

## The Buzz Continues...The Diffusion of Digital Storytelling across disciplines and colleges at the University of Houston

Anne Rudnicki  
Curriculum and Instruction  
University of Houston  
United States  
[atrudnicki@uh.edu](mailto:atrudnicki@uh.edu)

Alysa Cozart  
Curriculum and Instruction  
University of Houston  
United States  
[aacozart@uh.edu](mailto:aacozart@uh.edu)

Annapurna Ganesh  
Curriculum and Instruction  
University of Houston  
United States  
[aganesh@uh.edu](mailto:aganesh@uh.edu)

Carrie Markello  
Curriculum and Instruction  
University of Houston  
United States  
[cmarkello@uh.edu](mailto:cmarkello@uh.edu)

Sabrina Marsh  
Curriculum and Instruction  
University of Houston  
United States  
[smarsh@gmail.com](mailto:smarsh@gmail.com)

Sara McNeil  
Curriculum and Instruction  
University of Houston  
United States  
[smcneil@mail.coe.uh.edu](mailto:smcneil@mail.coe.uh.edu)

Heidi Mullins  
Curriculum and Instruction  
University of Houston  
United States  
[HMullins@mail.coe.uh.edu](mailto:HMullins@mail.coe.uh.edu)

Donna Odle Smith  
Curriculum and Instruction  
University of Houston  
United States  
[odlsmith@mail.coe.uh.edu](mailto:odlsmith@mail.coe.uh.edu)

Bernard Robin  
Curriculum and Instruction  
University of Houston  
United States  
[brobin@uh.edu](mailto:brobin@uh.edu)

**Abstract:** The use of Digital Storytelling as a multimedia tool for teaching and learning has greatly increased over the past year in the College of Education, as well as in other colleges at the University of Houston, K-12 schools, and community organizations. Its use began in two instructional technology courses in the College of Education. Through word of mouth, workshops, and presentations, its use has diffused across campus and across Houston. The “buzz” created by this multimedia teaching and learning method continues to spread and grow. Many factors contribute to the effectiveness and popularity of Digital Storytelling. This paper presents descriptions of a few instructional uses of Digital Storytelling by faculty and instructors in the College of Education. In addition to the instructional uses of Digital Storytelling, this paper presents a discussion as to the reasons why Digital Storytelling has become so appealing to educators and students.

## **The Beginning**

During the past year, the University of Houston’s College of Education has seen a dramatic rise in the use of Digital Storytelling by both faculty members and their students. This widespread interest began with two faculty members in the College’s Instructional Technology Program. In the first case, one faculty member demonstrated Digital Stories found on the Internet to students in a digital photography course and challenged them to use the images they took with their cameras to create short but compelling stories of their own. This initial group began by selecting topics related to the history and culture of Houston and southeast Texas and then documented their topic with relevant digital photographs. The students were then taught to use multimedia authoring software to create an initial group of Digital Stories. Around this same time, another faculty member in the College of Education’s IT Program began using Digital Storytelling as the basis for a rich technology-integrated teaching and learning model for her undergraduate teacher education students (Robin & Pierson, 2005). The resulting stories from both groups of students exceeded the expectations of their instructors. The first group of stories, demonstrated creativity, thoughtful writing, organizational skill and powerful incidences of self-expression, even by students who were often reluctant to speak out in class. Students began sharing their excitement about Digital Storytelling with their peers, and the two faculty members began introducing their colleagues to ways to use this exciting technology in other courses.

## **Laboratory for Innovative Technology in Education (LITE)**

After the initial catalyst sparked by two instructional technology courses, a buzz of interest began to spread throughout the College of Education. Dissemination occurred through word of mouth, by faculty and student participants, as well as through Digital Storytelling presentations and workshops given by the Laboratory for Innovative Technology in Education (LITE).

The Laboratory for Innovative Technology in Education (LITE) was established in 2003 after College of Education (COE) Instructional Technology Program faculty received a \$500,000 grant award from the Houston Endowment. This award funded the creation of a collaborative learning environment for students, faculty, preservice and inservice teachers, and community partners in Houston. LITE participants explore ways to combine best teaching practices with powerful instructional technology tools to create educational projects and resources reflecting Houston’s rich educational and cultural diversity. Three Instructional Technology doctoral students and one Art Education doctoral student were awarded fellowships to work in the Laboratory for Innovative Technology in Education while pursuing their doctoral degrees. The range of professional expertise among the fellows ranges from media literacy, television production, teaching, library science, to visual art.

LITE fellows make themselves available to teachers and students on campus, and in the Houston area. The fellows provide resources and their knowledge of pedagogy to help other educators improve their technology skills and incorporate innovative technology use into classroom curricula. As the interest in the uses of Digital Storytelling in the classroom began to grow in popularity in the College of Education the LITE fellows decided to offer a one-hour presentation in their lab in the education building which attracted forty faculty, staff and students to attend. From this initial presentation, the buzz grew louder. More educators expressed interest in learning Digital Storytelling and the particular software most often used,

Microsoft Photo Story 3. LITE offered a hands-on workshop for faculty, staff, and instructional designers in both the COE and the College of Liberal Arts and Social Sciences (CLASS). A month later, due to overwhelming interest, LITE offered a second Digital Storytelling hands-on workshop for additional faculty, staff and instructional designers from the COE and CLASS . During the past year and a half, LITE has offered numerous workshops and presentations on Digital Storytelling, including a series of summer workshops developed for K-12 teachers.

In addition to the summer workshops for K-12 teachers, and workshops for College of Liberal Arts faculty, staff, and instructional designers, LITE fellows introduced Digital Storytelling to other educators, colleges, and students through workshops and presentations. LITE fellows worked closely with a Houston Independent School District (HISD) teacher of high school world history, economics and government to give workshops in the LITE lab for the teacher's 10<sup>th</sup> grade students during the spring 2005 semester, and again for another group of her students, in the fall 2005 semester. A total of five students from both workshops were recognized in the HISD history fair and given 1<sup>st</sup> and 2<sup>nd</sup> place awards for their Digital Stories. LITE fellows presented Digital Storytelling to University of Houston Hilton College of Hotel and Restaurant Management faculty and staff. LITE collaborated with a local non-profit "Project Row Houses" in teaching Digital Storytelling to their after-school students. One of the LITE fellows presented at a national Digital Storytelling conference entitled "From Digital Photographer to Digital Storyteller" about using Digital Photography to create Digital Stories. Lastly, many more presentations were made, and are being planned, for Houston area schools about the uses of Digital Storytelling in the classroom.

### **Why is Digital Storytelling Appealing to Educators and Students?**

Digital Storytelling attracts educators for a combination of reasons. One motivation relates to learning and cognition. According to Paivio's (1986) dual-coding theory and Mayer's (2002) cognitive theory of multimedia learning, learners possess both visual and verbal information processing systems. Auditory and textual information are processed in the verbal system, and images are processed in the visual system. Delivering information through both representational systems reduces cognitive overload in the working memory. Educators and their students are attracted to the multimedia teaching and learning method of Digital Storytelling because it can address learning through both cognitive systems.

The multimedia resources used to compile Digital Stories are easily accessible and relatively inexpensive. Digital Storytellers may use web-based sources for images and audio, or they may easily record their own original digital files using a digital camera and a microphone.

The user-friendly multimedia software application preferred by most COE participants is Microsoft's Photo Story 3. This free program works with the Microsoft XP operating system, and takes a remarkably short amount of time and effort to learn. Its creators originally intended the software to be used by people as a way to enhance personal photographs and snapshot collections by adding fades, zooms, and pans onto still images. With this flexible application, educators can personalize the Digital Storytelling experience. Everyone has the opportunity to "be" Ken Burns, the well-known documentary filmmaker who uses camera motion to create the dramatic illusion of moving images.

Digital Stories can be historical documentaries, personal narratives, fictional stories, and abstract concepts. Each Digital Storyteller chooses the resources, perspective, music, and narration which will be used, so each Digital Story is individually unique. Even when a topic (such as the American Civil War) has been recounted many times before, the decisions made by the storyteller are personal, and impart a deeper feeling of involvement with the story being told.

These factors have given the Digital Storytelling process immense appeal to educators and learners. With its inherent flexibility it has a wide following and numerous practical applications in teaching and learning. Educators in disciplines throughout the COE have found different ways to use Digital Storytelling in their instruction. Several of their accounts follow.

### **Digital Storytelling in Social Science Education**

The purpose of education, as defined by Dewey (1916), should be the freeing of individual capacity in a progressive growth directed to social aims (p. 98). The educational experience historically involves large diverse groups of people with unrelated goals and backgrounds who are expected to work toward a common understanding. To this end, Vygotsky (1978) stressed the importance of an education built around shared experiences to create a common language. The multimedia experience of Digital Storytelling can be used to develop that common language. Through the use of this innovative technology, undergraduate students and visiting high school and middle school teachers at the University of Houston work within a unique, non-threatening setting to develop visual storytelling products. Using artifacts, primary sources, and internal and external representations, students and teachers work toward what Hutchins (1996) described as “a distributed phenomenon”, while at the same time exploring their own individuality through Photo Story projects.

Educators and students alike use computers to construct intensely personal Digital Stories that reflect their research investigations. For instance, when the students study the events leading up to the Great Depression, they read Langston Hughes’s poem “The Ballad of the Landlord,” view clips from movies depicting the era, such as “The Grapes of Wrath”, listen to early jazz and blues recordings by a young Louis Armstrong and Duke Ellington as well as Woodie Guthrie’s ballad of “Tom Joad”, and examine photography by Walker Evans and Dorothea Lange and paintings by Charles Demuth. From these explorations, and their individual interests, they script and create Digital Stories that are full of motion, sound, graphics, and content. Directly linked with this Digital Storytelling experience is the contextual concept that one topic is connected to others in subjective, holistic and personal ways, a vision that is frequently absent in educational experiences. Students and teachers reported increases in the amount and quality of their learning, their feelings of community involvement, and their motivation to communicate through this medium. Not surprisingly, many students and educators strongly agreed that technology use, especially Digital Storytelling, would have a positive impact on their future educational practice.

## **Digital Storytelling in “Technology in the Classroom”**

“Technology in the Classroom” is a master’s level, classroom-oriented overview of technology covering a broad range of technology tools. It is conducted as a project-based course emphasizing technology strategies and innovative ideas to support existing curricula in practical ways.

Students in “Technology in the Classroom” are required to examine and justify their technology use within educational frameworks such as those described by Bloom, Gardner, and Hunter. For all classroom products, students must be able to articulate a thoughtful approach to instructional design and to their use of technology as well (Beaver & Moore, 2004).

The learners are expected to emerge with mastery, confidence and concepts to use readily available or free technology that can be purposed to support teaching and learning. The free Photo Story application fits these criteria beautifully. Within this class, however, the scripting requirement differs from conventional storytelling. “Technology in the Classroom” students are not asked to create a complete story, but to focus on Photo Story as a tool that adds value to other types of classroom experiences.

An emphasis is placed on using available technology as an assist to understanding curricular concepts, so students are not required to create a stand-alone Digital Story. The focus is to employ Photo Story (or any other technology tool) as an enhancement to other teaching strategies. By taking the emphasis off of the formal concept of “story,” a Photo Story product could be inserted nearly anywhere within the lesson cycle. For example, the visual and auditory combination could become an anticipatory set, anchor a review session, or provide multi-sensory prompts for pencil and paper-based exercises.

Each day, a teacher must make at least three choices: (1) “What do I plan to teach?” (2) “What do I want the students to learn?” and (3) “Which methods will I employ to accomplish those tasks?” Photo Story has the potential to strategically support that teacher for any of the three objectives.

## **Digital Storytelling in Art Education**

In today's growing need for understanding technology's role in art education, it is imperative to offer pre-service teachers the opportunity to experience the use of technology, as well as art education content. According to Gregory (1996), using "technologies as a catalyst for experiencing and learning about our world" (p.51) is important for establishing a creative classroom environment. In "Art for the Elementary Classroom", a course required for all education majors at the University of Houston, students have the opportunity to not only learn how to integrate art into contents areas, but also how to integrate technology. Many of the students who enroll in the class have not had art instruction in the past and often are not yet comfortable looking at, talking about, or making art. Galbraith (1997) advocated that pre-service teacher educators should include technology as part of their responsibility for the preparation of future teachers because it combines "new technology with existing practices" which will lead to positive change in art education. The challenge becomes how to help students increase their knowledge of art and technology with strategies that can be successfully applied in their future classrooms. Digital Storytelling is an effective way for students to learn more about an art topic while increasing their skills with technology. In this course students choose an art historical period or an element and principle of art to create a 2-3 minute Digital Story, using Microsoft's Photo Story 3 program for Windows XP. The implementation of both art content and technology in this project provides engaging learning opportunities in both realms. The students address the art content through the topic's definition, its characteristics, and its importance to art. The basics of the technology program are introduced in a 1.5 hour lab experience, where students are introduced to PhotoStory3. They learn to download pictures, create narration, and visually organize ideas in a technological medium.

Most of the summer and fall 2005 students had not used Photo Story 3 in previous courses. None had used the voice-over audio feature which was a required component of the assignment. In addition to the Digital Story itself, the students were required to create a hands-on art activity to reinforce their Digital Storytelling topic. Each Digital Story was presented to the class in tandem with a hands-on art activity. Student challenges posed by the Digital Storytelling technology process included the preparation of quality audio. University of Houston students often prepare their Digital Stories in the CITE lab, an open lab for everyone enrolled in the College of Education. These labs are typically quiet, but because the students are not isolated from other students, they speak softly into their microphones instead of using normal conversational loudness levels. Another challenge is maintaining image quality. Often students download images from the Internet with insufficient resolution, creating a pixilated effect that restricts image clarity. However, this assignment allows students to edit and revise, fix problems, and strengthen their technological proficiency through practice. Final student projects reveal the main points of the topics through text, imagery and voice-over, effectively capturing the attention of viewers. Many students plan to use Digital Storytelling in their future classrooms. Digital Storytelling appears to be an excellent way of merging art education and technology as a means for successful and meaningful learning experiences for pre-service teachers.

## **Digital Storytelling in Early Childhood Education**

Digital Storytelling is also being used as an instructional tool in a preservice course titled "Curriculum Studies in Early Childhood Education". First, the use of Digital Storytelling as an educational tool is modeled for the course students. Next, the students receive instruction on how to create Digital Stories. Each student in the course is required to individually create a Digital Story which meets an instructional objective. Students also work with others as a group to develop a Digital Story to incorporate with the course project on curriculum development.

This course involves a systematic study of the components of curricula, the major principles and concepts for developing curricula in early education settings, and the development and implementation of an appropriate curriculum for the young child. As a part of the course work students engage in the process of curriculum development working in small groups. The process for this activity includes a) choosing themes for different early childhood grades, b) setting objectives for study based on the Texas Essential Knowledge and Skills (TEKS) that relate to the theme, c) webbing a plan for the study of a theme involving various activities focusing on different subject areas, d) determining daily activities and ensuring a balance between various kinds of activities, e) deciding a daily schedule of activities, and f) planning a timeline for

the planned unit. Working in small grade level groups, ranging from PreK to 4<sup>th</sup> grade, each group develops a week or two week long thematic-based curriculum following the above mentioned process. The group is expected to create a Digital Story based on the curriculum development theme chosen for that grade level. The groups develop the Digital Story and incorporate it in their chosen grade level curriculum development project.

## **Digital Storytelling Research**

Currently, a mixture of research studies on the effectiveness of Digital Storytelling are underway in the UH College of Education. Faculty and doctoral students are investigating the impact of summer Digital Storytelling workshops on the instructional practice of Houston area teachers. A mixed-methods experimental research design is being designed by one of the LITE fellows on the construction of Digital Stories in order to synthesize knowledge of history, social studies, and media literacy. Qualitative research on Digital Storytelling has also been proposed and discussed by College of Education faculty, representing a number of different program areas including Instructional Technology, Art, Social Studies and Language Arts Education. The research buzz about Digital Storytelling has only just begun at the University of Houston.

## **Conclusion**

Digital Storytelling is a multifaceted technology tool and its diverse applications in teaching and learning are being newly discovered. As described above, instructors and faculty have found numerous ways to incorporate it into their instruction. In the course "Technology in the Classroom" Digital Storytelling is highlighted for its potential to add support to any part of the lesson cycle. In "Art for the Elementary Classroom", Digital Storytelling is used as a way of presenting a topic in art history, or principles and elements of design. In addition to delivering content, it can be used to integrate technology into the art education curriculum. The social sciences are using Digital Storytelling with students to present personal perspectives on interdisciplinary subject matter in a multimedia format. Early childhood educators incorporate Digital Storytelling to meet individual learning objectives, and to support theme-based curriculum for different grade levels as well.

In addition to supporting the current instructional uses of Digital Storytelling by COE faculty and instructors, LITE continues to give workshops and professional development seminars for the college, as well as Houston area schools. A Digital Storytelling festival is planned for the future to showcase digital stories created by students and teachers who have attended the numerous workshops and presentations.

A website has been created to accompany this paper in addition to other papers being presented about Digital Storytelling at SITE 2006 by University of Houston College of Education participants. Please click on the following link to view Digital Stories created by students and teachers in the courses and workshops discussed in this paper. <http://www.coe.uh.edu/digitalstorytelling/site06/>

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