Enhancing Children's Creative Output Through the use of Traditional and New Active Tools

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Abstract

The role of narrative storytelling is central to almost any creative learning activity involving children. Whether through words or images, or a combination of both, children create and communicate their unique stories through the use of narrative. Innovations in technology over the last few decades and, especially, within the last few years are becoming a regular part of the educational experiences for children. In their paper *Mediating effects of active and distributed instruments on narrative activities*, Decortis, Rizzo and Saudelli demonstrate how technology can be used to enhance both the learning activities as well the creative output of children through the use of their Pogo environment [1]. Their research on the effects of mixing traditional tools of learning with new instruments – particularly through the use of video technology – in a group setting illustrates the importance of the creative process, as well as output, in children.

Keywords

Children, collaborative learning, narrative storytelling, digital video technology, creativity, imaginative output

ACM Classification Keywords

H.5.1 Multimedia Information Systems General Terms: Animations; Video (e.g., tape, disk, DVI) and H.5.2 User Interfaces: Evaluation/methodology

Introduction

Nevermore has technology been more pervasive in people's daily lives. Children, by virtue of their age, are the earliest early-adopters of new technology. Digital video technology, especially with developments in the last decade, is now everywhere. However, there is a lack of education and training on how to use digital video technology in order to expand the creative possibilities of children and their imagination. Our research attempts to address that deficiency by providing children with the tools and environment to apply the knowledge they possess through the utilization of digital video technology.

The research and findings from *Mediating effects of active and distributed instruments on narrative activities* provide a platform from which we were able to derive a methodology we could use in our own research. Decortis, Rizzo and Saudelli's research on the Pogo system within the classroom environment and children's interaction with one another, the teacher and the technological implements gave us reference point for conducting our own research. The use of the Pogo tools like the Beamer and the Screen for capturing, projecting and presenting were invaluable resources in conducting our research.

Creativity and Collaboration

Children, by their very nature are creative. Imagination and creativity are made evident in children at very young age. In order to develop these qualities past their basic, early stages it is the responsibility of adults to provide children with the necessary opportunities and tools in order to have experiences that can help their creativity and imagination mature. The research conducted by both the Decortis' team as well as ours, uses Vygotsky's [4] findings about understanding the effects of tool use in children in order to understand the greater psychological and creative processes.

Decortis et al. state the importance of the group dynamic that is created by implemented the Pogo system in children's learning activities. Through the introduction of new instruments, children are almost organically pulled towards one another and work together in groups. Our research also puts emphasis on the group dynamic as an integral concept in participatory culture [2] as described by Jenkins. The interconnectedness of digital technology is carried over into the real world. It is not enough to think that the technology can bring people closer to one another, but people must actively connect and interact with one another to share ideas and making meaningful contributions to each other, society and themselves.

Workshops

Unlike the research presented by Decortis et al., our research on the role of technology in children's learning activities took place outside children's school curriculum in workshop settings. Workshops provide a great setting for children to interact with other children and utilize digital video technology to tell their stories to one another as well to everyone else. Children gain an understanding of different technologies and skills while having fun and without realizing that they are actually learning. Mixing traditional play activities with digital video allows children to learn new media literacies [2].

Through the production of their original creative contents, children are not only consumers of information and knowledge, but they also take on roles as media producers. Workshops for children that incorporate digital video technology nurture children's imaginative abilities by making them stakeholders in their learning process.

Method

Implementing digital technology in workshops for children can have the effect of significantly expanding the depth of a child's creative efforts. In order to create workshops with different themes, tools and digital technologies which strive for the common goal of promoting the enhanced creative output of children, it is necessary to use a method as an underlying common current in all the workshops. The method, if used properly is an anchor that keeps the themes, tools used, implemented technologies and activities in the workshop from drifting away from the goal of imaginative expression.

Narrative activity phases

In order to analyze the children's learning activity, Decortis et al. breakdown the complex organization of narrative activities involving children into four narrative activity phases of *Exploration, Inspiration, Production* and *Sharing*. In research related to the use of video technology by children conducted a few years later, Decortis, together with Tillon, integrate the four phases in a method called NAM++ []. NAM++ builds upon the previous work by factoring in the cyclical nature of creative imagination. The four phases, while still the same in essence, adapt their meanings. *Exploration* describes the way in which a child sees the world. *Inspiration* refers to expanding on those impressions.

Production is the actual process of creating using tools and instruments based on those impressions. And *Sharing* refers to presenting the output of one's creative expressions with others.

$T^2=C$ method

Based on the work of Decortis et al. in categorizing the four narrative activity phases, we created our own method. Our method, the $T^2=C$ method, shows that traditional tools of play when combined in a activities and processes with technology, all within the vessel of a participatory culture will result in enhanced creative output. The traditional tools and items used for play and artifact creation when combined with technology within an environment that promotes participatory culture through collaborative learning can yield creative output that is enhanced by the constituents which make up the process.

Action Research

To conduct our research, we held four workshops for children involving digital video technology. These workshops, while sharing the qualities of blending traditional tools of play with new technology and integrating discussion and performance components, varied in design, layout, scope, procedure and content. All of the participants of the workshops were primarily elementary school age children (i.e. between the ages of 6 and 12).

In one workshop, the participants discussed global issues using finger puppets, a miniature stage, Hi-definition camera and projector. Children became reporters by writing their own scripts to video contents of their choice and performing in front of a real-time blue-screen layering system. In another workshop,

children were given video cameras and went behind the scenes at a movie theater to make film, edit documentary clips. Stories and characters were created and brought to life by children using usb web-cameras, a pc, clay, paper, other traditional tools and their imagination.

figure 1. Workshops incorporating digital video technology

Conclusion

The research initially presented in *Mediating effects of active and distributed instruments on narrative activities* was integral in helping us conduct our work. Information on the interaction of children and digital video technology is still lacking. If it were not for the efforts and hard work of Decortis, Rizzo and Saudelli, we may not have had the springboard we need to jump into our research.

The research conducted by Decortis et al. and our own research show the potential enhancement in creative output by children that can be achieved when traditional tools and artifacts are combined with state of the art devices. There is a realization that using the lens as a window for children's imaginative expression can broaden the horizons of creativity in children. The sense of fulfillment and, moreover, empowerment that children feel when completing a task and expressing themselves beyond the boundaries that they thought possible help reinforce their desire to learn and can act as the impetus for even greater achievements as they get older and more mature.

References

[1]   Decortis, F., A. Rizzo, and B. Saudelli. Mediating effects of active distributed instruments on narrative activities. *Interacting with Computers* 15.6 (2003): 801-830..

[2]   Jenkins, Henry (2009). Confronting the Challenges of Participatory Culture: Media Education for The 21st Century. Cambridge, MA: The MIT Press.

[3]   Tillon, A.B., Decortis, F., Using image in the narrative activity Proc. *First International Workshop on Interactive Storytelling for Children at IDC 2010*, ACM Press (2010)

[4]   Vygotsky, L. S. Imagination and Creativity in Childhood. *Journal of Russian and East European Psychology* 42.1 (2004): 7-97.