

A Case study of Young Children's Use of iPad for Digital Storytelling for a Study of Self

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Abstract: Young children gain an understanding of self via play. Visual representations of self via art in early childhood are often associated with children's drawing or painting; the current study reports on digital story telling, rarely used by children. Reasons vary, including the lack of user-friendly technologies and difficult analysis of young children's self-learning process and results. This study was innovative by involving a case study of a 7-year-old child's play with iPad and whether and how this child could reflect on self and present results by using visual artistic presentation other than traditional painting or drawings. This 4 week study found that the participating child could use apps, such as iPad app camera, to produce a digital story presenting her study of self. Although this study has its limitations, it does provide a new area for early childhood educators to explore and study further.

Keywords: early childhood education, visual artistic presentation, digital story telling, digital technology

1. Introduction

An important component of holistic development for young children is the development of an understanding of self (Berk, 2013). By developing an understanding of self, it allows children to understand how they fit within the world and how they can make sense of new information (Berk, 2013). One way in which children make sense of self is through artistic representations (Dockett & Perry, 2009). Traditionally, drawings are one of the most primitive forms of children expression and communication (Mitchell & Ziegler, 2007). Kress (1997) and Steel (1999) agree that drawings are regarded as effective means for children to explore their understandings, and the process of drawings and the accompanying narrative are integral parts of the meaning-making process (Cox, 2005; Einarsdottir, Dockett & Perry, 2009; Wright, 2007). Stanczak (2007) states that the meaning of the images represents most importantly in the way that children interpret those images. Cox (2005) further states that drawing is a constructive way of thinking-in-action. However, children have to be asked to explain their drawings to avoid adult interpretation; and young children's views and experiences can be assessed by paying attention to their narratives and interpretations as they draw as well (Clark, 2005; Dockett & Perry, 2005; Punch, 2002; Veale, 2005). Therefore, it is not surprise that although drawings have been used as a method to interpret and report on children's understanding of self, it is never 'truly' representative of children's sense of self, as all the drawings have to be interpreted by adults.

With the advent of technological innovations such gestural interface devices, it is impacting the way children can represent visual arts. Visual arts are considered particularly important to children's understanding of self, because they can represent a mirror to facilitate self-reflection, and force critical, highly meaningful and pleasurable consideration of the social and cultural dimensions of personal experience (Glass, 2011; Weber & Mitchell, 2004). Visual artistic expressions that have been used to interpret and report on self-study include (a) performance, (b) photography, (c) video documentary, and (d) multimedia representations. Although all these expressions considered as important methods in self-study, it has rarely been used effectively by young children learning. The reasons behind could include the above involved technologies are too difficult for young children to use, and it was not easy to represent children's sense of self, particularly in early childhood settings.

The emergence of gesturally based tablet computers is changing the landscape for the integration of young children and technology. By offering a child-friendly touch screen-technology

learning environment, children's play with tablets has become a topic that is of considerable interest for early childhood education audiences. Segal (2011), for instance, suggests that new technologies allow for new opportunities to include touch and physical movement, which can benefit learning in contrast to less direct methods such as somewhat passive interactions of a mouse and keyboard. Research by Chan and Black (2006) found that immediate sensorimotor feedback received through direct manipulation of animation through the hands allowed for increased learning as compared to passive animation conditions. Interactive gestures allow for this form of learning hence a greater likelihood of meaningful learning experiences (Saffer, 2009). Moreover, children observe adults such as their teachers and parents using digital technologies throughout their daily life (Donahoo, 2014). Children receive various kinds of information such as images, audio and textual information from digital technologies (Edwards, 2013). Therefore, the contexts in which children view and use digital technologies reflect on how they constructing knowledge about their world (DEEWR, 2009). Thereby children now have access to and are utilising emergent technologies, such as Apple's iPad, as a means of recording and understanding their environments as a way to comprehend their worlds and consequently themselves.

One of the ways young children can use digital technology and gain an understanding of self is via digital storytelling. Mantei and Kervin (2010) describe digital storytelling 'as an art form' with Karagiannidou (2017, p.27) describing that digital storytelling allows learners to incorporate text, images, photographs, audio and video files, as well as other artefacts, music and narration'. Children are utilising a number of different visual artistic forms in order to reflect a sense of the environments in which the live, learn and grow. Furthermore 'the affordances of digital technologies can make this form of expression and learning more interactive, immersive and even personal, one that can be created and, most importantly, shared outside a particular classroom or setting' (Karagiannidou, 2017, p.27). Children develop a sense of personalization with their electronic devices which allows them to investigate their personal experiences via the use of touch screen video recording devices. Children are then able to record and present a representation of themselves that is told by them and requires no interpretation by adults. To date there is very limited research that highlights children's independent use of emergent digital technology to act as storytelling device to make sense of self. The current study investigates a young child's play with her tablet device in order to make sense of the important features of her home life.

2. Case Study

This study used a case study to demonstrate and provide useful references and reflective comments, because it was important to go into details describing children's self-study via use of visual artistic presentation thoroughly, rather than researching or surveying into different opinions of whether or not this technology can be used, this paper accordingly includes a video documentary produced by the participant (7 year old girl), as a better idea which would be of high interests to readers. Case studies 'focus on only one individual or one thing...which enables a very close examination and scrutiny' (Salkind, 2009, p. 213). By turning to the discussion of this digital story, we cannot only provide some theoretical background about visual-informed research, but also the context of their application to children's understanding of self.

Case studies allow for an in-depth analysis of a participant in a naturalistic setting allowing for a detailed reflection of occurring phenomena (Kervin, Vialle, Herrington & Okely, 2006). Case studies are most effective and rigorous when 'utilising multiple data collection sources' (Kervin, Vialle, Herrington & Okely, 2006, p. 70). Within this study naturalistic observations, interview and artefacts were examined to evaluate the participants engagement and motivations during the research process.

The participant of this study was a 7-year-old girl. She was normally developed, including cognitively, and socially. She was attending a local public school and receives mainstream education in classrooms. She had been using iPad since 3 years old, firstly at home and then at school. By the age of 5 she had access to her own iPad at home, with apps purchased and monitored by her parents and has been using and playing age appropriately developed learning apps, such as art, numeracy, literacy and science apps developed for early childhood age children (birth-8) or junior primary age children (5-9 years).

The participating child was provided an iPad herself to use and play for a period of 4 weeks with full access to the app "camera" on the iPad (which she had used previously) as well as a range of art

and story making Apps such as *Drawing Pad* and *Toca Life: School*. The apps downloaded on the iPad were all educational apps listed as recommended apps in Apple store. The prices were ranging from free (\$0) to \$5.99. She did not have access to account to purchase any new apps or produce any in-app purchase. The participating child was given the following instruction: *can you make a story about yourself using the iPad?* At the end of each week she was asked the questions: *have you made a story about yourself yet?* The participating child had the free access to the iPad during the 4 week period. She also had access to adult support, such as parents or teachers, in understanding the use of gestural interfaces of iPad.

3. Findings

This section presents the findings from the naturalistic observations, weekly questions, artefact analysis and post artefact interview. The observations were divided into weekly periods. The interview was conducted at the end of Week 4. The study was considered completed when participant developed a visual artistic presentation of self via use of the iPad.

3.1 Observations and Interview from Week 1

The participating child was very interested in all the apps provided for her and undertook free play with the apps, occasionally seeking help from adult support in regards to technical elements of gameplay, such as altering brush colours in the arts based app. The child would generally use the iPad for durations of 20-30 minute blocks with sustained attention given to gameplay.

This finding is consistent with the literature about young children's engagement while using computers; and young children can use iPad to play and learn.

At the end of week 1 after being asked: *have you made a story about yourself yet?*, the child responded “No, not really, I’m just having fun”.

3.2 Observations and Interview from Week 2

The child continued playing predominantly with the drawing app, which allowed her to record her final product. However the child was deleting each image after creation, including artistic representations of self, family and friends.

This finding is consistent with literature that indicates children can use art as a manner to reflect their image of self. However, at no stage did the child show any of the images to the parents in a manner of storytelling to illustrate self.

At the end of week 2 after being asked: *have you made a story about yourself yet?*, the child explained that she had drawn some pictures of herself but it wasn’t a story, rather “just some pictures I drew, I really liked the one of Dunlop [the cat]”.

3.3 Observations and Interview from Week 3

The child started to use the iPad camera to record images of herself and anything around her. These were predominantly still images to begin with. As the week progressed the child showed a very strong interest in herself by video recording her own facial expressions, laugh and speech. The child also used the camera to record things or happening around her. This is an very important step of young children to use iPad to start producing her own work based upon her own self-studying or understanding of surroundings. However, although she recorded videos which were important to herself, as an art presentation during her own studying, the videos or photos the participating child produced were either portrait of herself or simply recording with no self-illustration or much understand of the meaning of her own comprehension of self.

At the end of week 3 after being asked: *have you made a story about yourself yet?*, the child indicated that she had made “lots of movies”, but that ultimately she hadn’t finished yet.

3.4 Observations and Interview from Week 4

By week 4 the child had full technical grasp of how to use the camera and produced 23 short videos. During the fourth week the child started to record herself as a narrator in the videos. For example, she held the devices to record her surroundings with her own understanding. At the end of week 4 after being asked: *have you made a story about yourself yet?*, the child indicated that she was indeed ready, however that “I need Mummy’s help to turn it into a proper movie”.

Vygotsky’s zone of proximal development suggests that there are a range of tasks that might be too difficult for the child alone, but with the help of a more abled peer they will be able to achieve the task (Berk, 2013). In this case the child understood that she was capable of making the separate videos, however to turn them into a video she was going to need help. Subsequently the child along with the Mother used *Movie Maker* to turn the spate videos into a movie. The child selected the videos, text and music for the movie and the Mother assisted in the technical elements of movie making. Therefore finalising the child’s “movie” and consequently creating a digital story.

3.5 Artefact Analysis

From the 23 videos the child took, she selected three videos she called “home friends”; the participating child recorded her cat, her dog and her sister. In producing these short videos, she was starting to use descriptive narration such as “this is my cat, her name is Dunlop, and she is a girl [...] (see Figure 1)”, to introduce important element of her life. She also gave detailed descriptions of her “friends” characteristics, such as “this is my sister, she is a silly baby, naughty [...] (see Figure 2)” or “[...] my dog is a grandpa (he is old) dog (See Figure 3)”. Although the quality of the videos was not great or professional, the participating child managed to use the video as an artistic way to present components of her home life that represent her understanding of self and articulate a digital story.



Figure 1. “This is my cat, her name is Dunlop, and she is a girl...”



Figure 2. “This is my sister, she is a silly baby...”



Figure 3. “My Dog is a grandpa dog...”

3.6 Final Interview

The participating child was interviewed after the study. The child emphasised the personal elements of digital storytelling (her cat had recently died, hence a motivation to record her videos) importance of her confidence of using the app “camera” and the reasons why she started to use her explanation while recording.

Interviewer: “*Can you tell me why you started taking so many videos*”?

Child: “Because Mango (family cat) had died and I wanted to take videos of my pets. I did my sister because she is funny!” .”

Interviewer: “*Do you enjoy yourself while recording?*”.

Child smiled and nodded her head.

Child: “I did, I enjoyed walking around and taking videos of all those things”

Interviewer: “*Why did you add the narration in the videos*”?

Child: “I did “*This was made by blaa, blaa*” because I had seen this done in my class by other kids. I talked to let people know what I was doing”

Interviewer: “*Does the video tell a story about yourself*”?

Child: “Sort of, I think it tells a story about my company people and pets”.

Interviewer: “*If you were to make another video, is there anything else you would do or do differently*”?

Child: “Maybe record some bits of my house, mum and dad and I would add more words to tell people what I was doing.”

4. Discussion and Conclusion

With emergence of technologies, more and more user-friendly devices are made available to young children (Ebbeck & Waniganayake, 2010). This study agrees that this transformation could bring dramatic changes to those traditional methods of understanding young children's learning, in particular their understanding of self. Play is a pedagogy in early childhood education to provide good examples for young children to learn. Allowing children to engage with user-friendly tools allows them to present their own learning in meaningful and reflective ways. This study shows that as well as traditional artistic expressions such as drawings, young children (such as the 7 year old child in this study) can use emergent technological methods, such as digital story telling as visual artistic representation of self.

As this technology is slowly emerging, it should be noted that this study is only a start and should attract more detailed research involving theory and practices to benefit children in their learning and early childhood educators’ pedagogy.

This research has its limitations. One of the weaknesses of the case study maybe its interpretative nature. The researchers as the sole data analysers, with his or her subjective perspective,

may interfere with objective of results. Moreover, the research is only one reflection of practice and therefore has limited generalisability; yet still demonstrates the underlying foundation that young children can not only use emergent digital technology, but can represent images of self without the need for adult interpretation. Therefore, more research will be conducted in the future to explore in this new area and bring possible innovative pedagogical methods to allow children to present personalised version of self within and outside of early childhood education settings.

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