Digital Storytelling in Teacher Education: Creating Transformations through Narrative

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Stories are important resources in the repertoire of the teacher. Storytelling is a powerful way in which to communicate experiences and to explore ideas. Using stories, the teacher takes her students on journeys of discovery that introduce them to new vistas of lived experience. In this article, we describe how we have used *digital storytelling* to teach the core values in our field of special education—an approach that honors cultural diversity and empowers students to reflect on and share their experiences.

Digital storytelling makes use of a wide variety of techniques including standard storytelling, audio- and video-recording, multimedia publication, and shared "mediated" events. In our university-level courses, students watch digital stories as well as create them. We employ a student-directed, inquiry-based approach to digital storytelling that makes the process of storytelling as important as the resulting digital story. Our approach to digital storytelling continues to evolve as new media and technologies emerge that enable new forms of sharing, dissemination, communication, and publication. In this article, we will describe how we have used digital storytelling for inquiry-based learning in university level courses, K–12 schools, and community settings.

Self-determination through digital storytelling

We, the authors, have had the privilege of living and working on the Pacific islands of Hawai'i, American Samoa, and Micronesia. These unique islands offer many opportunities for the celebration of island life through digital storytelling. Digital storytelling is a compelling way for people to document their lives and communicate their stories to others. For islanders, technology provides a valuable means of showcasing the beauty and rhythms of island life through visual representations that celebrate the physical and cultural geography of their island homes. Furthermore, technology allows Pacific islanders to document, in narrative form, the accomplishments as well as the challenges that individuals and families face. For educators, digital storytelling provides an engaging way to bring lessons about community, culture, local values, and traditions into the classroom. Digital media helps them craft stories about daily life. But just as importantly, it helps in the dissemination of what is distinctive in the lives of people and their communities. Thus, digital storytelling can bring lessons from the world into the classroom and, in turn, be used to share the distinctive issues of island life with others.

Digital stories are multimedia projects employing the use of photographs, video, audio, and music. We have developed and documented several educational genres in our work with teachers (Skouge, Boisvert & Rao, 2007; Skouge, Guinan, Nobrega, Rao & Segal, 2004.). These genres include photo "walkabouts," video "how tos," video or audio interviews, video role plays, narrated slide shows, and music videos.

The development of projects does not require any specialized software. We use programs such as iPhoto, iMovie, PowerPoint, and Keynote that are readily available on computers. Projects can be made on both Mac and Windows platforms using software that is either bundled into their respective operating systems, included in productivity suites such as Microsoft Office or Apple iWork, or available for free download. Completed projects can be shared by means of CDs, DVDs, and websites.

An essential aspect of digital storytelling resides in the power of example—the power, that is, to project images of exemplary individuals who can influence other people and make a difference in their lives. We believe that human beings can be profoundly influenced by presenting themselves and others, within familiar contexts, as models of inclusion and self-determination. Media are uniquely equipped to project these influences through self-guided tours of persons' homes and communities; demonstrations of various skills and accomplishments; recordings of songs, dances, and other

forms of artistic expression; interviews with a role models; role plays of dreams unfulfilled; and portrayals of people making valuable social contributions, such as teaching or helping others. Videos are useful tools in documenting personal acts of civic responsibility.

Our work with digital storytelling is about changing lives and minds. It is grounded in Paolo Freire's (1970) critical pedagogy; Albert Bandura's (1997) social learning theory, which develops the ideas of modeling and self-modeling; and Peter Dowrick's (1999) research on video "feedforward," which posits that video is a effective way to create images of positive futures and to depict the future potential of an individual.

Digital Storytelling in Island Schools: The Pacific Voices Project

We have developed many of our digital storytelling techniques and genres in K–12 classrooms as a part of the Pacific Voices project. This partnership between the University of Hawai'i Center on Disability Studies (UH-CDS) and Pacific Resources for Education and Learning (PREL) was funded by a US Department of Education Regional Technology in Education grant. This multi-year initiative gave us the opportunity to work with teachers at sixteen school sites in Hawai'i, American Samoa, the Federated States of Micronesia, Palau, the Marshall Islands, Guam, and the Commonwealth of the Northern Marianas Islands. We worked with teachers to find out what their key concerns were and taught them to use multimedia tools in their classrooms and communities to support their learning objectives. During this project, we developed several culturally- and locally-responsive ways to create and use digital storytelling in Pacific island schools and classrooms.

The project began in 2000, when software that facilitated desktop video editing and multimedia production came bundled on computers. Using built-in multimedia tools, such as Apple's iMovie and iPhoto, we developed a variety of culturally responsive instructional strategies that integrated multimedia technologies and island-based themes and stories. We paid particular attention to the oral and visual elements of island cultures, celebrating in narrative form the distinctive beauty of the people and their environment.

Teachers and students at our Pacific Voices school sites were excited to use the "technology toolkit" that was provided for each school through project funding. The two essential tools for creating digital storytelling projects were a Macintosh desktop computer and a video camera, which we included in each toolkit. We taught teachers how to use iMovie and a variety of strategies that they could employ in creating multimedia materials that combined digital photos, video, and audio. Teachers and students (in grades 4–12) learned interviewing techniques and video-editing skills that allowed them to record interviews with elders and community members. They also learned how to edit photos and record their own voices to make short visual stories about important issues in their communities. Students created plays, composed public services announcements, and made digital books in their first language and in English, using the built-in multimedia software on the computer.

We compiled projects made by students at the Pacific Voices schools on CDs, creating what we called "video letters," and mailed them to the other schools in our Pacific Voices network. In this way, teachers and students shared their multimedia work and told their stories to people who lived on other islands. We also held videoconferences in which students from different islands met and interacted. At least one school on each island possessed videoconferencing capacity, allowing students to gather together and "meet" virtually via telecommunication technology. After watching each other's digital stories on CD, students used the time during videoconferences to interact and learn more about each other's islands, cultures, and traditions. Students particularly enjoyed the digital stories that showed the day-to-day lives of their peers on other islands. For example, one group of high school students from Hawai'i shared a digital story about learning to surf and, in turn, students in American Samoa shared a video about cultural traditions in their villages. The students were fascinated by the everyday lives of their peers, and they asked many questions to each other about how they lived and what their school days and home lives were like. By sharing their digital stories and through real-time interactions via videoconferencing, teachers and students in the Pacific Voices schools gained an authentic experience about life in different communities in the Pacific.

Using Digital Storytelling in University-Level Courses

Our experiences with digital storytelling in Pacific Voices classrooms provided many ideas that we continue to include in our university-level courses. Using the same built-

in multimedia software that our Pacific Voices teachers and students used, we have, for many years, taught students in our assistive technology courses how to create digital stories and use these stories to affect change.

The assistive technology course, offered by the Special Education department in the College of Education at the University of Hawai'i, focuses on teaching undergraduate and graduate students the ways that technology can be used to support school and community inclusion for persons with disabilities. By incorporating digital storytelling in the course, we have explored how technologies can be used to "give voice" to individuals with disabilities and empower them to tell their stories. For our university-level students, the process of creating the stories as well as the sharing of the final product become key ways in which to learn and teach lessons about inclusion, advocacy, and accommodations for individuals with disabilities. The stories are transformative to the students who worked on the projects, the audiences, and the individual highlighted in the stories.

In the following section, we describe how the creation and development of a digital story can teach lessons and values, while empowering people to be agents of positive change.

Creating change: When stories become real

In the Fall 2006 assistive technology course, one of our students was an undergraduate student named Mellany1, who had recently arrived from the island nation of the Republic of Palau. We had heard that she was the first wheelchair user from Palau to attend the University of Hawai'i. We were excited to meet her, believing that she would become a role model for others and that we could provide some support in her grand adventure of going to college far from home.

As a service-learning project in the class, we asked for volunteers to join Mellany in producing a digital story of her college experience. Five students volunteered. Mellany enthusiastically agreed to the proposal as she realized that a digital story would be a useful way to show her family back home what her surroundings were like at college and what life was like for her in Honolulu. The videos that her team created would be burned on CD and sent to her family in Palau, a strategy similar to the "video letters" that students had shared during the Pacific Voices project. Over a period of several weeks, the students and Mellany worked together to produce a series of videos. The first video project, using a video camera and iMovie, showcased Mellany hosting a campus tour in her wheelchair. The video of Mellany's campus tour included many of the experiences that she had to endure as a disabled person, such an instance when a campus shuttle driver refused, in violation of the Americans with Disabilities Act, to pick her up. The students, who had become close to Mellany, while working on the project, were both dismayed and indignant that this had occurred. It opened their eyes to the types of discrimination and personal challenges that an individual with a disability may face in day-to-day life.

In a second video, Mellany hosted a video tour of what was advertised as an "accessible" apartment located in one of the university dorms on the lower campus. While shooting the video, the student team was stunned to find out how many basic and essential elements within the apartment Mellany could not operate alone. They learned that Mellany was unable to manipulate the strings that would open and close the heavy curtains in her bedroom. The small space made it impossible for her to access her desk in her wheelchair. The shower was also unusable, with a faucet too high for her to reach and a showerhead that she could not adjust or access. The shower chair had no cushion. The microwave in the kitchen was placed out of reach. Their most disconcerting discovery was that in the event of fire, she would be unable to exit the apartment, as the door was too heavy and unwieldy for Mellany to manage from her electric wheelchair. While the apartment was technically "accessible" according to the Americans with Disabilities Act codes, the video helped them to see the apartment through Mellany's eyes and with her particular disabilities. It was immediately apparent to our students that these codes do not take into account that disabled people have varying and unique strength levels, physical limitations, and mobility issues and that one set of specifications does not necessarily fit all.

The student team worked with Mellany to create a digital story that showed how this "accessible" apartment failed to meet Mellany's living needs. The team then shared their footage with other students in the assistive technology course. Rather than simply focusing on what didn't work, the students brainstormed strategies that would make things more accessible for Mellany. Working in small groups, the students reviewed the media, discussed successes and challenges, and suggested strategies to improve Mellany's safety and quality of life. It didn't stop there. Using a small

budget of seventy-five dollars that we paid for through course lab fees, the student team turned their ideas into action. They renovated Mellany's shower and constructed an accessible desk in her bedroom and countertop in the kitchen. They added a rice cooker and George Forman grill to her kitchen and, for the first time, Mellany was able to share in the preparation of a dinner of grilled chicken and hamburgers. Then they all sat down to eat a dinner of celebration.

The team's achievements were not just Mellany's. This experience of creating and documenting a story about the life of a fellow student taught them a good deal about working together. A Samoan student wrote of the project that it represented the single most meaningful experience of her college career. Students had come together as a team, in partnership with a person with a disability and, with the help of technology and digital storytelling, had supported Mellany in giving expression to the challenges she faced in her new life at university. They had learned an important lesson about creating and telling digital stories—that they can be a means of inquiry, of working through problems, and of support for others.

Inquiry-based Learning: Family Stories in the Classroom

Another example of digital stories for inquiry-based and transformative learning occurred in an interdisciplinary graduate certificate program that was sponsored by the University of Hawai'i Center on Disability Studies through its MCH LEND program (Maternal and Child Health Leadership Education in Neuro-developmental and Related Disabilities). This program sponsors interdisciplinary courses that use a mentorship model in which a "learning community" of students across disciplines (including public health, social work, physical therapy, speech pathology, nursing, special education, nutrition, medicine, political science, and law) were mentored by their respective faculty to study issues of culture and disability.

We developed an innovative model using digital storytelling as a means to introduce students to key issues facing people with disabilities and their families, and to foster communication and dialogue with them (Skouge, Ratliffe, Guinan & Iding, 2007). We collaborated with persons with disabilities and their families to produce video stories organized into thematic scenes, each addressing a central concern that deals with matters of inclusion and self-determination. We had two interrelated aims. The first aim was to give "first voice" to the individual and family in describing the reality of their lives and situations. The second was to create an authentic and useful dialogue among the individuals, their families, and the students enrolled in our program.

The students watched and listened to these stories of people with disabilities and their families, and learned about the issues in their lives from these personalized and first-hand narratives. The videos were accompanied by a viewing guide, which posed talking points for further learning. Working in small teams, students identified key "learning issues." These were usually matters of particular interest to individual members of the student team, and provided motivation to do further research. As working professionals, each team member brought a particular perspective and strength to the process of problem identification and problem solving. The teams wrote letters to the family, addressing what they had learned by watching the digital stories, and explaining what they had discovered from the research about their chosen learning issues. We asked students to present their ideas in the first-person and not in impersonal, academic language, so that their conclusions would be accessible and useful to the families who read their papers.

The individuals with disabilities and their families came to the classroom to meet in person with student teams and respond to the letters that the students had written. Again, the individuals and their families were given first voice, beginning the conversation with their response to the students' letters. This began a dialogue between student teams and the families, allowing students to collaborate with families on solutions rather than prescribing solutions for them. This interaction between the storytellers (the individuals and families depicted in the videos) and the students was a key event in the inquiry-based project. These interactions allowed the students and families to clarify issues, propose solutions, and identify the steps that needed to be taken. The digital storytelling media provided a form of critical engagement as opposed to mere entertainment and became a means of developing critical awareness of issues and of promoting dialogue and conversation as a means to solve problems. Digital stories encouraged dialogue and communication between two groups of stakeholders, the individual with a disability (and his family), and their future service providers. For the students in our program, the importance of solving

problems *with* rather than *for* the people they serve in their professional lives was clearly modeled in this process.

Returning to our Island Homes: Project Based Learning for University Students

As part of our work at the College of Education, we have created an informal network of undergraduate and graduate students from Pacific islands. This network includes students from American Samoa, Tonga, Kosrae, Pohnpei, the Marshall Islands, Palau, Chuuk, Yap, Guam, the Commonwealth of the Northern Mariana Islands (CNMI), and Hawai'i. Over the years, the students, who participate in the network on a voluntary basis, have been part of many Pacific Voices projects and have learned digital storytelling techniques as a result. They have also used these skills to create projects for other courses that they take at the university. They have integrated course content from a variety of fields and addressed their own personal interests in honoring their home cultures and communities. In some cases, we have been able to accompany students to their home islands over summer break and support them to create digital storytelling projects in their home villages and communities.

When we go to a Pacific island to start a digital storytelling project, we organize youth leaders and others into media teams, and we encourage them to photograph their villages so that they convey, in a systematic way, the look and feel of their home. We want them to depict both the ordinary events of daily life and the natural beauty that surrounds them. We equip teams with digital cameras (still and video); and work with them to construct "shoot lists" and "story boards" which, in turn, guide the documentary process. Shoot lists may include particular landscapes and seascapes, flowers and other details of nature, street life, shops, and portraits of elders and friends. Storyboards sequence the routines of cooking, fishing, gardening, animal husbandry, worshiping, swimming, and playing sports and games. We construct opportunities for these activities to occur, so that children become engaged in the very activities they are documenting.

Perhaps because Pacific life remains relatively "unmediated" (especially as produced through the eyes of indigenous people themselves), village elders have enthusiastically embraced our efforts to teach children and youth to share stories of village life, including feeding pigs; cross-net fishing; harvesting coconuts, yams, taro and tapioca; preparing breadfruit; cleaning reef fish; preparing sashimi; making leis; and baking in earthen ovens. We produce our stories in the indigenous language of the village, with the understanding that it is to be "gifted" to the participating families and schools and shared with our students at the University of Hawai'i.

In summer 2007, we had the opportunity to accompany an undergraduate student and a doctoral student to Kosrae (which is part of the Federated States of Micronesia). One student was from Kosrae and the other was Native Hawaiian. Both students were committed to empowering and educating children in their respective communities and were interested in how media can be used as a way of to tell stories of the beauty of their traditions and values. Both students had taken our assistive technology classes and had been part of our Pacific Voices network for many years. They were very familiar with a variety digital storytelling techniques and genres and were eager to put these methods to use with children in Kosrae.

We worked with twelve children and their elders to produce photo and video media about Kosraean village life, including the preparation of a "healthy meal" using local foods and traditional recipes. The resulting media showcased the children learning from their elders. It is now being distributed on DVD's throughout the island, as part of an effort to raise awareness about inclusion, diabetes prevention, and post-secondary education.

Modeling Digital Storytelling Techniques in University Courses

In this article, we have described several ways in which digital storytelling can support inquiry-based and project-based learning. As we have mentioned earlier, the technologies used for making digital stories are now readily available to all of us on our desktop and laptop computers. With instruction in using digital media and video-editing software, instructors who are interested in using digital stories in their classes can acquire the skills it takes to make short videos such as the ones have described in this article. It does take practice to gain expertise and refine these skills, but it is well within the reach of any educator who is interested.

In our university classes, we require our undergraduate and graduate level students to learn these skills by engaging in authentic field projects. We hope they will continue to use these strategies in their own teaching practice. We teach

these skills by modeling. Our assistive technology course meets once a week and our routine includes showcasing a few digital stories related to course content. Through these stories, we explore themes such as self-determination, cultural expression, and inclusion. As we watch and discuss digital stories, students begin to identify underlying tools and the techniques used to make these videos. We then guide our students through hands-on exercises in which they learn the skills necessary to produce their stories. Through a series of class assignments in which they practice these skills on small projects, we challenge students to plan and implement their own storytelling projects.

It can be challenging to teach multimedia skills to novice learners, especially when we are simultaneously engaging them in a creative enterprise. Humans work to acquire skills; they play to express creativity. The typical learning sequence, however, requires us often to work first, in order to play later. This becomes problematic when we want students to experience joy and creativity throughout the semester, even in the face of numerous mini projects and a daunting laundry list of skill sets to acquire, which is always the case in project-based learning.

We have met this challenge in our work by deemphasizing product outcomes in favor of experiential outcomes. We expect students to engage in projects as exploratory exercises, and not so much as projects to be mastered. Our technique may be summed up in three words: explore, reflect, and envision. Students *explore* with hands-on learning, *reflect* on their learning process, and *envision* how they might apply the technology in their classrooms.

We budget one hour per week for such *hands on explorations*, usually with students working in pairs. Volunteers and teaching assistants lend a helping hand as students work on the computers. We emphasize that students do not need to master skill sets; we want them to experience the skills firsthand, and then apply them creatively and joyfully within the time available.

Following each class session, students write about their learning experiences in the threaded discussion of our online courseware. This helps them to reflect on their learning and visualize how to apply the lesson that they have learned in their own classroom teaching. We view this "explore/reflect/envision" model as a useful way to expose our students to a broad array of technology applications within a single semester.

Students take pride in the finished products they create during the course. They use and share them in many ways. Some create CDs of their work and present them to their families. Some use them as curriculum materials for their student teaching or presentation materials in other university classes. This hands-on component to our teaching receives the highest student evaluations, with students reporting that they "get it," even if they don't "master it."

Visualizing a classroom of bricks and mortar, light and sound

In this article, we have described a few ways in which digital storytelling can be used as a powerful and transformative medium both for the producers and the audiences of the stories. As educators of future teachers, we will continue to use emerging technologies to model for our university students how they can better teach the children they will work with in their teaching careers and in their roles as community members. We will continue to develop our own practice of the methods of digital storytelling as new media emerge and, as our technologies evolve, to explore new ways of using media to present the lives of people with disabilities.

We envision our classroom as a theater, a portal, a studio, and a showcase in which new media are explored as tools of communication and empowerment. We use our classroom as a space in which a "community of learners" engages in creative activity—celebrating the beauty of the Pacific while constructing sustainable, inclusive visions of island life. We are passionate about storytelling. It is through stories that we share our common humanity. We envision our classroom as a performance center in which we celebrate picture and voice, light and sound. We move furniture, open creative spaces, invite storytellers (digitally and in person), encourage audience participation, and mix media. We imagine a reader's theater, bathed in imagery, projected floor to ceiling, just as stories once were told under the moon and by the light of the fire.

We envision our classroom as a gateway to Pacific islanders and their communities beyond—engaging in dialogue, solving problems together, and exploring cultural and artistic forms of expression. We see plasma screens on the classroom walls as in the CNN newsroom. We envision our university students tutoring other students—videoconferencing with children and youth, counseling them, and acting as role models to them. Our task is to create classroom partner-

ships and foster human connections through text, voice, and video. We seek to collaborate in shared efforts to celebrate difference and build a better world.

We envision our classroom as a curriculum workshop that is open in the evenings and during weekends. It is a place that supports the production of digital curricula for students in Hawai'i and other Pacific islands. Our student teams will create digital media that are broadcast on Pacific radio and television stations. We imagine regularly scheduled children's television workshops, produced by UH students and disseminated on satellite television and DVD to Pacific island nations. Our programs include songs, stories, cultural lessons, and community walkabouts. Please join us if you wish.

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ENDNOTES

[1] Not her real name