

Literature Review
Digital storytelling: Examining the process with middle school students

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Everyday communication involves telling, listening, and responding to stories. Storytelling has evolved throughout history. The first stories were told through pictures on walls. Then, stories were passed down orally from generation to generation. Now, stories are told using electronic technology. Storytelling is prevalent in K-12 schools as students communicate daily with others by sharing their own stories. Educators utilize storytelling as a means for students to implement the writing process as students compose their own stories. Storytelling, more specifically digital storytelling, has the potential to become a valuable educational tool for students when taught in an effective manner.

This review of the literature addresses several topics associated with digital storytelling. First, storytelling is defined, followed by a description of the importance of using storytelling in K-12 classrooms. The next two sections focus specifically on digital storytelling —definitions of digital storytelling and specific examples where digital storytelling has been used in K-12 classrooms. Next, educational connections of digital storytelling are examined. The final section focuses on successful instructional approaches used with middle school students, since this action research project takes place in a middle school classroom.

Defining Storytelling

Storytelling is defined in many different ways. Gere (2002) defines storytelling as “the act of using language and gesture in colorful ways to create scenes in a sequence” (p. 2). Yet another definition states, “storytelling is a compelling method of sharing experiences in order to make sense of our world right here and now. Stories build kinship, allow a glimpse into other

people's lives and perhaps let us see ourselves in a story" (Kozlovich, 2002, p. 9). According to McDrury and Alterio (2003),

Storytelling is uniquely a human experience that enables us to convey, through the language of words, aspects of ourselves and others, and the worlds, real or imagined, that we inhabit. Stories enable us to come to know these worlds and our place in them given that we are all, to some degree, constituted by stories: Stories about ourselves, our families, friends and colleagues, our communities, our cultures, our place in history. (p. 31)

Taking into account the commonalities of these definitions, storytelling is the sharing of ideas and experiences through words and actions to communicate and make meaning about our lives and the lives of others. The actual format of a story may vary, but the focus is transferring meaning.

The way stories are told has evolved throughout history. Yet, transferring meaning is the essential element of storytelling no matter what form it takes. Storytelling is one of the oldest methods of communicating ideas and learning (Mello, 2001). Many cultures throughout history told stories in a variety of ways, but they all used stories as a form of communicating meaning and were a means for teaching and learning (Meyer & Bogdan, 2001). Early Native American cultures had no written language and needed a way to relay cultural values, so they used oral storytelling (Koki, 1998). Native American children heard a story repeatedly and would grasp the meaning when they were more mature. Each time a story was told, a child would learn new morals and life instructions from the story (Meyer & Bogdan, 2001). Stories were told to model values and behaviors, to explain the purpose of mankind, to celebrate rituals and ceremonies, and for elders to share their knowledge with the community (Koki, 1998).

European and Asian cultures also used oral storytelling, similar to Native American cultures (Koki, 1998). Traveling poets and storytellers would communicate stories orally. They would travel across the countryside from village to village to share experiences, such as death, conflict, marriage, and wisdom with others. Often, the only way news was communicated was through these storytellers (Koki, 1998). Stories were not only told orally, but they could also take the form of artwork and pictographs. According to Patterson (1999), drawings and paintings could depict a story. In the Japanese culture, detailed artwork was a form of storytelling. Pictures conveyed meanings about events and people and when presented frame by frame took the form of a story (Patterson, 1999).

Storytelling in K-12 Classrooms

Today, stories are still used to educate children, just as they have been used throughout history. Oral and written stories (both through text and pictures) are used as teaching and learning tools. Storytelling is prevalent in the American education system (Mello, 2001). The U.S. Department of Education (1986) recognizes storytelling as a valuable teaching and learning tool, “Storytelling can ignite the imagination of children, giving them a taste for where books can take them. The excitement of storytelling can make reading and learning fun and can instill a sense of wonder about life and learning” (Bendt & Bowe, 2000 p. 1). Storytelling is a process where students personalize what they learn and construct their own meaning and knowledge from the stories they hear and tell. Shank (1990) states,

We do not easily remember what other people have said if they do not tell it in the form of a story. We can learn from the stories of others, but only if what we hear relates strongly to something we already know. We can

learn from these stories to the extent that they have caused us to rethink our own stories. (p. 83)

Students are able to construct meaning from stories told to them and teachers use both oral and written storytelling in the classroom. Students learn from hearing stories told in the form of a read a loud or when students hear a professional storyteller. Young students are authors of oral storytelling when they “share” or tell a story about themselves or draw a picture to represent a story about something that happens. The tool of oral storytelling is used before students’ reading and writing skills are developed. Young children learn how to construct meanings from stories they hear and transfer those same skills to stories when they become fluent readers and writers. According to Bendt and Bowe (2000), oral storytelling provides students with a means to improve speaking and listening skills. Craig et al. (2001) state, “Oral stories help [children] acquire the context of literacy” (p. 47).

Storytelling is not only used for communication purposes, but storytelling has been used to teach literacy skills, cooperative learning skills, critical thinking, and to build knowledge of different contexts (Mello, 2001). When students develop reading and writing skills, teachers are able to use storytelling in a written form to teach and convey meanings with students. Much of the traditional literature used in schools has evolved from folk tales and oral stories that were edited and published to teach and convey messages about a culture (Mello, 2001). Students use these stories to construct their own meaning and knowledge about different topics. They may also use these stories as a model for their own composition of stories. As they write, students can apply literacy skills that they have seen modeled in stories they have read.

Storytelling can be a mechanism used to implement literacy skills in the classroom. According to Kozlovich (2002),

Storytelling in any form is a natural way for students to build literacy skills. Learning how to tell a story by writing it down, talking about it, and learning to actively listen to someone else's story— all of these activities teach important language skills in meaningful contexts. (p. 9)

Storytelling provides an opportunity for students to expand their vocabulary as they decode the meaning of words, based on the context of the story they hear or read. Listening to stories also improves a students' understanding of grammar and literary devices as they see them within a story (Wojciechowicz, 2003).

Stories have a unique structure different from other forms of literature. As students read and listen to stories, they see complex aspects of literacy applied and they are able to use the story elements in a meaningful context. According to Tompkins (2002), they witness the story elements: plot, characters, setting, and theme used in a manner that is familiar to them. When students compose their own stories, they demonstrate what they know about these story elements and apply what they have learned using the writing process. It provides the teacher with a means to document and evaluate students' understanding of the story elements and their knowledge about stories (Tompkins, 2002). As students go through the writing process and apply the story elements they need to "...understand the complex aspects of literacy, such as motive for action, author/audience relationships, and the cultural definitions of a good story" (Craig et al., 2001, p. 47). Students who understand these aspects tell stories that communicate their thoughts and ideas. They are able to practice communicating their thoughts and feelings in an articulate manner (Gere et al., 2002).

Storytelling is a unique method of communication and students express their thoughts and ideas in their own unique ways. As students prepare their stories and go through the writing

process, it provides them with opportunities for social interaction and an opportunity for self-expression (Craig et al., 2001). The writing process requires students to work with others as they read and write. Students openly discuss their stories with peers and begin to build their literacy skills with support in a collaborative environment (Tompkins, 2002). Mello (2001) concluded, "...storytelling enhanced the students' abilities to reflect and develop relationships between the texts, teller, and themselves. As a result, these relationships supported and amplified students' comprehension, listening and interactions with others."

Students build on prior knowledge and connect prior experiences to new understandings by listening, reading, and composing their own stories (Craig et al., 2001). As students create their new knowledge from a story, they enhance and apply critical thinking skills. Mello (2001) states, "The telling of traditional texts in educational environments raised student consciousness and enriched their lives by engaging them in thinking critically and deeply about social issues" (p. 12). Students have the opportunity to think critically about social issues and author/audience relationships, but they also build connections with traditional English skills, vocabulary and language patterns as they read, listen, and compose stories (Koki, 1998; Bendt & Bowe, 2000).

The next section defines digital storytelling. Digital storytelling is a relatively new way of composing stories that incorporates the use of multimedia to help tell a compelling story.

Defining Digital Storytelling

Digital storytelling is an emerging form of storytelling that has the same capabilities as oral and written storytelling, but offers other unique characteristics for teaching and learning. Digital storytelling involves telling stories and sharing information through multimedia (Armstrong, 2003). The Digital Storytelling Association defines digital storytelling as

... the modern expression of the ancient art of storytelling... using digital media to create media-rich stories to tell, to share, and to preserve. Digital

stories derive their power through weaving images, music, narrative and voice together, thereby giving deep dimension and vivid color to characters, situations, and insights. (Digital Storytelling Association, 2002)

In the early 1990s, Dana Atchley, Nina Mullen and Joe Lambert established the Center for Digital Storytelling. Initially, The Center for Digital Storytelling and the Digital Storytelling Association were established to help support digital storytelling in the business world (Digital Storytelling Association, 2002). According to *BusinessWeekOnline* (2000), “Digital storytelling is the hot new trend in online marketing. By posting evocative personal stories on the Web—told through voice, video, music, and text —companies are trying to engage customers and build brand.” Oxygen Media, Coca-Cola, PricewaterhouseCoopers, and Nike use digital storytelling to promote their products. Digital storytelling is a very unique way to communicate with the consumer (*BusinessWeekOnline*, 2000).

More recently, Jason Ohler and the Center for Digital Storytelling have acknowledged that digital storytelling is a means of storytelling that is not just for businesses anymore. In Ohler’s book, *Telling your story: A handbook for putting the story into digital (and traditional) storytelling*, he states that digital storytelling is for both traditional storytellers and digital storytellers “who use the full technological arsenal of a movie studio” (p.70).

Ohler (in press) believes that teachers, students, businesses, policy makers, master storytellers, and artists alike may benefit from this means of storytelling and suggests a model for telling a digital story. The model guides the storyteller as the story is created and ensures that essential information is present to make the digital story meaningful before the technology is added. As Ohler (in press) confesses, “if you don’t have a good story to tell, then the technology just makes that more obvious” (p. 14). The elements of Ohler’s model include:

1. a beginning with a “call to adventure” in which a character or characters leave their ordinary lives behind, at least temporarily,
2. a significant event or conflict which causes the character to transform,
3. a transformation or evolution of the central character (sometimes called “the hero” or protagonist), so that he is demonstrably different by the end of the story,
4. transferable transformation, that allows the reader to transform and learn new things, and along with the central character,
5. an end, which means closure not necessarily a happy ending. (pp. 7-8)

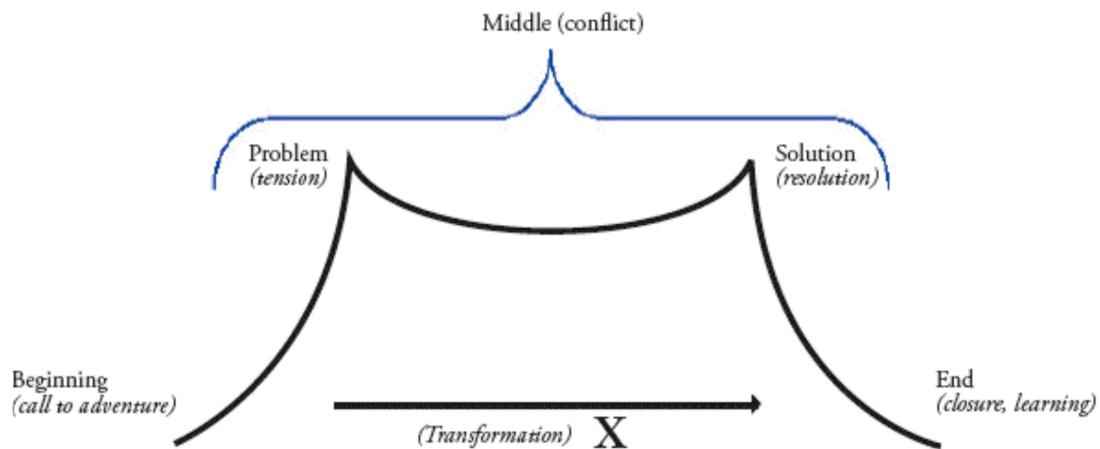


Figure 1. Ohler's visual portrait of a story or story map
 From *Telling your story: A handbook for putting the story into digital (and traditional) storytelling* (p. 42) by J. Ohler, in press, Juneau, AK: Brinton Books.

There is more to a story than a beginning, middle and end. As students prepare to compose a story, the story map is the guide that is used to fill in the details. According to Ohler (in press), mapping is key in telling a meaningful story. As Figure 1 illustrates, the character must go through a transformation and change to make the story meaningful. In the beginning, information is presented about the main character. As the reader moves up to the middle of the story, the character's quest is defined. The middle of the story determines the conflict or

problem. As the main character progresses from the problem to the solution, the character learns, grows, and changes. In the process of telling about the growth, the listener also changes. Once the character has been changed or transformed in some way, the listener should feel that the story is ready for closure. This means that the character has come full circle, the goal has been reached or the events of the story have been completed (Ohler, 2004).

When teaching digital storytelling, one must first make sure that the elements of oral storytelling are understood and then incorporate the digital elements. Ohler (in press) suggests that the author first practice telling stories orally before transitioning to the digital format. According to Ohler (in press), “The goal is to preserve what works from the world of oral storytelling and take advantage of the power that digital technology offers without being distracted by it” (p. 70). This enables the storyteller to convey meaning and communicate this meaning to the audience.

The Center for Digital Storytelling also has a model for teaching digital storytelling (Center for Digital Storytelling, 2003). The Center provides a workshop that teaches the “Seven Elements of Digital Storytelling.” These elements are:

1. A point (of view)— What is the author trying to communicate? What is the point of telling the story?
2. A dramatic question— This is the reason the story is being told. The characters are looking for answers or a solution to what is happening.
3. Emotional content— The story should make an emotional connection with the listener.
4. The gift of your voice— The storyteller’s voice is unique and conveys a meaning of its own, so it is important to assure that the voice used in a voiceover sounds natural.

5. The power of the soundtrack— Various types of music can provide meaning and perceptions. Therefore, the soundtrack should be carefully selected.
6. Economy— The images used in a story should be necessary for the story under construction and be used for the proper duration.
7. Pacing— The tempo and rhythm of the story is important in conveying the meaning of the story.

These elements closely tie with elements of oral storytelling, but a digital story is enhanced with the addition of text, photographs, audio, video, or other forms of media. The purpose is for a storyteller to convey a story in a visual manner that provides the audience with a deeper meaning or understanding of the story (Center for Digital Storytelling, 2003).

The Center for Digital Storytelling and Ohler have models that have been used to facilitate digital storytelling with adults. However, as technology becomes more prevalent in schools and easier to use, teachers are developing their own methods to use digital storytelling as a way of addressing both technology and content standards.

Digital Storytelling in K-12 Classrooms

Computers, digital video cameras, digital cameras, editing software, and other technologies are becoming more accessible in K-12 classrooms. In turn, these provides students and teachers with the appropriate tools to create digital stories (Armstrong, 2003). To date, little research has been conducted that specifically addresses using digital storytelling in the classroom, but digital storytelling projects are beginning to appear in K-12 classrooms. In addition, examples of how to implement the process with students are being shared.

In Georgetown, Kentucky, students and teachers are using technology to create digital stories in several classrooms (Digital Storytelling in the Scott County Schools, 2002). Several teachers from the Scott County schools attended a workshop sponsored by The Center for Digital Storytelling and learned how to create their own digital stories by utilizing the seven elements. When they returned to their classrooms, they adapted what they learned to meet their own learning objectives. For example, a second grade teacher guided her students through the process of creating a digital story by meeting an hour and a half each week for four weeks. The first week, the students discussed the story elements and the teacher guided them through a “pass the pen” activity. This activity enabled the class to compose one story with each student contributing one sentence. The second week, the students illustrated their part of the story and learned how to use a scanner. During the next two weeks, the students added their pictures to iMovie and recorded the narration of the story to match the pictures. By going through this process step by step with the students, the teacher’s goal was to introduce them to the skills needed to create a digital story and then let the students create their own individual story by the end of the school year. This school district found such value in this form of sharing stories they founded the Scott County Digital Storytelling Center (Digital Storytelling in Scott County Schools, 2002).

Banaszewski (2002) describes a digital storytelling project he completed with fourth and fifth graders in Lexington, Massachusetts. He began the project by selecting a topic that students could use to tell a meaningful story with a personal connection. For this assignment, students wrote about a place that was important to them and began writing an outline. These prompts encouraged students to answer several questions— like what is your earliest memory of this place, what are your feelings when you are there, and what difference does this place make in your life (Banaszewski, 2002)?

Once students had their ideas written about their important place, they added a visual dimension. The students were required to have a “hook” to introduce their stories, so it made the stories more than just a slide show of pictures. The students kept revising and editing each other’s stories as they were adding the digital elements. The technology elements were taught in a systematic way by modeling and how to use the tools, how to add sound and graphics, but the focus was still on representing the story using appropriate pictures, music, and voice. Technology was always viewed as secondary to the storytelling process (Banaszewski, 2002).

Students worked as peer coaches to teach each other different technology skills and evaluate peers’ stories. They used a “story-coaching” approach that was adapted from a professional storyteller. Banaszewski modeled the story-coaching approach by presenting his own digital story about an important place. Teacher modeling provided him with the opportunity to demonstrate how he, as an author, was aware of his audience throughout the creation of his story. As students presented their own stories, peers offered suggestions and praise. Students were encouraged to ask questions. At the end of the project, Banaszewski (2002) concluded “everyone has a story about a place that is important to him or her, and that by using multimedia to develop and share those stories, we strengthen our understanding of our communities” (paragraph 2).

High school students in San Francisco strengthened their understanding of the Holocaust through the incorporation of digital storytelling in their social studies course (Levin, 2003). Students researched the Holocaust and related topics and then interviewed Holocaust survivors to tell their moving stories, using information gained from the interviews and their research. Students learned about this historical event from people who lived through the event and this often cannot take place with only a textbook (Levin, 2003).

The digital storytelling process began in this high school with students selecting a meaningful topic where there was a story to tell. The goal was to tell the story of a Holocaust survivor. Technology for this project was provided through a grant and all students had access to laptop computers to edit their digital stories. The students worked cooperatively to produce the story, but broke up the interview into smaller portions for individuals to edit. These students already had the necessary technology skills to complete such a project, so they focused on editing and telling the story from the Holocaust survivor's point of view. The project resulted in the students deepening their understanding of the Holocaust and also provided a service by publishing of these digital stories. The entire project benefited students as they learned the history of the Holocaust, but more importantly it preserves the survivors' stories for others (Levin, 2003).

In another example, middle school language arts students in Virginia were asked to tell a personal narrative and use only still pictures to tell it (Kajder et al., 2004). For this project, students gathered artifacts about an event that they believed was significant in their lives. Since writing can be difficult for some students, this digital storytelling project provided them with a new way to share their personal stories. According to the teacher, students acquired a greater understanding of what it meant to be a writer and they were more motivated to read for the significance of the personal stories they read. Although digital storytelling is just beginning to be documented and explored in K-12 classrooms, it seems important for students to acquire the necessary skills to design these stories effectively (Kajder et al., 2004).

Educational Contributions of Digital Storytelling

These digital storytelling examples illustrate how teachers are using the process to enhance learning opportunities for students at the elementary and secondary school levels. Digital storytelling is a method to combine electronic media tools with traditional storytelling teaching methods. This approach provides K-12 educators with a new way to address students' learning needs. Digital storytelling provides students with a learning environment where they work collaboratively and think critically to apply communication skills, while addressing content and technology standards.

Digital stories are a form of communication and as they are created, students apply critical thinking skills, while selecting the appropriate media to convey the story's message to the audience. According to Levin (2003), the new technology which students now have access to provides opportunities for students to communicate in ways that were not possible ten years ago. Students can now communicate through digital stories and they allow "...a writer to convey personal narrative through the use of images, video and sound. Students work as readers and writers, but also as screenwriters, artists, designers, and directors" (Kajder et al., 2004, p. 19). Students cross the boundary from "learner" to "contributor." Their work has meaning and is authentic (Levin, 2003). As described by Bransford, Brown, and Cockling (2000), "Learners of all ages are more motivated when they can see usefulness of what they are learning and when they can use that information to do something that has an impact on others..." (p. 61). The students who created the stories of the Holocaust survivors saw how their work had a direct impact and meaning for others outside the classroom (Levin, 2003).

Students work collaboratively and apply a variety of skills when they create their digital stories. They engage with the content as they work in cooperative groups to storyboard, shoot,

and edit their digital stories, which is critical in the learning process (Standley, 2003). According to Greenwood (2003), “Educationally, video production is a cross-curricular, collaborative experience that appeals to all types of learners and requires many different intelligences. By its nature, video production is cross curricular, combining writing, public speaking, acting, and aesthetic education with whatever subject area students are documenting” (p. ix-x).

Implementing the digital story process in the classroom provides one way to address content and technology standards. Digital storytelling can be used in science, math, language, or the arts (Standley, 2003). When students put together what they know with words and pictures teachers can see what they know and what they don’t know (Armstrong, 2003). The Scott County School’s second graders chose to use the digital storytelling project because it enabled students to apply their storytelling skills and met all of their grade level technology standards for the year (Digital Storytelling in Scott County Schools, 2002). Students can apply literacy skills, participate in the writing process, and engage themselves with the content, while creating digital stories.

No matter what technology is used, the real power of digital storytelling comes when students understand how to shape information and ideas to best present them to any audience in the world. The real power behind digital storytelling is the knowledge and ability to use new tools to teach the old tradition of storytelling. (Standley, 2003, p. 18)

Successful Instructional Approaches for Middle School Students

Middle school students learn differently than elementary students and high school students. Therefore their instructional needs are different (National Middle School Association,

2004). Middle school educators are faced with the unique task of teaching these students using effective methods that will motivate and engage them in the learning process.

According to Strauss and Irvin (2005), effective literacy learning programs in middle grades are student-centered, flexible, and respond to students' diverse needs. "Rather than dismissing some students as unwilling or unable to learn, they actively seek ways to structure their classroom activities and their school-wide program in ways that support a diverse array of student needs and learning styles" (Stauss & Irvin, 2005, paragraph 8). Student writing is encouraged across the curriculum with the implementation of a variety of writing strategies and opportunities. Students are provided with various texts that are interesting and appropriate. Alvermann (2001) also concluded that middle school students need to find their own reasons to apply their literacy skills outside of the academic reasons and "it is important that teachers create sufficient opportunities for students to engage actively in meaningful subject matter projects that both extend and elaborate on the literacy practices they already own and value" (p. 25).

Hands-on activities engage middle school learners with the subject areas and their own learning styles (National Middle School Association, 2004). Hands-on activities enable students to ask questions and manipulate materials in order to construct their own meaning. This is how some middle school learners learn best (National Middle School Association, 2004). Effective instructional approaches for teaching middle school students was a theme for a recent *Des Moines Register* series published in February 2005. Middle school teachers and students discussed how they used projects and hands-on activities to engage adolescent learners with the goal to improve standardized test scores (Boone & Hauwkins, 2005). Boone (2005) quoted one middle school student as saying, "It's easier to learn when you can experience it." Some teachers are having students speak about math rather than do multiple problems, while others are

using music, physical activity, and teaching aids to help students learn. One math teacher tries to use computers, drawings, and lectures to teach concepts. He had his students bounce tennis balls to understand the concept of slope (Boone, 2005).

In order to use hands-on activities and project-based learning activities, teachers need flexible class scheduling (Boone & Hauwkins, 2005). Teachers report that hands-on lessons take extended periods of time and short class periods tend to limit teachers' creativity (Boone, 2005). To solve this problem, Indianaola schools let teachers to combine their forty-two minute class periods so they can have more time for hands-on projects (Boone, 2005).

Multimedia learning is an example of project-based learning that requires an extended time frame, but motivates middle school learners (Simkins, Cole, Fern, & Means, 2002). Project-based multimedia learning is a new method of teaching new knowledge and skills in the course of designing, planning, and producing a multimedia project" (Simkins, et al., 2002, p. 3) According to Simkins et al. (2002), project-based multimedia learning engages students, fosters real-world connections, develops decision-making skills, provides opportunities for students to work collaboratively, and incorporates different content areas. While involved in project based learning activities middle school students are engaged and typically exceed teachers' learning goals when they integrate different content areas (Turner, Bernt, & Bernt, 2003). After using a project-based multimedia, Simkins et al. (2002) quotes one middle school teacher saying, "Boys, girls, high achievers, and low achievers seemed equally motivated to create a quality product" (p. 5).

Summary

The forms of storytelling have change throughout time, but the purpose has remained constant, that is to communicate meaning for teaching and learning. Storytelling has found its place in the classroom and now digital storytelling is beginning to do the same. The digital storytelling process has the potential to provide an opportunity for a hands-on, flexible, cross-curricular learning experience to engage K-12 students.

In order for digital storytelling to have a positive impact on student learning, it is important to teach students how to effectively tell a meaningful story. Individuals construct their own meaning from a story each time it is told. Listeners relate what they are hearing to their own personal stories and accommodate these ideas into their own schema. Therefore, as students prepare to tell someone else's story or a story of an event, they must make a conscience effort to assure they are accurately depicting the story. When one attempts to tell someone else's story it is important to gather and synthesize enough information so the storyteller fully understands the event. The story will not be as effective or meaningful without a deep understanding of the content. The meaning could become lost (McDrury & Alterio, 2002).

Digital storytelling is a hands-on process for students to participate in as they personalize what they are learning and construct their own meaning and knowledge from the stories they tell and how they choose to tell them. As Armstrong (2003) declares, "Helping children tell their stories, through a variety of means and media, to a variety of audiences, is the most important thing teachers do" (p. 15).

References

- Alterio, Maxine (2001). Using storytelling to enhance student learning. Retrieved January 28, 2005, from http://www.ltsn.ac.uk/embedded_object.asp?id=21680&filename=Alterio
- Alvermann, D. (2001). *Effective literacy instruction for adolescents*. University of Georgia, Department of Reading Education.
- Armstrong, S. (2003). The power of storytelling in education. In Armstrong, S. (Ed.), *Snapshots! Educational insights from the Thornburg Center* (pp. 11-20). The Thornburg Center: Lake Barrington, Illinois.
- Banaszewski, T. (2002). Digital Storytelling Finds Its Place In the Classroom. *Multimedia Schools*. January/February, 2002. Retrieved November 12, 2004, from <http://www.infotoday.com/MMSchools/jan02/banaszewski.htm>
- Bendt, H. & Bowe, S. (2000) *Enriching high school English through storytelling*. 1(1). (pp.1-11)
- Boone, D. (2005, February 15). Middle school teachers try new methods. *Des Moines Register*. Retrieved February 15, 2005, from <http://www.dmregister.com/apps/pbcs.dll/article?20050215/NEWS02/502150422/1001>
- Boone, D. & Hauwkins, M. (2005, February 16). You can't force students to learn...but you can entice them to learn: schools find solutions in promotions, teamwork. *Des Moines Register*. Retrieved February 21, 2005, from <http://www.dmregister.com/apps/pbcs.dll/article?20050216/NEWS02/502150422/1001>
- Bracey, B. (2003). Extending the information revolution with digital equity and inclusion. In Armstrong, S. (Ed.), *Snapshots! Educational insights from the Thornburg Center* (pp. 21-31). The Thornburg Center.

- Bransford, J., Brown, A., & Cocking, R. (Eds). (2000). *How people learn: Brain, mind, experience, and school*. Washington DC: National Academy Press.
- BusinessWeek Online*. The Power of Digital Storytelling. May 15, 2000. Retrieved January 28, 2005, from http://www.businessweek.com/2000/00_20/b3681104.htm
- Center for digital storytelling, (2003). Retrieved November 11, 2004, from <http://www.storycenter.org/history.html>
- Craig, S., Hull, K., Haggart, A. & Crowder, E. (2001). Storytelling: Addressing the literacy needs of diverse learners. *The council for exceptional children*, 33(5), 44-51.
- Digital Storytelling Association. (2002). Retrieved November 04, 2004, from <http://www.dsaweb.org/01associate/ds.html>
- Digital Storytelling in the Scott County Schools (2002). Retrieved January 28, 2005, from <http://www.scott.k12.ky.us/technology/digitalstorytelling/ds.html>
- Gere, J., Kozolvich, B., & Kelin II, D. (2002). *By word of mouth: A storytelling guide for the classroom*. Honolulu, HI: Pacific Resources for Education and Learning.
- Greenwood, D.R. (2003). *Action! In the classroom: A guide to student produced digital video in K-12 education*. Oxford: Scarecrow Press, Inc.
- Kajder, S., & Swenson, J. (2004). Digital images in the language arts classroom. *Learning and Leading with Technology*, 31(8), 18-21.
- Koki, S. (1998). Storytelling: The heart and soul of education. *Pacific Resources for Education and Learning*, 1-4.
- Levin, H. (2003). Making history come alive. *Learning and Leading with Technology*, 31(3), 22-27.

- McDrury, J., & Alterio, M. (2003). *Learning through storytelling in higher education*. Sterling, VA: Kogan Page Limited.
- Mello, R. (2001). The power of storytelling: How oral narrative influences children's relationships in classrooms. *International Journal of Education and the Arts*. 2(1).
- Meyer, J. & Bogdan, G. (2001). Our "First Education." In, L. Berry, *A Pilgrimage of Color: 2001 National Conference, Social Science Monograph Series*. Morehead, KY: Morehead State University, 205-228.
- National Middle School Association *On Target* (2004). *Defining Middle School*. Westerville: Ohio.
- Ohler, J. (in press). *Telling your story: A handbook for putting the story into digital (and traditional) storytelling*. Juneau, AK: Brinton Books.
- Patterson, M. (1999). *Storytelling: The art form of painting pictures with your tongue*. Retrieved November 12, 2004, from <http://www.hollowtop.com/storytelling.htm>
- Schank, R. (1990). *Tell me a story: A new look at real and artificial memory*. New York: Charles Scribner's Sons.
- Simkins, M., Cole, K., Tavalin, F., & Means, B. (2002). *Increasing Student Learning Through Multimedia Projects*. Alexandria: ASCD.
- Standley, M. (2003). Digital storytelling: using new technology and the power of stories to help our students learn – and teach. *Cable in the Classroom*. 16-18.
- Storytelling in the Classroom (2002) Retrieved January 30, 2005, from <http://www.storyarts.org/classroom/index.html>

- Strauss, S. & Irvin, J. (2005) Exemplary literacy learning programs what research says. *Middle School Journal*. Retrieved February 26, 2005, from http://www.nmsa.org/research/res_articles_integrated.htm
- Tompkins, G. E. (2002). *Language arts: Content and teaching strategies*. Upper Saddle River: Merrill Prentice Hall.
- Turner, S., Bernt, P. & Bernt, J. (2003, April). *Involving middle school students as co-researchers of their media environment*. Paper presented at American Educational Research Association.
- Wojciechowicz, L. (2003). *The power of storytelling: 8 reasons for infusing storytelling into your curriculum*. South Mountain Community College Storytelling Institute.

Literature Review: Digital Storytelling Incorporating Digital Storytelling in Educational Settings Annotated Bibliography and Literature Review Claire Burgoyne ETEC 532 - University of British Columbia Digital Storytelling 2 Annotated Bibliography Chung, S. K. (2007). Art education technology: Digital storytelling. When digital storytelling pioneer Dana Atchley began creating digital stories the process was complex. This disconnect between what students appreciate and value outside of school and what they experience in an educational setting encouraged me to survey digital storytelling literature. Selection of Studies Selecting scholarly articles about digital storytelling proved to be challenging. This form. the reasons of middle school students who struggle with reading is due to the lack of comprehension in specific vocabulary knowledge, background knowledge, or an many students in middle school choose not to read. The transition from elementary to middle school makes an impact to the student's interests and pastimes. Middle school students Literature Review. The booklet, Imagine! Introducing Your Child to the Arts, provides parents with methods to introduce children to the arts while encouraging children to imagine. In chapter seven entitled Architecture and Children , it is stated Download Citation on ResearchGate | Stacy Behmer and others published Literature Review Digital storytelling: Examining the process with middle school students. The sample of the research consisted of 459 students in the 4th, 5th, 6th and 7th grades of school in Athens, during the course of Computer Science. The study assessed the rate of knowledge change, attitude and willingness to change behavior too, driven by pre-post questionnaires, which were given both at the start and at the end of the implementation. The questionnaires are differentiated only in the four questions concerning willingness to change behavior. Initially, the related work on the use of DST, the contribution of learner-generated comics and the use of the specific tool of Pixton, w