Abstract

This paper presents successes and challenges of an iPad implementation project in five rural K-12 classrooms. A need to connect what was happening in these schools, with regards to supporting 21st Century skills integration, to the larger community had been identified. The incorporation of digital storytelling activities supported by iPad2 technology into classroom practice was identified as a pedagogical implementation that could, over time, meet this need. Classrooms involved in this project were provided with: a “teacher” iPad2, 4-8 “student” iPad2s, digital storytelling Apps and iTunes accounts, face-to-face professional development sessions, socially networked professional development support, and direct classroom activity support during the first half of a school year. A key finding is that in order for digital storytelling to be successful in the classroom, a simple repeatable workflow for story creation is required. Other findings include teacher insights regarding mobile technology, engagement of students with iPad2 devices, use of mobile apps, and challenges with device management. Further research on how to support teacher sharing at a distance as well as developing a learning community for technology implementation is needed. Additionally, further examination of the theories underscoring strategies meant to tie communities to school and 21st Century curriculum is needed.

Overview

Mobile learning devices, specifically ones with touch screens, have the potential of providing new and innovative pedagogical strategies for the K-12 classroom. Touch screen tablet devices, such as the Apple iPad device, provide student, teacher, and content interactions that allow for new strategies for utilizing digital media (Ally, 2009; Ostasheewski & Reid, 2010). Before these new strategies can be implemented in the classroom, however, the preparation of the devices, software, and implementation activities for teachers and students need to be planned and supported. This paper presents the findings of the first round of an iPad – digital storytelling implementation project and highlights some of the successes and challenges with such an implementation.

The iPad2 device is one of the first tablet devices that have all of the components required for the mobile production of digital stories. With a larger screen size, 242.8 mm x 189.7mm (Apple Inc., 2010), the integration of front and rear facing cameras, and audio recording capabilities, the iPad2 has the ability to create, share, and manage digital stories of many types. New types of teacher, student, and content interactions utilizing the touch control of these devices bring about a new level of mobility for the classroom.

Digital Storytelling is one example of a 21st Century skill integrating components of writing, image creation, and presentation utilizing technology to tell a story. Digital storytelling is a particularly appealing use of an emerging technology for several reasons. It can provide a voice to struggling readers and writers who might not otherwise find an authentic means of expression. It places the technology in the hands of the learner, allowing him or her to control its use within objectives carefully constructed by the teacher. (Bull & Kajder, 2004, p. 49)

This paper describes and explores a case of teacher professional development using digital storytelling in the classroom as the keystone to iPad implementation in five rural schools.
Research Question

As mobile devices are increasingly part of the lived student experience, there is a need to assess, identify, and review mobile technology experiences, implementations, and applications for education (Vardy, Kervin & Reid, 2007). The evaluative research presented in this paper seeks to answer the following research question: What management and pedagogical issues exist in providing students with technology access that allows them to create digital stories and share them beyond the classroom?

The sample for this research includes five classrooms that teachers participated in the project (n=5). Interviews and focus group sessions were conducted 3 months after the professional development activities were presented. Additional data for the research was collected in the form of digital stories and observations of the researchers and school administration.

Context

The focus of the project presented in this paper is on a technology-supported implementation of digital storytelling. The funding body for this study was motivated to have a number of goals to support student learning outcomes. The overall goal of the project was to develop teacher and student capacity in the creation of digital stories using iPad2 devices, with the expressed wish that these stories would be able to share student stories into the communities. To reach the overall goal both students and teachers needed to become proficient with the educational uses of mobile iPad devices. Additionally both students and teachers would also have to become more familiar with various forms of storytelling, including written, oral, digital and how these could be planned, developed, presented and shared in assorted formats. Teachers had the further task of learning how to manage the use of this technology in a pedagogically sound way. Therefore reaching the overall goal for this project required a great deal of professional development and support for the stakeholders in this research.

There were multiple technology implementations that will be presented in this paper. The first implementation aspect of the project was to implement new mobile devices into 5 schools. The iPad2 devices were selected as an appropriate technology by a school technology support team. These new iPad2 devices have the ability to record and then instantly display multimedia (Reid & Ostashewski, 2011) making them very applicable to digital story creation. Coupled with their mobility, touch interactions, long battery life, and built-in speakers, these devices new type of teaching and learning possible in the K12 classroom. Another implementation aspect of the project was introducing iPad2s to aid in the development of student 21st Century skills that would allow for the showcasing of student work to a school and community.

Review of the Literature

There is beginning to be a critical mass of research into the pedagogical uses of mobile devices. Many of these studies (Attewell, 2006; Sharples, 2007; Traxler, 2007) primarily examine the prospects found in social constructivism such as authentic learning, student collaboration and the technical affordances allowed by the mobility of the technology. The literature on mobile learning mainly finds its data in small pilot projects and therefore the theory underpinning much of this field is embryonic rather than firmly entrenched in other disciplines. This emerging nature is demonstrated by the current state of professional development support required by teachers. Despite the fact that Apple mobile “iDevices” have been available for some time, teachers continue to be in need of guidance on how to successfully make use of these kinds of technology tools in meaningful ways in the classroom (Butler, 2000; Vardy, Kervin, & Reid, 2007).

Digital storytelling was a key driving force of this project. The literature identifies a number of potential learning outcomes of digital story creation. These outcomes include communication and collaboration (Gakhar & Thompson, 2007), student voice (Kocaman-Karoglu, 2008) and deep learning (Barrett, 2006). In schools based in communities that have a tradition of oral storytelling, the notion of
student voice in stories created at school has increased significance (Ostashewski & Reid, 2012).

What makes digital storytelling appealing is the synthesis of narrative and digital media content (Robin, 2008). This educational strategy has gained prominence in educational environments integrating learning environments with technology-based activities that are engaging and have the potential to expand a child’s tool box of abilities (Thompson, 2005). As with more traditional storytelling practice, the process begins by developing an idea, collecting (digital) content, and selecting the tools needed to bring a story or personal narrative to life. (Rebmann, 2012).

The presentation of the structure of digital stories can be useful to the beginning of the storytelling and creation process. The Seven Elements of Digital Storytelling (Robin, 2006) include:

1. Point of view
2. Dramatic question
3. Emotional content
4. The gift of your voice
5. Power of the soundtrack
6. Economy
7. Pacing

This structure is a useful beginning spot for students and teachers to heighten the impact and creativity involved with storytelling. Another structure is the Hook, Line & Sinker (Ostashewski & Reid, 2010) approach which can be used with younger children or novice storytellers. It is a basic introduction, body and climax model of story composition contextualized in a fishing metaphor that many people can relate to.

Professional Development Support

According to Villegas-Reimers (2003), the new perspective in teacher professional development, as informed by the literature is characterized by: a constructivist approach, it is long-term, it takes place in a particular context, it is intimately linked to school reform, views teacher as a reflective practitioner, is collaborative, and may look very different in diverse settings. This type of approach informed the current project implementation and was the result of previous digital storytelling training activities the researchers had been involved in previously. Additionally, when teachers are able to experience authentic, personalized approaches, using current teaching and learning strategies, they are more likely to take up and sustain a similar approach with their students (Alberta Education, 2011).

In previous implementations of the iPad project where schools and communities took place in, a need to connect what was happening in the schools to the larger community had been identified. The rural communities have a storytelling tradition and using technology to engage the students with storytelling was seen as a potential connection opportunity. The researchers were approached and asked to introduce digital storytelling with iPads because of success they had found in similar communities.

Teachers in this project were provided with a “teacher” iPad2, 4-8 “student” iPad2s, digital storytelling Apps and iTunes accounts, face-to-face professional development sessions, socially networked PD support and direct classroom activity support during the first half of a school year. As part of the project implementation students in the teachers’ homeroom classes were led through a full-day seminar engaging them in digital storytelling creation activities. These activities included general iPad2 use and instruction on how to use iPad2 Apps to create digital art, audio, photo, and video segments. Detailed instruction was provided to teachers and students during training sessions on how to incorporate these digital segments into stories using StoryKit and Storyrobe Apps. A signification component of the professional development was the full-day seminar engaging teachers and their students engaged in the digital storytelling creation activities. This full day onsite session had the researchers presenting and working through the specific processes needed to create digital stories using specific iPad Apps. The sessions were structured as follows:

A) Basic use of the iPad
B) Using Doodlepad and Artpad apps to create drawings
C) Photography and Videography using the camera - going outdoors and collecting photos & videos
D) Beginning use of StoryKit and Story Patch digital storytelling tools
E) Making pages in StoryKit: adding images, text, and audio
F) Editing and producing videos using iMovie: recording video, adding titles, trimming video, fades, transitions, publishing to camera roll.

By the end of the day, the iPads were connected to the classroom projector and students had the opportunity to share their stories with the class. As the full day sessions proceeded over the 5 schools, a basic 10 page digital story structure, detailing what was expected on each page (photo image, text, audio) was developed. This structure and a clear topic for every page aided in students and teachers being able to be more successful with the story creation process and resulted in more stories completed by the end of a day.

Some of the challenges that have been identified in the literature (Hofer & Owings Swan, 2006) regarding digital storytelling implementation fall around systematic approaches to implement digital storytelling projects and teachers selecting the hardware and software to build digital stories with. In this implementation, the researchers were clear about what Apps would be used, and the process of creating the pages in the digital stories was made clear and straightforward. To assist this process further, the research team downloaded and tested the Apps on each of the iPad2s that were used in the sessions, including the iPad2s that were remaining with the teacher.

Findings

Findings of the research provide insights regarding the introduction of mobile technology into the classroom, engagement of students with iPad2 devices, use of specialty apps, and issues/solutions identified with the management of iPad devices.

A key finding is that in order for digital storytelling to be successful in the classroom, a simple repeatable workflow for story creation is required. This simple repeatable workflow, using specific Apps on the iPad2s, has resulted in students creating digital stories, despite being unfamiliar with iPad devices previously. Comments from the one teacher who has been successful (n=1) in having students create digital stories after the professional development indicates that students are becoming more competent with story creation.

“We have done 3 different stories; thanksgiving, halloween, and bullying. Each story contains 5 pages.”

“Most of the students know how to use the story kit. I have some that are still having a challenge in coming up with a story line. I’m sure once they know what to write, they will have no problem working through the story kit application.”

“The time varies when we use them, some students are faster than other in producing a story. Students are paired up, so far 4 of the 5 groups are doing a fantastic job.”

“There are 2 groups that are doing a fantastic job in coming up with a story line and pictures to go with the story. Some students are struggling with that right now.”

This finding is in line with Dogan & Robin (2008) who found that teachers did not continue with the digital storytelling implementation even after participating in specific professional development activities. Other teachers in this study (n=4) identified challenges with class time, student use of the devices to explore other activities, and classroom activity management with 5 devices and 25 students as reasons for not implementing digital stories shortly after receiving the iPad2s in the classroom. These teachers indicate that they plan to incorporate the digital storytelling as the year progresses.

Several teachers (n=3) identified student engagement with the iPad2s as a benefit of the devices in the...
classroom. Teachers also identify common device management issues such as time required to syncing the iPads, managing the devices fairly between the students, and keeping students on task, such as not surfing the internet when being asked to work on digital stories. Other management issues that seem to be resolved with these newer mobile devices are around battery longevity: “So far, the ipads are charged enough to work through a project” states one teacher, whose comment highlights previous technology issues with mobile device use.

This research highlights the need to further examine the theories underscoring the implementation of strategies meant to tie communities to school environments and 21st Century curriculum. This project identified several management and pedagogical issues regarding implementing new technology as well as the pedagogical implications exist; providing students with technology access that allows them to create digital stories and share them beyond the classroom.

**Conclusion**

The project identified digital storytelling activities (Lambert, 2009) supported by iPad2 technology as a deliverable that could demonstrate project success. This goal, from an evaluative perspective has only been partly met at this time. However, it is clear from the literature and this ongoing research, that time is needed for this level of classroom activity to be implemented.

For school districts and administrators considering implementing these kinds of devices, there is a clear understanding needed of the types of support needed in order to bring about successful implementation projects. Time, clear support with a specialized implementation process, detailed classroom tactics, and sufficient numbers of devices need to be considered. While there is an assumption that, with proper training, and time to explore new technological devices, teachers will begin to integrate mobile technologies and activities into their instruction to support student learning in the 21st century, this appears not to be so. The question remains – what IS enough support for individual teachers to enable them to provide students with the technology access for digital story creation and sharing beyond the classroom? Further research on how to support teacher sharing at a distance as well as developing a learning community for technology implementation may provide some answers to this question.

**References**


Gakhar, S. & Thompson, A. (2007). DIGITAL STORYTELLING: Engaging, Communicating, and
Collaborating. In R. Carlsen et al. (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2007 (pp. 607-612). Chesapeake, VA: AACE.


