort has been based on the premise that it is possible for schoolchildren and elderly people to bridge the generation gap between them through an in-school activity that can provide knowledge to either group with the intervention of the other.

To this end, the effort was initially driven by the following research questions:

- RQ1: How can children interact with the elderly in a primary school environment?
- RQ2: What daily life knowledge held by the older generation can be an appropriate field for intergenerational communication in a primary school environment?

With a view to these questions, we made the assumption that the topic of yesteryear jobs, a theme included in the formal education curriculum for the first grades of primary school, would be mutually interesting to both participant groups. At the same time, we expected this theme to be appropriate from an intergenerational perspective and enhance student learning in folk and social issues.

Subsequently, with a view to coupling intergenerational communication with digital technologies in the above context, we made the assumption that digital storytelling would constitute an effective way to combine knowledge, creativity, interaction and fun. This assumption also allowed us to investigate whether children could cope in a technological environment with efficiency despite their age, as well as express themselves creatively on a particular school subject, as well as establish intergenerational contacts that did not exist before. Therefore, this assumption gave rise to two additional research questions:

- RQ3: How can primary school children assimilate the idea that multimedia tools can have their place into the classroom as a supplementary learning environment?
- RQ4: How can intergenerational communication in the context of digital story-making become a playful and enjoyable process for both primary school children and elder people?

3. Design and implementation of the educational intervention

The research was structured in four phases. Phase I included preparatory activities for familiarizing schoolchildren with the project. Phase II focused on the initial interchanges between schoolchildren and the elderly, using the creation of a digital story as an overarching objective. Phase III of the project was driven by the expressed interest of some 57 more students to participate in a theatrical performance that was going to take place at the end of the first school year of the project. Finally, Phase IV was the peak of the project. The schoolchildren involved in that phase created a digital story from scratch, through intergenerational interchanges with the elderly people of the local community.

Phase I encompassed activities that prepared children through school lessons according to the school curriculum. Children read about nowadays jobs in their books, then wrote small essays about their parents' jobs and finally dramatized their knowledge through the technique of theatrical games, role-playing and pantomime. Later on, children read in the classroom a book that was referring to yesteryear jobs in order to compare them with nowadays jobs. Some more details about Phase I of the research project are provided in Table 3 below.

Time	Activities	Place	Participants	Duration
Apr 2011	School lessons on Greek language and nowadays jobs	In-class	21 schoolchildren	5 hours

Table 3. Phase I: Preparatory activities.

In Phase II the schoolchildren and the elderly involved had their first intergenerational contact through digital storytelling. Each group of participants has been involved in digital storytelling from a different angle. The elderly created short scripts about yesteryear jobs, considering the fact that they were referring to students of primary school. They chose a place for shooting and dressed properly for it. A short film was shot in order for schoolchildren to watch.

Time	Activities	Place	Participants	Duration
May-Jun 2011	Shooting for the digital story	Social Center For the Elderly	2 elderly people	4 hours
	Selecting photographs, music and effects for the digital story	In-class	21 schoolchildren	10 hours

Table 4. Phase II: First intergenerational contact through digital storytelling.

In order to motivate children to participate in the creation of a digital story an idea came up: Children could only have access to an audio track of the short digital narrative. They were asked to listen carefully and to write down the yesteryear jobs they heard from the audio track. After that, they were divided into four groups. Each group had its own activity to do. Two groups picked over photographs from a readily available digital file of yesteryear jobs that matched the previous descriptions. One more group of children heard four music tracks in order to select which of those could be used as a soundtrack in the short digital narrative. The last group presented the whole digital story to the other classes of the school. In this way, all the steps of digital story-making (Frazel, 2010) were accomplished.

Three activities were carried out at Phase III of the project, the main objective of this phase being to create a theatrical performance that would seal the first school year of the project. The participants of the performance were students of the school and the elderly people involved.

Firstly, through theatrical games, children chose the character they would re-enact. Numerous rehearsals were organized in order to have the best possible result for the school performance about yesteryear jobs. Schoolchildren, with the help of their parents and their teacher (prime author), created the scenery of the performance. Secondly, a meeting was organized between the elderly and the schoolchildren in order to agree on each group's

parts in the performance. This meeting was followed by a common rehearsal of the entire performance.



Figure 1. Cabby with horse.



Figure 2. All 78 schoolchildren dancing.

Lastly, the performance took place in the school hall. The performance started with presentation of the digital story, then the elderly came in and presented live their parts and in the end the children presented their acting part of the show. Students from other classes joined the event and helped the junior schoolchildren to perform. They danced and sang together. Figure 1 and Figure 2 below present indicative scenes from the performance, whereas more details about Phase III of the research project are provided in Table 5.

Time	Activities	Place	Participants	Duration
May-June 2011	Theatrical games – choosing roles – create scenery – rehearsals	Classroom	78 schoolchildren	31 hours
June 2011	Intergenerational meeting and common rehearsal	School hall	78 schoolchildren 2 elderly people	3 hours
June 2011	Theatrical performance: Yesteryear Jobs	School hall	78 schoolchildren 2 elderly people	25 mins

Table 5. Phase III: Creation of a theatrical performance.

Phase IV was the concluding and most important part of the project. It was held during the second year of the research. As a motivation activity, the class visited the Benaki Museum⁵

⁵ The Benaki Museum ranks among the major institutions that have enriched the material assets of the Greek state. Its collections encompass icons, oil paintings and wood carvings, ceramics, everyday

in the heart of Athens. The schoolchildren saw old tools that were used by past practitioners and folklore objects. After that, the children decided to paint in groups the yesteryear job they preferred.

Along that, the schoolchildren approached the idea of digital storytelling. They decided to create a new digital story in order to invite the elderly to the school again. That story would be used to thank the elderly for participating in the project and to facilitate discussions about yesteryear jobs, the evolution of technology and the changes that are taking place in today's world.

The children again were divided into groups in order to create the digital story. According to the Center for Digital Storytelling, every story has to have emotional content. In our research this was achieved when children decided to use their personal photos from the summer performance in order to make their own digital story. They personalized the story using their voices to help the audience understand the context. For simplicity, they recorded their voices without overloading the viewer with too much information. They also employed a soundtrack that was used in the summer performance as a background to support the storyline. The final digital story lasted approximately 3 minutes.

The elderly people came again back to the school and watched the digital story with enthusiasm. They thanked the schoolchildren and talked to them about their experience when they were young. This led to the last and most important digital story created during this project. All participants together decided to create an intergenerational digital story with their own spontaneous storyboard about yesteryear jobs. The actors of that story would be one group of children and the elderly participants.

The children used the school hall for shooting the story scenes. In the first group of children, a student used the camera, another was taking backstage photographs from the shooting and four more students were starring in the digital story together with the two elderly participants. As a result, an independent digital story was created that was ready for editing. A second group of children selected photos that would fit in the newborn story. In this way, and keeping in mind guidelines for digital story-making such as the ones provided by Ohler (2008), the digital story was step-by-step generated by schoolchildren with their own personal touch. A third group of students selected audio effects to create a natural outdoors environment and a song to reinforce their digital story. The last group of students used a simple digital program that would help them edit the final digital story.

life objects, textiles as well as historical archives. Further information is available on the Benaki Museum's website at <http://www.benaki.gr>.

Figures 3 to 6 below present representative snapshots from this work, whereas more details about the concluding Phase IV of the research project are provided in Table 6.



Figure 3. Elder talking to children about yesteryear jobs.



Figure 4. Children trying to create their digital story.



Figure 5. Talking about the digital story.



Figure 6. After filming the digital story.

4. Evaluation results

Digital storytelling, combined with in-class activities, was used in the context of this project as an experiential way of learning. Schoolchildren successfully completed a number of targeted tasks, developed narrative skills and cooperated with each other. On top of that they employed digital tools and digital media with adequate competences and eventually proved to be quite excited with the overall project. Collaborative storytelling increased the students' interest in the subject matter of yesteryear jobs. Creating narratives helped children develop the power of articulating their own opinion and becoming heroes of their own stories. In addition, a major progress was observed in the students' interpersonal relations, wherein their sense of mutual acceptance and esteem was increased.

Time	Activities	Place	Participants	Duration
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Nov 2011	Preparatory activities Visit to the <u>The Folklore Hall</u> of the Benaki Museum in Athens Group painting on the theme of Yesteryear Jobs	Benaki Museum in-class	21 schoolchildren	6 hours
Jan 2012	Digital storytelling video about the theatrical performance, to invite the elderly back to school choosing sounds, effects, music, voice recording, presentation to fellow students	Classroom	21 schoolchildren	10 hours
Feb – Mar 2012	Intergenerational creation of a final digital story	School hall & classroom	21 schoolchildren 2 elderly people	10 hours

Table 6. Phase IV: activities of the last part of the research project.

In this respect, digital storytelling was successfully used as a means of communication in a formal education setting. It helped young students become more active, and use technology in a more efficient way, within a society that constantly exposes them to numerous media sources from a very young age. At the same time, this effort led to an improved sense of intergenerational solidarity, giving rise to a much more positive view of the elderly by schoolchildren and vice versa. Through this project, therefore, it has been possible to successfully experiment with digital storytelling as a mechanism with twofold positive outcomes, both in terms of digital literacy and in terms of intergenerational acquaintance.

Observation of participants yielded an important feedback. Both groups of schoolchildren and the elderly people were enthusiastic. Schoolchildren had good cooperation and used properly the digital media they were provided with. As expected, a number of technical issues came up during the final editing procedures; nonetheless all of them were capable of being restored without disrupting delays. On top of digital media, through this project schoolchildren used techniques of improvisation and dramatizing their ideas.

4.1. Computer literacy of participating schoolchildren

The schoolchildren participating in the project also answered orally a number of computer literacy-related questions, through an informal interview that was held in the classroom. Aggregated results from schoolchildren answers are presented in Figure 7 and Figure 8 below.

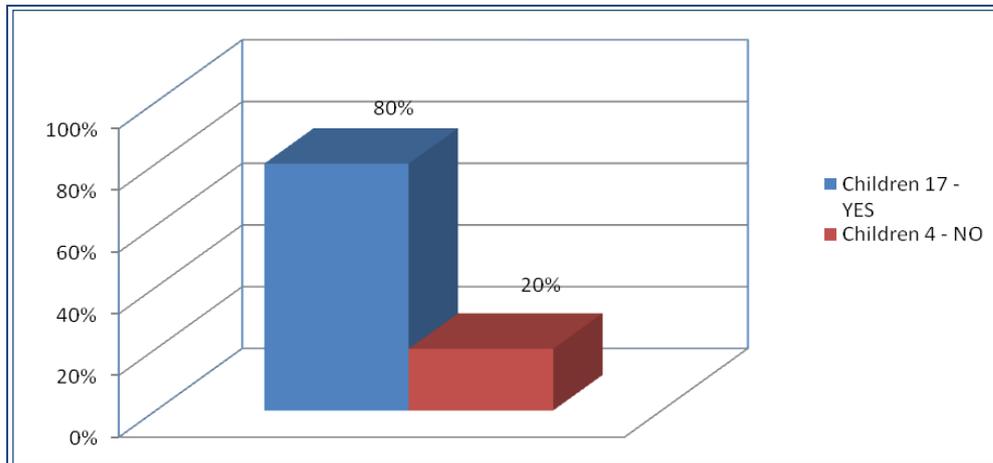


Figure 7. Aggregated answers of schoolchildren participants to question #1: "Do you have a computer in your house?"

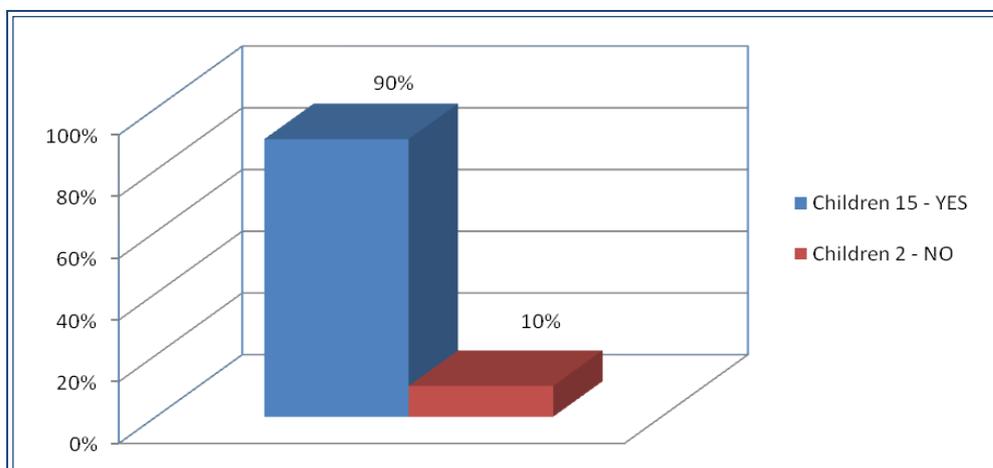


Figure 8. Aggregated answers of schoolchildren participants to question #2: "If yes, do your parents let you use it?"

4.2. Evaluation of learning outcomes

When all the activities of the project were completed, a brief questionnaire was handed out to participating schoolchildren with questions (in the form of agreement/disagreement to given statements, for the first three questions, and a multiple choice/multiple answers last question) related to the learning outcomes of the project, as the students themselves

perceived these outcomes. The questions included in this questionnaire were directly corresponding to the research questions driving the project. Aggregated results from schoolchildren answers are presented in Figures 9 to 12 below.

4.3. Further evaluation activities

Evaluation also encompassed informal interviews with the elderly project participants. The latter claimed that the experience of playing with children and sharing information from their lives was a very interesting one. They agreed that there were technical problems, especially with some audiovisual equipment such as microphones, but these did not make them give up. Finally, they felt that the most intense intergenerational communication took place during the creation of the concluding digital story of the project.

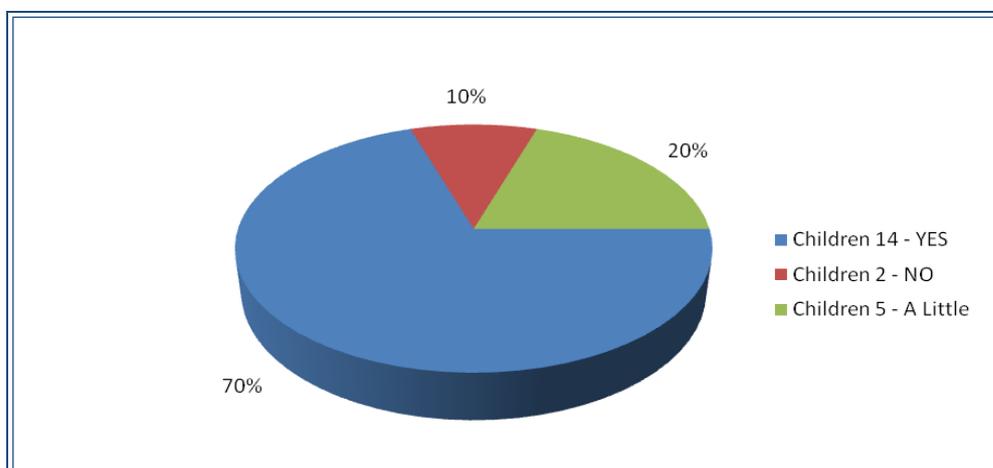


Figure 9. Aggregated answers of schoolchildren participants to question #3 (corresponding to RQ1): “I learnt about Yesteryear Jobs”.

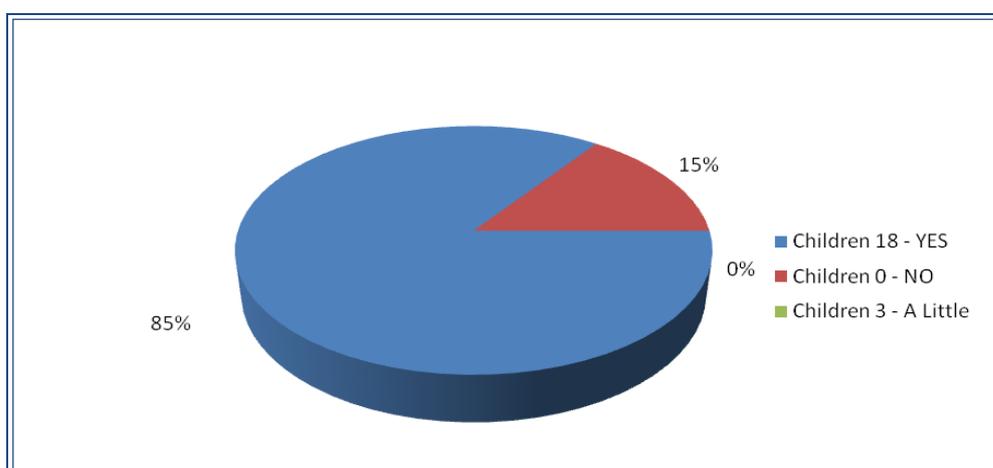


Figure 10. Aggregated answers of schoolchildren participants to question #4 (corresponding to RQ2): “I learnt something from the things that the elderly said”.

Last but not least, a selection rubric proposed by Smaldino et al (2011) was used in order to evaluate the digital creations of young students. The main results from the rubric-based evaluation were clearly positive: the digital stories covered their objectives and enhanced students' learning; they included information that was correct and did not contain material that was out of date; the language that was used was appropriate for the age of the audience and the vocabulary was understandable; the topics were presented in a way that students were likely to find interesting and engaging most of the time.

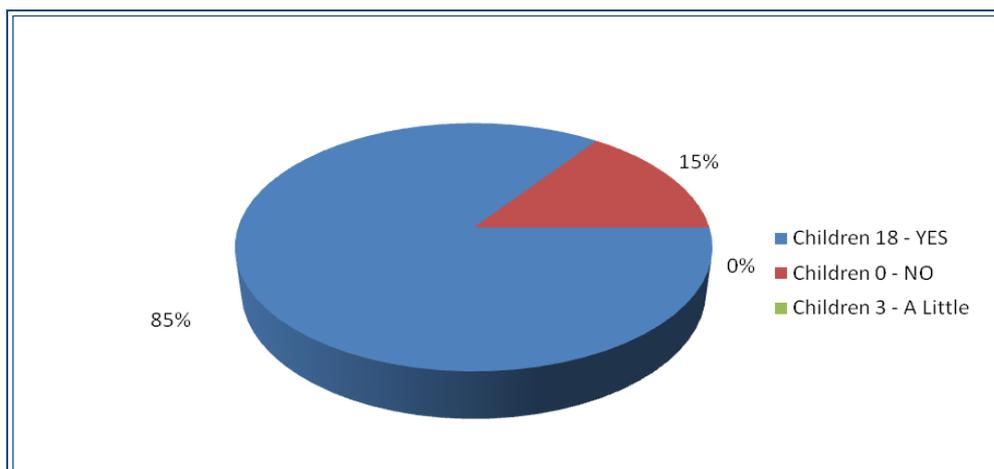


Figure 11. Aggregated answers of schoolchildren participants to question #5 (corresponding to RQ3): “I learnt how to make a digital story”.

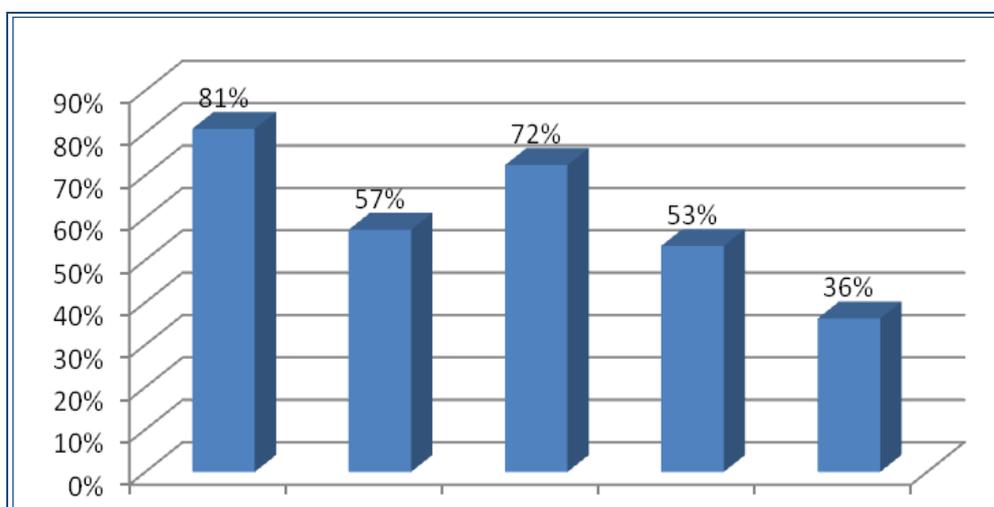


Figure 12. Aggregated answers of schoolchildren participants to question #6 (corresponding to RQ4): “Which activity did you like better?”

(81% for “digital storytelling”, 57% for intergenerational stories, 72% for theatrical performance, 53% for painting, 36% for songs)

The technical quality of the digital stories was satisfactory, although there were some problems. Despite that, users of the digital tools did not face significant difficulties, because the material was handy and easy to use. The plot of the digital story had no evidence of objectionable bias or advertising. So it was a great resource for use in the course of school lessons. Apart from that, the pace of the video was appropriate for children of that age group and most students could understand and process the information given. Finally, the digital stories were fairly well organized and made use of cognitive learning aids.

5. Concluding remarks

The conclusions of this research were promising. We detected an important diversification of children's attitudes towards the activities blended with digital storytelling. Digital storytelling was taken up by students as a tool, to create their own stories and develop their narrative skills. In addition, students who participated in the creation of digital stories developed enhanced communication skills by learning to organize their ideas and express opinions. The progress in interpersonal relationships was clear, with digital storytelling activities operating as a framework that fostered collaboration and led students to work together in groups. At the same time, this resulted in a significant increase of mutual acceptance and self-esteem, through a feeling of shared ownership and collective accomplishment, since schoolchildren were co-creators of the final digital stories.

Digital storytelling worked as a whole class activity that increased each groups' sociability. It also created a friendly environment in which both the elderly and the younger could actively participate. This project actually helped the school where it took place to open its doors to the local community, interact with groups of elderly people and foster intergenerational literacy that could lead to improved intergenerational solidarity. Both sides had their success opportunities and could experiment with the knowledge presented.

As a concluding point, it can be stated that the rapid development of technology in education has created new learning opportunities for many different groups. Digital storytelling, in particular, seems to nicely offer itself to intergenerational communication, which can take stock of elderly people that age actively. In this way, a deeper sharing of knowledge between elder and younger can be achieved. In-school educational activities can contribute to fill the gap between generations and create enhanced capacities for family-school cohesion.

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