



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

ARCHIVIO ISTITUZIONALE  
DELLA RICERCA

Alma Mater Studiorum Università di Bologna  
Archivio istituzionale della ricerca

Image Education and Visual Digital Storytelling

This is the final peer-reviewed author's accepted manuscript (postprint) of the following publication:

*Published Version:*

Macauda, A., Russo, V. (2023). Image Education and Visual Digital Storytelling. Cham : Springer  
[10.1007/978-3-031-25906-7\_124].

*Availability:*

This version is available at: <https://hdl.handle.net/11585/926438> since: 2023-05-23

*Published:*

DOI: [http://doi.org/10.1007/978-3-031-25906-7\\_124](http://doi.org/10.1007/978-3-031-25906-7_124)

*Terms of use:*

Some rights reserved. The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

This item was downloaded from IRIS Università di Bologna (<https://cris.unibo.it/>).  
When citing, please refer to the published version.

(Article begins on next page)

# Image Education and Visual Digital Storytelling

Anita Macauda and Veronica Russo

Department of Education Sciences “G.M Bertin”, University of Bologna, Via Filippo Re 6, 40126  
Bologna, Italy  
(anita.macauda,veronica.russo6)@unibo.it

**Abstract.** The contribution presents the results of an experiment conducted in the context of the iconography and iconology workshops of the Single cycle degree programme (LMCU) in Primary Teacher Education, University of Bologna, with a dual objective: 1) to relate the different levels of image reading and the activation of specific cognitive dimensions in technological environments, with particular reference to the design and production of visual digital storytelling; 2) to collect the perceptions of future trainee teacher students.

**Keywords:** Images Based Education · Digital storytelling · Visual teaching and learning · Kindergarten and primary school

## 1 Images and Visual Arts in the Teaching and Learning

### 1.1 *Visual Education*

In recent years, developments in the digital world have nurtured a wide debate on the ontological status of the image and its communicative meaning [1, 2], its anthropo- logical [3], neuro-scientific value [4], as well as educational [5, 6]. Recognizing how the world today is not only narratively and discursively but also visually constructed and represented, the sector studies focus both on how people perceive and construct the world through images and on how the visually constructed world influences their ways in which people approach knowledge. In particular, it is highlighted [7, 8] how the use of images has to do with specific processes of signification. Gardner [9] recognizes visual intelligence as a cognitive ability linked to imagination and the ability to “think in images,” that is, to mentally represent concepts before verbalizing them, allowing one to have an immediate experience of the world [10] and as such to have a significant impact on learning processes [11].

In this sense, the images that Damiano [12] calls “iconic mediators,” if considered in the direction of meaningful learning, can take on the character of scaffolds in support of the construction and restructuring of knowledge. Thus, a close relationship is also established between image education and the individual’s cognitive growth. Specifically, the vision of an image allows you to activate creative exploratory, categorization, memo- rization, forecasting, understanding, emotion and empathy processes [13]. Reading an image is constituted above all as a sensitive experience that activates visual pleasure in the subject, a springboard for fantasy and imagination. In this regard, Clark and Lyons[14] identify some functions of images regarding attention, activation of knowledge, minimization of cognitive load, support for motivation and, in particular, images can exercise a mediating function, anticipation and modeling with respect to knowledge [15].

These functions assume that the image can be encoded, decoded, constructed and then deconstructed, analyzed or, in other words, read as text. Therefore, an education of the gaze and visual perception allows us to grasp the constituent elements of an image according to its possible levels of reading and meaning. In fact, addicted to the considerable number of images, one looks at them too quickly to the point that “we must teach the times of seeing” and at the same time we must also teach the “grammar of seeing”.

The visual language is in fact made up of formal and chromatic elements, which variously arranged on a surface determine oppositions and transformations of values, helping to construct and convey

different semantic contents [8]. Specifically, Greimas [7] argues that the analysis of the image presupposes the recognition of two types of language: a) figurative or iconic, based on the reading of the figures that have a relationship of likelihood or abstraction with objects in the real world; b) a model based on the reading of the topological, eidetic and chromatic organization of the image, capable of taking on new meanings.

Reading an image therefore means acquiring skills that allow you to grasp its specific representative instance both on the denotative level (what is depicted) and on the connotative level (the meanings conveyed). However, Cardarello [16] emphasizes how studies on image reading in the early stages of life have revealed evolutionary lines. “The image implies and activates the processing processes to be understood (...); small children who even have an early relationship with the image, do not operate the processing process” with the same automatism as adults.

This specific competence is indeed developed according to successive steps: a) observation and recognition of images, spaces,...; b) visual memory and recollection of experiences; c) organization of visual information; c) detection of analogies. Specifically, Cardarello [16] identifies some methodological principles to support the understanding of the image that refer to the following actions: 1. Slow down the exploration and ensure adequate time for viewing; 2. Verbalize everything you see; 3. Use the technique of verbal mirroring, in its various articulations; 4. Compare what it looks like and what it could be.

### *1.2 Image Education in Kindergarten and Primary School*

From early childhood, children learn to understand visual information much earlier than textual information. The ability to make sense of images develops in fact “as early as fifteen months of age, humans learn to connect images to the objects they symbolize” [17: 14] as well as the ability to “create and co-communicate through imagery” [17] emerges around the age of three when the child begins to use images to communicate with the world. It is in the preoperative phase of development that the child mentally represents objects and begins to classify them, begins to use symbols such as words and mental images to understand the world, becomes a producer of visual images and understands the graphic forms that can be used to communicate. In the course of growth, the child progressively develops increasingly differentiated symbols and, through the visual, re-elaborates the information and begins to express critical judgments on what is presented.

Understanding the visual elements that make up an image and represent its meaning therefore become increasingly complex. It follows that learning to skilfully handle images is not a natural process in itself but can be developed through the input of competent adults who know how to increase visual literacy skills in children. It is thus necessary to provide children with tools to be able to visualize, read, understand images and interpret their content, examine their social impact and discuss their purposes. In this regard, studies in the didactic field highlight how the targeted use of visual material plays a key role in fostering the understanding and development of creativity, arousing emotions [18], encouraging involvement [19] and to support memorization processes [20].

Visual literacy increases cognitive, verbal, social and personal skills, develops the ability to observe and analyze syntax to pay attention to nuances, supports processes of evaluation, interpretation and production of images, develops critical thinking, updates contents of daily life and helps to express opinions inspired by visual cues [21]. Visual learning thus fosters that process of discovery and investigation that encourages and promotes the capacity for divergent and convergent thinking and the solution of problems. These evidences express the necessary recognition of the importance of visual literacy on the part of teachers and, more generally, of an educational system that outlines objectives that go beyond basic literacy processes. In this sense, schools have a fundamental role in supporting an integrated approach with the disciplines aimed at creating conceptual connections and experimenting with different languages. However, the educational potential of images has not yet been fully explored. From early childhood, little attention and value is paid to the creation of images that children make to bring out what they think and feel [22]. Visual expression risks being ignored and children, encouraged to create images, decline after the first years of entering school.

Furthermore, if it is true that textbooks use many more visual images than in the past [23], it is found that these are often found only in support of the written text, as well as the use of images created by children at school [5].

In fact, the practices of creating and evaluating images demonstrate, from early childhood, the importance of the interaction between illustration and written text in the creation of meaning. Children, in fact, increasingly surrounded by multimodal texts

[24] develop an emerging competence in the decoding of visual representations with a particular reference to the ability to read relatively complex images and to interpret graphic symbols to deduce relationships between entities and different forms. Often, in fact, children's first writings are characterized by the creation of images that support their narrations; in illustrated books, for example, children enjoy making fun of the relationships between images and words [25].

In Italy, the national guidelines for the curriculum of childhood and the first cycle of education show that children from the first years of entering school can acquire the basic elements of the language of images [26].

For kindergarten, the exploration of materials with the senses, the tried-and-tested techniques and the use of different languages allow children to experience their first observation experiences. Through images, children can make concrete connections with what they experience daily, for example identifying the colors of day and night, observing and describing the seasons, describing a character in a painting, discovering the characteristics of their face by posing the look on other faces etc. Observing images to verbally narrate them increases the depth of their understanding, which is developing, enriches the vocabulary of words and encourages them to bring out thoughts and emotions and then reproduce them on the paper with drawing or writing. Simple sentences. Familiarity with images thus enhances the child's creative, aesthetic, imaginative and expressive abilities and promotes further learning.

In primary school, the child progressively develops awareness in looking and observing images: he describes "the formal elements, using the rules of visual perception and orientation in space [...] [and recognizes] them in an iconic-visual text. Grammatical and technical elements [...] (lines, colors, shapes, volume, space) identifying their expressive meaning" [26: 74]. Primary school children can be guided in observing the details, style, arrangement of elements within a visual field for the development of a growing awareness of how the image can provide all the details necessary for a good storytelling. Students can open up to a more metaphorical way of describing, for example by composing poems that link color to a particular character or scene [27]. In this sense, students can develop their creative abilities through the re-elaboration of visual signs [26].

## **2 Technologies and Image Education**

### *2.1 Technologies for Visual Learning*

In this framework, the distinction between visuality and vision appears: visuality as an approach, form and production of knowledge; the vision understood in reference to the perception enhanced by technologies [28]. Where Latour [29] talks about visuality, McLuhan [30] is more interested in vision and how technologies prioritize knowledge of the eye over that provided by the other senses. Kittler reverses this idea of "media as an extension of man" into "man as an extension of the media", thus underlining how the human imagination itself is defined and structured by technologies.

In this regard, research on visual arts education highlights the introduction of new technological environments that go hand in hand with the need to make children and young people more "media literate" and to develop a critical and reflective attitude [31, 32] and to offer new ways of expression and participation. In this sense, image education is placed within the mainstream of media literacy [33]. However, Rossi stresses that it is not "the number of media present that has a positive or negative impact on learning, but the logic used in connecting the various media (the graphic organization of the single media, the choice of media products in function of the communicative purposes and the competence of the readers, the topologically adopted choices to spatially organize the various media) and the attention to the mediation process" [34: 16–17].

In this regard, Forsler [35] underlines how visual arts education models itself in relation to the different technologies used for the creation of images. In fact, there is a bidirectional relationship in which, on the one hand, the technologies used condition teaching practices but at the same time the technologies depend on the work of teachers/educators who reconfigure them to adapt them to different contexts. Hence, if it is true that the visual is explained by the visual, digital has further expanded the possibilities of clarifying the visual language with the visual language and at the same time has introduced a new type of technological mediators, defined from Rossi [34] synthetic mediators, “whose characterizing elements are the co-presence of various media and the interaction between the different languages in the single artefact [...] or the aggregation, the interaction of different functions within the ‘artifact thanks to the numerical’” (p. 17). The transversality of these mediators “has to do in particular with their multi-media [...], with the digital convergence that makes it possible to integrate multiple languages (graphic-verbal, iconic, etc.) into a single platform thanks to the coding of these same languages” [34].

Specifically, new digital technologies have transformed the statute of observation of images, offering new cognitive possibilities. High-definition images considerably broaden the observation potential and even allow one to “navigate” within them or “move” on their surface. This determines a sort of adaptation to different technologies which makes it necessary to educate the gaze and visual perception; at the same time, visual technologies can educate the gaze to observe images, transforming it from dis- tracted to attentive, offering the opportunity to explore, learn, deepen, as well as fire the imagination, giving rise to new readings.

## **2.2 Visual Digital Storytelling**

Digital storytelling is defined as a deep reflective learning device [36] which, through multimedia tools and resources - digital text, images, video and audio - allows to tell stories and share information [37]. It is also described as a creative process, an intel- lectual scaffolding technique [22] which, in the educational setting, engages students by producing effective learning outcomes [38]. Digital storytelling increases important skills: asking questions, expressing opinions, working collaboratively, producing new meanings to present one’s ideas to the world. Both as a teaching method and as a learning resource, storytelling has been applied at all levels of education and widely encouraged since early childhood [39]. However, this digital device is still rarely used in early child- hood education [40] despite the fact that it is recognized as having important benefits [41] and a real feasibility given by the fact that already in preschool age children are able to develop digital stories with the support of teachers [42].

Digital storytelling is a powerful way to support visual culture education. In this regard, visual storytelling can be considered as a visual experience, process or act of telling a story [43] which on the digital has the purpose of transmitting messages using images. Despite the tendency found in education to separate visual and linguistic methods of narration [22], it is through the images and meanings they convey that it is possible to create stories to tell. The connection between the story and the visual representation strengthens the understanding of the reading of images, reveals information, helps in the process of receiving information, allows learning to identify and use keywords, brings out unusual ideas and concepts.

Technology as a visual aid [44] and the teacher as mediator become facilitators of the educational process allowing children to start from the observation and search for digital images that recall a particular story, a character, an object and more draw an original image, use photographs, take photo shoots to create their own images. The stories are not only used to attract children’s attention, at the beginning or at the end of a class activity when the main task has been completed [45] but become the result of a journey in which verbal information accompanies visual communication and where the use of verbal language may be used less because the message is delivered through the visual. The combined use of images as visual texts and the alternation of storytelling and game-based activities increase the quality of learning, the acquisition of skills and the development of literacy including digital skills [46, 47].

### 3 Experimentation

#### 3.1 *Presentation and the Research Question*

The experimentation involved 140 students who attended 4 workshops linked to the teaching of Iconology and Iconography of the CLMCU in Primary Education Sciences of the University of Bologna. Each workshop, attended by 30 students, included two meetings for a total of 8 h. The workshops were organized in a mixed presence-distance mode during the period of health emergency from Covid-19. The workshops had as their main theme the use of art and visual languages in kindergarten and primary school with particular reference to the use of digital as an environment / tool to bring boys and girls closer to the richness of the visual heritage.

The aim of the experimentation was both to relate the levels of image reading with the cognitive processes activated through the design and production of visual digital storytelling and to collect the perceptions of students as future teachers in training.

For this purpose, a mixed research method was used which provided for a qualitative analysis through comparison tables of the artifacts produced that take into account the reading levels of the image and the cognitive dimensions, as well as the administration to students, on voluntary basis, of an anonymous final evaluation questionnaire with closed and open questions.

#### 3.2 *Phases*

The laboratory activity involved 4 main stages of development:

Phase 1: Reading of a large group image based on the exercise of looking only in the absence of technological or textual in-depth equipment.

Phase 2: Reading of the image carried out individually through their own devices in digital environments supported by zoom technology systems.

Phase 3. Presentation of the expressive-creative possibilities offered by digital to propose art to children in an original way.

Phase 4: Visual reading paths in small groups in which students were encouraged to work on an image by using a reading card. The groups were distinguished between face-to-face groups who worked in the classroom and remote groups who worked on the Teams platform in parallel rooms.

Phase 5: Designing paths of visual digital storytelling artifacts created by students in small groups starting from an expressive-creative reading of the image.

#### 3.3 *Analysis of the Digital Artefacts*

The analysis of digital artefacts, carried out considering the levels of reading and processing, as well as the cognitive dimensions updated in the production/creation processes of storytelling, led to the identification of three main types:

- digital storytelling that favours an informative reading of the image (monocognitive level) with an explicit reference to the figurative level: What does the image represent? Which and how many characters are there? What actions are they engaged in? What are the most significant elements?
- digital storytelling focused on an in-depth reading and historical-cultural contextualization (metacognitive level) based on the comparison of the image with other images of the same author or of a similar theme;
- digital storytelling that enhances a creative reading (fantacognitive level) constructed either through the resumption of the most figuratively representative elements translated into another real or fantastic context or through the identification of semi-symbolic correlations that they connect figurative categories to categories of content, updating specific topics regarding the emotional sphere, care for the environment, etc.

#### 3.4 *Analysis of the Results: Questionnaire*

At the end of the workshop, students were given a semi-structured evaluation questionnaire with 4 closed-ended questions with the attribution of a score from 1 (certainly no) to 6 (certainly yes) and 2 open-ended questions. The questionnaire was aimed at evaluating the opinions of students with respect to the satisfaction of the path and the impact on the learning and training of future teachers of kindergarten and primary school. Seventy-six questionnaires were collected.

With reference to the results that emerged, the students indicated in the first question that they considered the topics proposed in the laboratory to be interesting (47.4% value 6 and 43.4% value 5), highlighting specifically that they particularly appreciated “the theme of digital art”, “the multimedia dimension of the laboratory, which allows us to deal with the educational and artistic potential offered by the technological channel”, “the solicitations relating to the connections between virtual space and physical space with various activities that can be proposed starting from digital ideas,” the possibility of “integrating the digital world, in a coherent way, with traditional educational methods”. In the second question, the students indicated that they considered the laboratory useful for learning purposes (40.8% value 6; 36.8% value 5). Specifically, they indicated that the laboratory allowed them “to get involved and stimulate creativity”, “create a concrete project starting from a visual experience such as the observation of a painting”

and “prompted them to observe, which by now has been lost over time”.

In the third question, the students considered the laboratory for developing the professional skills of the kindergarten and / or primary school teacher useful (60.5% value 6). Specifically, the students identified visual digital storytelling as a “very interesting tool for designing stimulating teaching material” to “learn alternative methods in order to educate to art”. The students specified that the experimented activity represents “a new way to approach children at school” and would allow “direct experimentation of some stimulating activities to be offered to children when teaching”.

In the fourth question it emerged that the laboratory’s activities allowed them to experience professional autonomy (55.3%, value 6 and 22.4% value 5 and 4) and to “develop an educational path based on art in different fields and with different methods and tools”. Among the significant aspects that emerged in the open questions, the possibility of “discovering digital resources that can be used as activities to be carried out with children”, “being able to give an educational value to the use of digital at school” and “thinking about creative activities that I will be able to present in the future,” to learn about “useful and stimulating applications to create digital contents to be used to support teaching”. The improvement proposals indicated by the students (27.3%) also refer to the possibility of deepening the issues addressed and of acquiring more knowledge on the technological resources to be used.

To conclude, 87.1% of students were satisfied overall with the workshop path; the students agreed that the use of visual digital storytelling at school can represent a significant tool to be used in their future educational practice.

## References

1. Pinotti, A., Somaini, A.: *Cultura visuale: immagini, sguardi, media, dispositivi*. Einaudi, Torino (2016)
2. Mitchell, W.J.T.: *Scienza delle immagini. Iconologia, cultura visuale ed estetica dei media*. Johan & Levi, Monza (2018)
3. Belting, H.: *An Anthropology of Images*. Princeton University Press, Princeton (2011)
4. Zeki, S.: *Con gli occhi del cervello. Immagini, luci, colori*. Di Renzo, Roma (2011)
5. Landriscina, F.: *Didattica delle immagini: dall’informazione ai modelli mentali*. *Form@re*. 12(80), 27–34 (2012)
6. Farné, R.: *Pedagogia visuale. Un’introduzione*. Raffaello Cortina, Milano (2021)
7. Greimas, A.J.: *Sémiotique figurative et sémiotique plastique*. *Actes Sémiotiques*, vol. VI, p. 60 (1984)
8. Dondero, M.G.: *The Language of Images*. Springer, Cham (2020). <https://doi.org/10.1007/978-3-030-52620-7>

9. Gardner H.: *Formae mentis. Saggio sulla pluralità della intelligenza*. Feltrinelli, Milano (2002)
10. Cicalò, E.: *Intelligenza grafica*. Aracne, Rome (2016)
11. Panciroli, C., Corazza, L., Macaуда, A.: Visual-graphic learning. In: Cicalò, E. (ed.) *IMG 2019. AISC*, vol. 1140, pp. 49–62. Springer, Cham (2020). [https://doi.org/10.1007/978-3-030-41018-6\\_6](https://doi.org/10.1007/978-3-030-41018-6_6)
12. Damiano, E.: *La mediazione didattica*. FrancoAngeli, Milano (2013)
13. Kasmaienezhadfar, S., Pourrajab, M., Rabbani, M.: Effects of pictures in textbooks on students' creativity. *MultiDisciplinary Edu Global Quest* 4(2), 83–96 (2015)
14. Clark, R.C., Lyons, C.: *Graphics for Learning: Proven Guidelines for Planning, Designing, and Evaluating Visuals in Training Materials*. Pfeiffer Wiley, San Francisco (2010)
15. Rivoltella, P.C.: *La previsione*. La Scuola, Brescia (2014)
16. Cardarello, R., Contini, A. (ed.): *Parole, immagini metafore*. Junior, Azzano San Paolo (2012)
17. Riddle, J.: *Engaging the Eye Generation: Visual Literacy Strategies for the K-5 Classroom*. Stenhouse Publishers, Portsmouth (2009)
18. Joffe, H.: The power of visual material: persuasion, emotion and identification. *Diogenes* 55(1), 84–93 (2008)
19. Callow, J.: The rules of visual engagement: images as tools for learning. *Screen Educ.* 65, 72–79 (2012)
20. Brandimonte, M.A., Hitch, G.J., Bishop, D.V.: Influence of short-term memory codes on visual image processing. *J. Exp. Psychol. Learn. Mem. Cogn.* 18(1), 157 (1992)
21. Curtiss, D.: *Introduction to Visual Literacy: A Guide to the Visual Arts and Communication*. Prentice Hall, Englewood Cliffs (1987)
22. Latham, G., Ewing, R.: Children's images of imagination: the language of drawings. *Aust. J. Lang. Lit.* 41(2), 71–81 (2018)
23. Kress, G., Van Leeuwen, T.: *Reading Images: The Grammar of Visual Design*. Routledge, New York (2020)
24. Jewitt, C.: Multimodality, “reading” and “writing” for the 21st century. *Discourse: Stud. Cult. Polit. Educ.* 26(3), 315–331 (2005)
25. Anstey, M., Bull, G.: *Reading the Visual: Written and Illustrated Children's Literature*, Harcourt, Australia (2000)
26. Cerini, G.: *Indicazioni nazionali per il curriculum della scuola dell'infanzia e del primo ciclo d'istruzione* (2012)
27. O'Neil, K.E.: Reading pictures: developing visual literacy for greater comprehension. *Read. Teach.* 65(3), 214–223 (2011)
28. Macaуда, A.: Visual learning and education for augmented reality environments. *IMG J.* 2(2), 180–199 (2020)
29. Latour, B.: Visualisation and cognition: thinking with eyes and hands. *Knowledge and society. Stud. Sociol. Cult. Past Present* 6(6), 1–40 (1986)
30. McLuhan, M.: *The Gutenberg Galaxy: The Making of Typographic Man*. University of Toronto Press, Toronto (1967)
31. Chung, S.K., Kirby, M.S.: Media literacy art education. *Art Educ.* 62(1), 34–39 (2009)
32. Kárpáti, A., Gaul, E. (eds.): *From Child Art to Visual Language of Youth. New Models and Tools for Assessment of Learning and Creation in Art Education*. Intellect, Bristol (2013)
33. Wilson, C., Grizzle, A., Tuazon, R., Akyempong, K., Cheung, C.K.: *Media and Information Literacy Curriculum for Teachers*. UNESCO Publishing, Paris (2013)
34. Rossi, P.G.: Gli artefatti digitali e i processi di mediazione didattica. *Pedagogia Oggi* 2, 11–26 (2016)
35. Forsler, I.: *Enabling Media*. Södertörn University, Stockholm (2020)
36. Sadik, A.: Digital storytelling: a meaningful technology-integrated approach for engaged student learning. *Educ. Tech. Res. Dev.* 56(4), 487–506 (2008)
37. Chung, S.K.: Art education technology: digital storytelling. *Art Edu.* 60(2), 17–22 (2007)

38. Dupain, M., Maguire, L.L.: Health digital storytelling projects. *Am. J. Health Educ.* 38(1), 41–43 (2007)
39. Cremin, T., Flewitt, R., Swann, J., Faulkner, D., Kucirkova, N.: Storytelling and story-acting: co-construction in action. *J. Early Childhood Res.* 16(1), 3–17 (2018)
40. Rahiem, M.D.H.: Storytelling in early childhood education: time to go digital. *Int. J. Child Care Educ. Policy* 15(1), 1–20 (2021). <https://doi.org/10.1186/s40723-021-00081-x>
41. Phillips, L.: Storytelling: the seeds of children’s creativity. *Australas. J. Early Child.* 25(3), 1–5 (2000)
42. O’Byrne, W.I., Houser, K., Stone, R., White, M.: Digital storytelling in early childhood. *Front. Psychol.* 9, 1800 (2018)
43. McClean, S.T.: *Digital Storytelling: The Narrative Power of Visual Effects in Film*. MIT Press, Cambridge (2007)
44. Farmer, L.: Using technology for storytelling: tools for children. *New Rev. Child. Lit. Librarianship* 10(2), 155–168 (2004)
45. Roslan, R.: The use of stories and storytelling in primary science teaching and learning. *Stud. Educ.* 12(1), 79–89 (2008)
46. Maureen, I.Y., van der Meij, H., de Jong, T.: Enhancing storytelling activities to support early (digital) literacy development in early childhood education. *Int. J. Early Childhood* 52(1), 55–76 (2020)
47. Lisenbee, P.S., Ford, C.M.: Engaging students in traditional and digital storytelling to make connections between pedagogy and children’s experiences. *Early Childhood Educ. J.* 46(1), 129–139 (2018)