

From paper to digital: Journey into imagination with Alba Digital Stories

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Abstract

In a context where creativity and critical understanding of media are crucial, the Alba Digital Stories project explores digital storytelling as an innovative educational approach to media literacy. Using the ToonTastic app, preschool children develop storytelling and digital literacy skills in a playful and collaborative environment. Integrated into the DigComp 2.2 framework, the project promotes creative expression and critical analysis of media, encouraging children to share stories and interact consciously in the digital landscape. Final interviews revealed that while 10 out of 15 children found digital drawing more intuitive and rewarding than drawing on paper, all were excited to see their characters and scenarios come to life in digital format. The teachers observed how the use of the tablet enhanced the children's ability to explore aesthetic details and turn mistakes into new creative opportunities. This approach not only encourages individual creativity, but also allows the children to experiment as storytellers and little directors, developing confidence and skills in an environment that combines tradition and innovation.

Keywords *Digital storytelling, ToonTastic, Pedagogy, Children*

1. Introduction

In recent decades, the rapid spread of digital media has profoundly transformed people's learning, communication and interaction, especially among young people. In an increasingly connected world, the ability to understand, evaluate and create multimedia content is becoming more and more predominant. In line with DigComp 2.2, key areas of digital literacy and security, content production are identified. Indeed, today, becoming media literate does not only mean acquiring the technical skills to use devices and platforms, but also implies the development of critical thinking that enables children, young people, and adults to navigate the flow of digital information in a conscious and responsible manner (Hunt, Sun & al. 2023). The importance of media literacy is underlined by the increasing complexity of the media ecosystem, in which digital content multiplies and circulates on a global scale. In this context, literacy is not limited to passive reading, but promotes active participation in the creation of meaning and content. According to Robin (2016), 21st century skills, including digital Literacy, global Literacy and visual Literacy, are increasingly in demand, not only to interpret and analyse content but also to contribute productively to global digital conversations. Among the innovative educational approaches related to media literacy is digital storytelling (Ranieri, 2018; Pandian, 2020), a narrative practice developed in California, which involves the construction of a short narrative on video, combining recorded voice, images, music and other sounds (Lambert, 2006). However, the term digital storytelling

(DST) can encompass different modes of expression, such as gaming, interactive storytelling (Miller, 2019), and the wide range of personal representations shared on social media. The 'Alba Digital Stories' project is part of this framework with a view to sensitising children in the last year of preschool to the conscious use of technology by co-constructing an animated narrative, since a story is defined as such if it has a plot, a topic of interest and a certain level of involvement (Bruschi, 2017).

2. Why create digital stories?

Creating digital stories through digital storytelling methodology is an educational practice that goes beyond simple storytelling, supporting the development of children's cognitive, social and digital skills. This approach uses multimedia tools to build complex stories involving images, sounds and text narration, allowing children to explore and express their creativity in a personalised way. Digital storytelling is closely linked to media literacy, which is defined as the ability to access, understand and create media content in a critical and informed manner (European Commission, 2022). In a context where society increasingly demands digital skills to interpret and produce content, it is crucial that students learn to navigate, understand and use media in a reflective and responsible manner (European Commission, 2022; Dozza, 2017). The DigComp 2.2 framework, developed by the European Commission, is a guide to help educators, teachers and institutions integrate these skills in schools through five key areas: information management, communication, collaboration, content creation and digital safety. Digital storytelling fits well into these areas, offering students opportunities to construct complex meanings and interact with others in a meaningful way (Robin, 2008). Indeed, echoing the points made above, digital storytelling is capable of:

- Manage information. During the Alba Digital Stories project, children being preschoolers and not yet able to read, are able to select, organise and structure digital content - such as images, sounds and colours - to create a coherent story. The use of a simple storyboard, divided into three main steps, enabled them to define narrative scenes, introducing them to effective media management.
- Creating communication. Children and young people are often faced with creative uncertainty, finding it difficult to express their thoughts; instead, through digital storytelling, barriers are broken down. In fact, good participation and interaction with one's own group occurs even in the most difficult person (Miller, 2010). This narrative process becomes a means of developing social-emotional skills such as empathy and emotional awareness, which are fundamental elements in learning to explore one's own and others' emotions. Digital storytelling allows students to interweave stories with personal experiences, enhancing their understanding of disciplines, content, episodes, fostering fluency in storytelling (Gurrieri, 2018). Furthermore, in order to personalise the story and give it humanity, students can record their own voice, practising speech and improving their speaking skills (Nair, 2021). As will be explained in more detail in the following sections, the use of tools such as ToonTastic (an interactive application for creating animated stories) guides children in constructing plots, helping them understand

narrative structures, explore characters' emotions, and grasp the dynamics of the story. (Russell, 2010; Contreras, 2023).

- Collaboration. Digital storytelling stimulates critical thinking and problem-solving by requiring students to make narrative decisions and solve problems during the creation of the story, skills that will also be valuable in future contexts (Robin, 2008; Indrowati, 2024). Reviewing their own stories and receiving feedback from peers encourages self-assessment and autonomy, and helps children reflect on their progress and improve their skills. In addition, the multimedia nature of the methodology allows traditional learning barriers to be overcome, and gives students access to an alternative communicative channel to express themselves and share their stories, which does not have to be written (Benmayor, 2008; Choo, 2020). This possibility of personalisation makes DST a valuable resource for inclusive education, in line with the goals of educational equity promoted by the European Union.
- Addressing the issue of digital security. In this case, it was not an issue taken into consideration by the project as it is hoped that pre-schoolers will not use online tools without adult supervision. Nevertheless, for primary school children (from grade three onwards), it is important to make them aware of safe online behaviour, such as protecting their own data and respecting the information of others. For example, in story sharing activities, emphasis is placed on privacy and respect for digital property, teaching them to recognise the limits of access to their creations and the rules for responsible behaviour in a digital environment.

3. Alba Digital Stories

The Alba Digital Stories project was born out of the collaboration between the Department of Philosophy and Educational Sciences of the University of Turin, coordinated by Professor Manuela Repetto, and the 'La Casa dei Bambini Elena e Gabriella Miroglio' kindergarten and nursery school. The focus is on children attending the last year of preschool, with a view to fostering the development of narrative skills and media literacy through digital storytelling. The activities consisted of five meetings, each lasting two hours, using the ToonTastic application. The latter facilitates the creation of animated stories, structured in several scenes and divided into narrative phases such as introduction, conflict, climax and resolution. Google's application, still available on Android devices manufactured in 2018, features an intuitive interface, allowing children to easily proceed through the narrative sequence, customising characters and settings.

3.1. Project Goals

The main objectives of the Alba Digital Stories project were:

- To develop creativity and storytelling skills by stimulating children's imagination, encouraging them to invent original stories and experiment with building characters, settings and plots. Thanks to ToonTastic's guided structure, children were able to exercise their creativity in a playful and autonomous way.

- Introducing the basic concepts of media literacy. Through the use of the ToonTastic app, the children were familiarised with digital tools and discovered how to create and organise media content.
- Developing social and collaborative skills: The project involved sharing and discussion activities among the children, who worked both individually and in groups. The sharing of stories and mutual feedback encouraged collaboration, listening and respect for the ideas of others, promoting an inclusive and collaborative learning climate.

3.2. Project structure and methodology

The project was divided into five meetings and revolved around the story of 'Mr. Scarabocchio' by Jim Capobianco and Anna Laura Cantone (2020), which tells the story of a character, Mr. Scarabocchio, who lives in a chaotic and colourful world. Throughout the narrative, the protagonist tries to identify with objects, animals, characters, coming to the realisation that disorder and imperfection can be a source of beauty. Furthermore, emphasis is placed on free creativity and the importance of expressing oneself without fear of making mistakes, showing how art can come to life even through a simple doodle. The reading of the story was carried out together with the school educators, following which the meetings were structured as follows:

1. First meeting. In order to facilitate the writer's acquaintance with the class group, an ice-breaking activity was presented to introduce the guiding character: Pinetta, a small pine cone that serves as the representative icon of the project. Pinetta arose from the need to have an effective interlocutor to engage the specific target group of children. The use of a guiding character is a common choice in educational and popularisation projects, as it facilitates the transmission of complex content in an accessible and engaging way. Often these characters are children or teenagers, such as Talma in the ALMA Kids series¹ – The Adventures of Talma, or fictional figures, such as Paxi², the friendly alien created by ESA for the ESA Kids programme, aimed at children aged 6 to 10. Paxi is not only the star of a series of space-themed animated videos, but has become a real ESA mascot, also present on the International Space Station (Casu, 2023). The presence of a mascot for each project represents an added value capable of further engaging the target audience. Furthermore, through the request received directly from the guiding character, it was possible to sound out the uses and habits of the children with respect to the use of the tablet. Below are some of the phrases expressed by the children:

"I play the pizza and ice cream game" (P.)

"You can buy clothes". (A.)

"You can play, I play the recycling game". (C.)

"I watch videos, mum tells me not to watch them every day on Tik Tok." (F.)

2. Second meeting. In this phase, the children were guided through the discovery process of constructing a story, introducing the main components by using the images in the application

(sunrise, beginning - sunrise, climax - sunset, conclusion) starting with a fantasy pair: a monkey befriending a musician pinecone.

"We have seen the fantastic theme - the inspiration for a story - arise from a single word. In reality, one electric pole is not enough to arouse a spark, it takes two. The single word only acts when it encounters a second one that provokes it, forces it out of the rails of habit, to discover new capacities of meaning [...] In the fantastic pair, words are not taken in their everyday meaning, but freed from the verbal chains of which they are part every day. They are estranged, bewildered, thrown against each other in a sky never seen before. Then the best conditions are found to generate a story." (Rodari, , 2001, pp.17-19).

Next, the ToonTastic application was presented, leaving space for children to play and explore, encouraging the expression of ideas, emotions and personal narratives, and reinforcing the sharing of ideas. This approach reflects Dewey's concept of experiential learning: learning occurs when children are involved in activities that stimulate curiosity, imagination and problem-solving (Waks, 2024).

3. Third meeting. The focus was on how the increasing presence of digital technologies influences children's awareness of creative processes and the results of their productions. Through targeted activities, the meeting encouraged children to reflect on the value of their creations and how they can evolve during the creative process, even in the presence of errors or imperfections. Starting from the idea that

"Imperfection is a fascinating exploration of this worldview, from the fundamentals to the deeper meaning inherent in all its aspects". (Suzuki, 2023).

The central idea was to help children understand that creativity does not necessarily imply perfection, but is an evolving process that can transform what seems 'wrong' into something beautiful and meaningful (Nosari, 2021). During the meeting, the idea was discussed that a digital production, such as a story or a drawing, can be appreciated even when it has imperfections, and that these can become part of the aesthetic and emotional value of the final result. A central moment of the activity was the invitation for each child to share an experience in which an apparent mistake was transformed into a creative opportunity (Zhang, 2023). Some children shared personal examples, such as turning a 'small circle' into a 'coloured ball' or a 'yellow doodle' into a 'sun'. These experiences enabled the children to understand that mistakes can be creatively reinterpreted, fostering a more positive and flexible awareness of the creation process. Finally, the meeting also stimulated the children to consider that technology can make creativity an open and transformative experience. The children's comments - such as 'even if it's not perfect, it's still beautiful, we're not perfect either' - reflect a growing awareness of the possibility of improving and modifying one's own work. This view not only values imperfection as an integral part of creativity, but also encourages acceptance of oneself and one's evolving abilities. In this sense, digital storytelling becomes a context in which the process of personal growth and expression is valued above the perfect end result, fostering an educational environment in which students feel free to explore and adapt their work to their own visions and abilities (Anichini, 2021).

4. Fourth and fifth meetings. Towards the end of the project, the children were divided into small groups by the educators to develop and complete their narrative. In this phase, they identified the scenario, chose and drew the characters, and set up their interaction. An important step in which they had to negotiate meanings, collaborate, generating a shared plot. This process of negotiating meanings helped the children to develop listening and mediation skills, as they discussed ideas and chose the characters, the setting and how to move them in the environment (Figure. 1).



Figure 1. Children choose characters on ToonTastic

Once the storyline was established, the children worked on the creation of their drawings on paper and the subsequent transposition into digital format using ToonTastic. The children saw the transformation of their character from 2D to 3D. As shown in Figure 2, there was a good level of adherence to the scribbles drawn on paper represented in Figure 3 and Figure 4.



Figure 2. Children move the characters chosen and recreated in the application



Figure 3. A character drawn by a child and drawn again in the ToonTastic application. The character is indicated in Figure 2 by the letter A

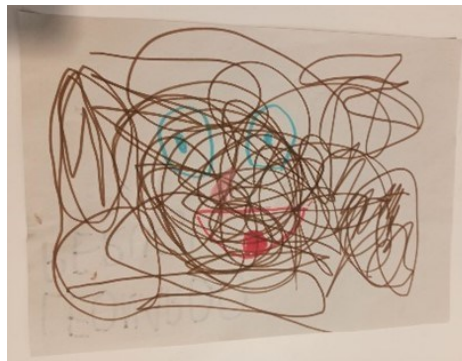


Figure 4. A character drawn by a child and drawn again in the ToonTastic application. The character is indicated in Figure 2 by the letter B

This phase allowed the children to visualise their creations through an interactive, animated medium, enabling them to see how ideas can also come to life in a digital format (Somigli, 2020). The possibility of animating the drawings strengthened their involvement and motivated them to make the character visually consistent with the image they had previously created on paper (Tindaon et al. 2023). Many of them chose to represent their characters directly in the ToonTastic app, which required attention to detail and stimulated digital creativity.

- Afterwards, each child had the opportunity to narrate a part of the story, recording their own voice. This storytelling exercise posed some challenges for the children, as they had to memorise and expose their piece of the story correctly, practising expression skills and narrative coherence (Sam & Hashim, 2022). The recording process was a significant moment for the children, as it confronted them with the need to communicate clearly, while staying within a timeline set by the application. The greatest difficulty was when one child was narrating the story, another member of the group was in charge of the visual part, moving and animating the characters in ToonTastic's digital space. This introduced children to spatial management, teaching them how to position characters and make them move on the screen to represent actions and interactions between characters. Manipulating characters in real time helped to make the narrative process more dynamic and allowed children to directly experience the concept of digital spatiality, which

is fundamental for understanding visual and scenic dynamics (Bottone & Zancato, 2021). This activity also contributed to strengthening their understanding of how visual choices influence the narrative experience, as they were able to observe first-hand how characters' movements and positions contribute to the construction of the scene. It was interesting to observe how even the more introverted children found room to participate by narrating an excerpt of a scene.

4. Double interviews: children and educators

At the conclusion of the meetings, short interviews were conducted with the children and their educators. From the children's answers, a diversity of perceptions emerged regarding the ease of digital versus traditional drawing. Out of 15 children interviewed, five found it difficult to draw on the tablet, while 10 reported that using the device was relatively easy, although only three had previous experience of digital drawing in the family environment. When questioned on the decoration between digital and paper drawing, 10 children preferred digital drawing, indicating it as 'more beautiful', while the remaining 5 preferred drawing on paper. This comparison between digital and traditional allows us to reflect on how children perceive the aesthetic quality and attractiveness of the digital medium compared to the physical one, suggesting a fascination for digital that could be further exploited in educational projects. In line with what the children expressed, the kindergarten teachers and headmistress were asked for their opinion on the enthusiasm they showed in graphically representing their doodles, first on paper and then via the tablet:

"I think that by participating in the various meetings, the children were enthusiastic about the fact that they were able, from their drawing, to redraw it on the tablet. In fact, at the beginning the children looked for the characters already pre-drawn by the ToonTastic application, but during the meetings, someone asked them to draw it because seeing their finger sliding on the screen and making the mark (and it is the same drawing that they drew on the paper), increased their expectations. In fact, from the first lessons everyone wanted to try out the characters that were already there, from the second lesson, after constructing their story, some then asked to draw their own 'doodle' because it was something that also brought their potential into play." (Tiziana Paola Borsa, director of 'La Casa dei Bambini Elena e Gabriella Miroglio').

'The tablet used in this way, on the other hand, is very constructive because they learn to interact, they do their story, they see but interact with that story. At least I think it's completely different. So now they will be proud, when they see it in total [the digital story], that they have chosen and created the characters, chosen their scenery, heard their voice. It's like they've created a film, starting from a story they built together.' (Carla Accossato, educator)

The educators noted that the digital format allows for the addition of nuances and details that children tend to overlook in traditional drawing, showing a more exploratory approach to the aesthetic possibilities offered by the tablet. However, the idea of drawing is still driven by factors such as the delivery and context of the story, making the content personal and connected to the themes.

"The underlying message is also extremely important to them. This is something we work on a lot in class, namely that from the mistake either something else can be corrected or something else can be born. This is something we as a class group work on a lot. So, in my opinion, even going a little bit to review what has been, right? I imagine that they all started again from the doodle, then they recreated it [digitally] and it's a nice re-living, in another format, of what the process was that they actually already had in hand. I can tell you in class that they were enthusiastic about this project. (Marta Pagnotta, educator).

The educators also discussed the influence of the tablet on the children's expectations of creative possibilities. According to them, the use of the tablet in activities such as digital storytelling, which involves interaction and narrative construction, is seen by the children as a tool that expands their ability to tell and share stories. One of the aspects most appreciated by the educators is precisely the possibility of a constructive use of the tablet, which allows the children not to limit themselves to being a passive user, but to become little directors of the story.

5. Conclusion

One of the main outcomes of the project was to improve the children's media literacy. Through digital storytelling, participants became more aware of how to use media and understand how digital content can be created, transformed and shared. The process of animating and recording stories made the experience highly engaging and encouraged participants to explore new ways of communicating. The combination of images, sound and storytelling allowed children to explore spatiality and the use of visual resources to effectively communicate emotions and meanings, stimulating critical thinking and problem solving skills (Dozza, 2017; Robin, 2008). Indeed, the theme of spatiality is explored in depth in this age group and is consolidated by the workshops already proposed in the curriculum. An example is the sewing workshop "The thread creates the fabric, the fabric creates the dress", during which the children play with wool threads to create wefts according to the horizontal and vertical arrangement of the threads, passing the thread over and under the fabric. Similarly, in the Digital Storytelling workshop, they consolidated this aspect by making the three-dimensional characters move, for example, in and out of the hut, over and under the ladder, and in unseen spaces. In addition, although some children found it difficult at first to respect each other's turns and ideas, and to be patient while waiting for everyone to interact with the tablet, digital storytelling also proved to be an effective tool for developing empathy and understanding of different points of view. Indeed, the children were able to identify with the characters and stories created by and with their peers, learning to negotiate meanings, share ideas and work together to achieve common goals. At each meeting, there was an awareness in each group that a richer story could emerge from the idea of one. This approach encouraged the development of social skills, such as active listening, and facilitated the inclusion of even the shyest children, who are often less inclined to participate in group activities. This collaborative dimension not only improved group dynamics but also boosted participants' self-esteem, encouraging them to express themselves freely and value their contribution. Stories are thus a powerful educational tool: through them, children can better understand themselves and the world around them, learn social skills and develop cultural understanding in a playful and stimulating environment (White, Gaffney et al. 2024). These aspects are consistent with socio-cultural perspectives on learning, according to which children create personal meanings through their interactions with others (Bruner, 1986; Wells, 1986). Personal stories are not only narratives of experience, but also opportunities to explore identities and relationships. Children told stories that reflected their interests, feelings and experiences, demonstrating how narrative can be a

powerful tool for self-expression, exploring their own culture and that of others (Ministry of Education, 2017, p.5).

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¹ <https://www.almaobservatory.org/en/publications/the-adventures-of-talma/>

² https://www.esa.int/kids/it/chi_e_Paxi/Paxi