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Constructivist learning environments in digital storytelling workshops: an interview with Joseph Lambert

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CONSTRUCTIVIST LEARNING ENVIRONMENTS IN DIGITAL STORYTELLING WORKSHOPS: AN INTERVIEW WITH JOSEPH LAMBERT

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by

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This dissertation, written by

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DOCTOR OF EDUCATION

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VITA

Elizabeth Shin

QUALIFICATIONS SUMMARY

- Trained users with varying levels of skills, knowledge, and abilities to effectively use multimedia authoring tools in both online and in-person modalities.
- Created educational technology curricula for face-to-face instruction and online coursework for 1500+ adult learners.
- Designed a learning-engagement study examining several participant groups and collected relevant survey data based on a set of demographic criteria for research purposes.
- Obtained pertinent in-person interviews from prominent writers and developers in the field of educational technology.
- Investigated the strengths and weaknesses of learning modules using feedback from surveys and applied the data to implement strategies to enhance learner performance.

ADDITIONAL SKILLS

- Ability to create and design content outlines, story boards, videos, and web-based training modules
- Experience with various e-learning authoring tools such as *Captivate*, *Storyline*, *GoAnimate*, and *Powtoons*
- Ability to work collaboratively with SMEs and various stakeholders
- Excellent project management and organizational skills
- Ability to learn new applications quickly through self-study
- Experience using both the ADDIE and SAM models
- Knowledge of current and emerging technologies
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WORK EXPERIENCE

The Apollo Group (University of Phoenix) **Pasadena, CA**
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- Designed lectures, small group work, team projects, and quizzes.
- Collaborated with fellow instructors on course design and exam preparation.
- Incorporated a variety of multimedia sources to enhance teaching.
- Maintained and uploaded teaching materials to the OLS *NewClassroom*.
- Presented information using a variety of instructional techniques or formats, such as role-playing, simulations, team exercises, group discussions, videos, and lectures.
- Evaluated training materials prepared by instructors, such as outlines, text, or handouts.
- Organized and developed learning procedure manuals, guides, and course materials such as handouts, visual materials, and video presentations.
- Attended meetings and seminars to obtain information for use in learning development programs and to inform management of learning program status.

Workforce Logic for Google **Los Angeles, CA**
Advertisement Evaluator *Nov 2010 – Oct 2011*

- Edited and rated banner advertisements and their relevance to potential landing pages generated by a database.
- Wrote reports and utilized a rating system to score relevant online banner advertisements based upon an evaluation of their appeal to users who frequent their host sites.
- Analyzed scores by evaluators on the team to determine an average score if significant discrepancies were reported.

U.S.C. **Los Angeles, CA**
Writing Instructor *Sep 2007 – May 2009*

- Taught writing and critical thinking classes to undergraduate students.
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Korea Times, Animation World Magazine, and New Times Magazine **Los Angeles, CA**
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- Wrote feature articles, film reviews, and other content for online and print magazines.
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ABSTRACT

Storytelling is an effective means of imparting knowledge, beliefs, and traditions. In its multimedia form, digital storytelling has been made popular by the digital storytelling movement led by the Center for Digital Storytelling established in 1998. While digital storytelling has existed for a few decades, its use in education has been researched relatively recently over the past fifteen years (Holtzblatt & Tschakert, 2011). As a result, it is important that continued research is done in order to understand *how* students are learning through digital storytelling. The constructivist environments created through digital storytelling classes and workshops need to be researched in order to gain a deeper understanding of students' learning processes and to ascertain how to continue to create effective learning environments for them. In this study, the researcher endeavored to determine how the use of digital storytelling exercises is providing quality, learning experiences for students by examining the process of creating digital stories through the lens of social learning theory. This was done by analyzing data from an in-person interview conducted with the founder of the Center for Digital Storytelling, Joseph Lambert, the examination of another published interview from Lambert's (2013) book, *Digital Storytelling: Capturing Lives, Creating Community,* as well as other publications. Utilizing Honebein's (1996) seven pedagogical goals of constructivist learning environments to design the categories of coded data, the researcher created a set of guidelines that served as a framework of assessing to what extent digital storytelling workshops created constructivist learning environments. By analyzing the themes that emerged from the data, the researcher concluded that Lambert's digital storytelling work at the Center for Digital Storytelling, reflected all seven essential characteristics of constructivist learning environments in a significant manner, thereby indicating that the workshops at CDS were indeed constructivist environments.

Chapter 1: Introduction

Of the new media technologies that are providing opportunities to improve the productivity of learning, one of the most exciting ones infuses technology with stories. Digital storytelling, as it is called, is a dynamic union of narrative and technology, one that is proving to be a potent force in educational practice (Rossiter, 2010). Significant historical contributions to the area of digital storytelling practices have been made available to the public through the Center for Digital Storytelling, a learning center that was established through UC Berkeley in the 1980s. One of the founders of this center, Joe Lambert, in partnership with Dana Atchley, led the way in creating numerous workshops, seminars, and publishing textbooks including *Digital Storytelling Cookbook* and *Digital Storytelling: Capturing Lives, Creating Community* that provided training for individuals to effectively express their voices through digital stories. In order to examine the development of digital storytelling more closely, the researcher provided a discussion of the background of digital storytelling, a statement of the problem, the purpose of the study, the research questions to be addressed, the significance of the study, key definitions, assumptions, and, last, the limitations of the study in Chapter 1.

Background

In *Acts of Meaning*, Bruner (1990) proposed that one of the main ways in which people understand the world is through the *narrative mode* of thought, an area of thinking that is concerned with human wants, needs, and goals. The *narrative mode* is concerned with the *dynamics* of human intentions. When we are in this mode, we seek to explain events by examining how individuals strive to do things over time. As such, when we are creating stories, we are conveying "through the language of words, aspects of ourselves and others…real or imagined, that we inhabit," for "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" (Altero & McDrury, 2003, p. 12).

Digital storytelling is a term officially coined by Dana Atchley and Joe Lambert in the 1980s, when people began to explore new forms of narrative in order to take advantage of the possibilities presented by digital media (McLlelan, 2006). Digital storytelling is essentially "the art and craft of exploring different media and software applications to communicate stories in new and powerful ways" (McLlelan, 2006, p. 66). In the context of education, this is a medium that provides students with the opportunity to use media tools that are already common to them in their daily lives outside of the classroom, such as the Internet, social media platforms, and video recording devices, to add a multi-media quality to their stories in an educational setting. Consequently, digital storytelling is becoming one of the emerging technology-driven, hybrid tools that brings what may have been looked upon as an antiquated practice, the art of storytelling, into the 21st century, one that is proving to be a beneficial tool for students in the way of increasing student interest, fostering engagement, and helping them to develop strong research skills (Robin, 2008b).

Digital storytelling can take different forms, such as instructor-created stories that revolve around familiar experiences and events that are relevant to students; instructional materials that rely heavily on voice narration; documentary videos detailing a recount of historical events; or student-led productions that enable users to create their own stories and share their developments with others.

Digital storytellers write stories that are developed into scripts or storyboards that are ultimately digitized using software programs or via video recording. Digital stories are often 2- to 5-minute videos, but some can be as long as 10 or more minutes long (Robin, 2008a). In some

cases, digital stories are personal narratives, but they can also be fictional stories, historical documentaries, or create a collage of photos to make a photo story with programs such as iMovie. In other cases, the digital story is a video that utilizes a storyteller's still photographs and recorded voice-over to tell the story.

According to Lambert (2010), there are a several types of stories that can be broken down into several categories in his work *The Digital Cookbook* which include: character stories, memorial stories, adventure stories, accomplishment stories, the story about a place in my life, the story about what I do, recovery stories, love stories, and discovery stories.

Statement of the Problem

Storytelling is an effective means of imparting knowledge, beliefs, and traditions. In its multimedia form, digital storytelling has been made popular by the digital storytelling movement led by the Center for Digital Storytelling established in 1998. Prior to this, local theater producer Lambert, his business partner Atchley, and then wife Mullen, were working as media artists, designers, and producers. Together they founded the San Francisco Digital Media Center in 1994, where they developed the curriculum that would become the foundation for the community workshops that would be taught on digital storytelling at the Center for Digital Storytelling in Berkeley, California. Since it's opening, the Center for Digital Storytelling has worked to train more than fifteen thousand people and close to a thousand organizations across the world (Storycenter, n.d., "our story," para. 4).

While digital storytelling has existed for a few decades, its use in education has been researched relatively recently over the past fifteen years (Holtzblatt & Tschakert, 2011). As a result, it is important that continued research is done in order to understand *how* students are learning through digital storytelling. The problem was the lack of analysis of understanding how

storytelling works with constructivist learning limits our conscious use of it in the classroom. As a result, the constructivist environments created through digital storytelling classes and workshops needed to be researched in order to gain a deeper understanding of students' learning processes and ascertain how to continue to create effective learning environments for students.

Purpose of the Study

The purpose of this study was to contribute to the existing research on constructivist environments in digital storytelling workshops and classes. Constructivism "is characterized by its emphasis on learning through the use of authentic contexts, and the focus on the importance of the social dimension of learning" (Smeda, Dakich, & Sharda, 2014, p. 3). As Wilson (1996) describes it, it is "a place where learners may work together and support each other as they use a variety of tools and information resources in the guided pursuit of learning goals and problem solving activities" (p. 5). The researcher endeavored to determine how the use of digital storytelling exercises is providing quality, learning experiences for students by examining the process of creating digital stories through the lens of social learning theory. This was done by analyzing data from an interview conducted with the founder of the Center for Digital Storytelling, Joseph Lambert, as well as through the examination of another published interview from Lambert's (2013) book, *Digital Storytelling: Capturing Lives, Creating Community.* The researcher believed that gaining insights from one of the most significant figures who helped to establish thousands of digital storytelling workshops and seminars around the world, Joseph Lambert, would shed light upon the integral component that social learning plays in the process of creating digital stories. In addition, the researcher endeavored to ascertain whether or not Lambert was aware of the role that social learning theory plays prior to designing his workshops. This enabled the researcher to gain a deeper understanding regarding the impact of being

conscious of such learning theories and how this consciousness would better inform the way that digital storytelling practices would be best designed in the future to promote the most quality learning experiences for students.

Research Question

In order to determine how digital storytelling is providing quality learning experiences for students through the lens of social learning theory, the researcher will endeavor to address the following research question:

1. How does Lambert's digital storytelling work align with social learning theory?

Significance

Through digital stories, people pass valuable experiences and lessons on to their audiences. Stories help authors share unique perspectives with others as well as to educate, build understanding, tolerance, and compassion in students. Educational practices need to meet the changing demands of technology, and in order to do so, the way that story development is taught needs to adapt to fit the needs of students who are immersed in a digital world. The integration of digital storytelling techniques is a necessity in today's changing technological climate, most particularly because students need to feel that what they are learning is applicable in their world outside of academia.

This study was significant because it examined what may be considered the longest running, most established workshops of digital storytelling since the inception of digital storytelling. Despite the presence of burgeoning centers and practices of digital storytelling, Lambert's *Seven Elements of Digital Storytelling* was consistently referenced as a guide by many of the researchers who followed, primarily since it played a significant part in the history of how digital storytelling practices emerged. Statistically, the Center for Digital Storytelling has worked

with approximately a thousand organizations globally and "trained more than fifteen thousand people in their workshops to share stories from their lives" (Storycenter, n.d., "our story," para. 4). As a result, it was essential to understand the characteristics of the Center for Digital Storytelling workshops since it is an essential component of how digital storytelling developed into an educational practice.

Key Definitions

Ambient sound: The background sound in a digital story that may include sounds in the background of everyday life including things such as traffic, birds, airplanes, or voices. These sounds create a sense of where the story is taking place.

Audio layers (of a digital story): These are audio aspects of a story that include recorded voice-over, recorded voice-over in relation to sound, or background music.

Constructive tools: Constructive tools are general-purpose information and communication tools that can be used for manipulating information, constructing student's own knowledge, or producing a certain tangible product for a given instructional purpose. PowerPoint and Word, for example, are found to be the most frequently used constructive tools by students for their presentations and special curriculum-based projects (Lim & Tay, 2003).

Content knowledge (CK): CK is the "knowledge about actual subject matter that is to be learned or taught" (Mishra & Koehler, 2006, p. 1026). Teachers must know about the content they are going to teach and how the nature of knowledge is different for various content areas.

Center for Digital Storytelling (CDS): first official center offering community workshops on digital storytelling.

Digital storytelling (DS): "The art and craft of exploring different media and software applications to communicate stories in new and powerful ways" (McLlelan, 2006, p. 66).

Human computer interaction (HCI): HCI is the study of how people interact with computers and to what extent computers are or are not developed for successful interaction with human beings.

Meaningful technology integration: Meaningful technology integration is defined as curricula utilizing authentic tasks that intentionally and actively help learners to construct their own meanings from thinking about experiences; this allows for more interdisciplinary, project-based instruction (Jonassen, Peck, & Wilson, 1999).

Pedagogical knowledge (PK): PK refers to the methods and processes of teaching and includes knowledge in classroom management, assessment, lesson plan development, and student learning.

Pedagogical content knowledge (PCK): PCK refers to the content knowledge that deals with the teaching process (Shulman, 1986). PCK is different for various content areas, as it blends both content and pedagogy, with the goal being to develop better teaching practices in the content areas.

Role play: Role play is the acting out or performance of a particular role, either consciously (as a technique in psychotherapy or training) or unconsciously, in accordance with the perceived expectations of society with regard to a person's behavior in a particular context or participation in a role-playing game.

Seven steps of digital storytelling: This is a list of steps developed by Joe Lambert that are necessary for creating the digital story. These include: owning your insights, telling an organizational story, owning your emotions, finding the moment, seeing your story, hearing your story, assembling your story, and sharing your story.

Situated learning: a learning theory by Lave and Wenger suggesting that learning is

unintentional and situated within the authentic activity, context, or culture (Lave & Wenger, 1991).

Storyboarding: "A place to plan out a visual story in two dimensions. The first dimension is time: what happens first, second, and last. The second is interaction: how the audio-the voice-over narrative of your story and the music-interacts with the images or video" (Lambert, 2012).

Story circle: A story circle is a group of individuals that share stories. This group is comprised of a facilitator and a group of storytellers.

Technological content knowledge (TCK): TCK refers to the knowledge of how technology can create new representations for specific content. It suggests that teachers understand that, by using a specific technology, they can change the way learners practice and understand concepts in a specific content area.

Technology knowledge (TK): TK refers to the knowledge about various technologies, ranging from low-tech technologies such as pencil and paper to digital technologies such as the Internet, digital video, interactive whiteboards, and software programs.

Technological pedagogical knowledge (TPK): TPK refers to the knowledge of how various technologies can be used in teaching and the understanding that using technology may change the way teachers teach.

Technological pedagogical content knowledge (TPCK): TPCK is a framework that was posited by Mishra and Koehler (2006). TPCK refers to the knowledge required by teachers for integrating technology into their teaching in any content area (AACTE Committee on Innovation and Technology, 2006).

Voice over: The voice over is the narrative voice in a digital story that tells the story.

Zone of proximal development (ZPD): This term refers to "the distance between the

actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with peers" (Vygotsky, 1978, p. 86).

Assumptions

The researcher examined the data based on the assumption that the responses offered by the interviewee are reported in an honest manner. While there was no reliable way in which the honesty of the responses can be ensured, because the interviewees responses pose no potential harm, it was assumed that they are answering honestly, especially in light of the fact that there would be no benefit to them offering dishonestly modified responses.

Limitations

Qualitative research style was used for this study. The data from an interview with a founder of Center for Digital Storytelling was analyzed to gain insights about digital storytelling and the founder's contributions to the field. The responses from the interviewee were used to build an understanding of the founder's life and significance of digital storytelling. While additional published interviews and literature were also researched, is possible that having a limited amount of interviews to analyze may not prove to be as comprehensive as having conducted several interviews directly with the interviewee.

Summary

In Chapter 1, the researcher provided an introduction to digital storytelling, offered an overview of its history, and described how the researcher will endeavor to address the research question via an in-depth interview with the founder of the Center for Digital Storytelling, Joe Lambert. A statement of the problem, the purpose of the study, key terms, limitations, and the research questions that would be examined were also provided. Chapter 2 will review of the

literature of relevant learning theories and other literature that pertain to digital storytelling in general as well as the educational uses of digital storytelling. Chapter 3 will provide a description of the study's methodology along with the procedures and data collection processes that will be applied in this qualitative study. Next, Chapter 4 will describe the results of the study along with an analysis of the in-person interview with the founder of the Center for Digital Storytelling as well as the analysis of a published interview from his book, *Digital Storytelling: Capturing Lives, Creating Community*. Lastly, Chapter 5 will offer conclusions about the research and the recommendations that the researcher has for future research on digital storytelling practices in the context of education.

Chapter 2: Review of Literature

The purpose of this study was to contribute to the existing research on constructivist environments in digital storytelling workshops and classes. Constructivism "is characterized by its emphasis on learning through the use of authentic contexts, and the focus on the importance of the social dimension of learning" (Smeda et al., 2014, p. 3). As Wilson (1996) describes it, it is "a place where learners may work together and support each other as they use a variety of tools and information resources in the guided pursuit of learning goals and problem solving activities" (p. 5). The researcher determined how digital storytelling is providing quality learning experiences for students by examining the process of creating digital stories through the lens of social learning theory. In this literature review, the researcher reviewed various learning theories to elucidate upon how they help to assess the quality of student learning experiences. Among the topics, authors, and learning theories that were discussed in Chapter 2 were: social constructivism, interaction, and learning theory, Bandura on learning theory, experiential learning theory, adult learning theory and motivation, Mishra and Koehler on TPCK framework, Dewey on quality learning experience, the teacher or facilitator as guide, The National Survey of Student Engagement: Five areas of successful educational practice, Lambert on digital storytelling, pertinent scholars on digital storytelling, meaningful technology integration and learner engagement, aural and visual elements of digital storytelling, self-authorship and engagement, digital storytelling in application, Ohler on story core, Rudnicki and story circles, and lastly current frameworks of digital storytelling.

Social Constructivism, Interaction, and Learning Theory

Social constructivism is a theory based on the premise that knowledge is socially negotiated and constructed among groups (Ally, 2004; Bruner, 1990; Fosnot, 1996; Laferriere,

Lamon, & Chan, 2006; Lave & Wenger, 1991; Vygotsky, 1978; Wenger, 2000). Social constructivist theory similarly highlights the role of culture, collaboration, and distributed meaning construction among groups (Ally, 2004; Bruner, 1990; Fosnot, 1996; Laferriere et al., 2006; Lave & Wenger, 1991; Vygotsky, 1978; Wenger, 1998), and, thus, serves as a useful framework for examining learning that occurs through social interaction. Constructivism "is characterized by its emphasis on learning through the use of authentic contexts, and the focus on the importance of the social dimension of learning. According to Wilson (1996), it is "a place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuit of learning goals and problem-solving activities" (p. 5).

Derived from Vygotsky's (1978) ideas on social interaction as a key component in learning, social constructivism places major emphasis on the social nature of knowing by focusing on culture, language, tools, norms, and behaviors (Fosnot & Perry, 1996; Jonassen et al., 1999). Essentially, learners "come to know" (Fosnot & Perry, 1996) through actively participating in social practices in their environment. Shifts in thinking and practice are a form of enculturation, where community members engage with others over time around common practices and values. Vygotsky (1978) emphasized the role of language and culture in social interaction in the learning process. According to Vygotksy (1978), language, meaning, and belief systems are always situated in culture, and, therefore, learning is always socially constructed, as individuals are integrated into knowledge communities. "Therefore, learning is derived from rich conversation with other people who have similar or different perspectives based on their own life experiences" (Woo & Reeves, 2007, p. 18).

Vygotsky (1978) introduced the concept of the zone of proximal development (ZPD),

defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with peers” (p. 86). Vygotsky developed the concept of ZPD after discovering that students learned more when they collaborated with others and asserted that learning “awakens a variety of developmental processes that are able to operate only when . . . interacting with people in his environment and in cooperation with his peers” (p. 90). Vygotsky (1978) argued that learning does not occur in isolation but develops in learners’ interactions with their social environment.

Dewey (1938) viewed learning as an active, social process assigning equal importance to learners’ personal values and experiences and environmental factors such as social norms. Learning, according to Dewey is the result of a transaction between the individual and the social environment, a term he defined as interaction. This interaction between internal and external factors is pivotal in creating true educational experiences. In further defining educational experiences, Dewey additionally addressed the importance of providing continuous, purpose-driven opportunities for learning in creating authentic educational experiences. Similar perspectives on the role of language and culture in meaning-construction are shared by proponents of other social constructivist frameworks, such as communities of practice (Fosnot & Perry, 1996; Lave & Wegner, 1991).

Social learning theorists insist that knowledge construction occurs in social contexts. These contexts are described as *situated*, for they involve learning in settings in which they occur naturally, and they are derived from the learner’s need to function within those contexts (Lave & Wegner, 1991). Learning is described as a collaborative process resulting from individuals practicing together and developing shared understandings around cultural language, tools, and

meanings (Bruner, 1990; Wenger, 1998).

Group collaboration and social negotiation of ideas, values and meanings have been found to be key components in the Community of Practice Framework (Lave & Wenger, 1991; Wenger, 1998) and are reflective of Vygotsky's ideas around the ZPD. A community of practice (CoP) is a social learning system, where knowledge is shared, negotiated, and co-constructed by members of the community (Wenger, 1998). the characteristics of a CoP include (a) a practice, which the group continuously shares; (b) a community, made up of members who share a common interest in practicing together; (c) meaning, the knowledge that is continuously co-constructed, circulated, and shared among community members; and (d) identity, the participants within the community who contribute to knowledge. The members of the group have varying levels of expertise from novice to expert and move toward full participation as they acquire knowledge around community practices (Wenger, 1998).

According to Honebein (1996), "Designers of constructivist learning environments live by seven pedagogical goals" (p. 11). The goals are described as the following:

- Provide experience with the knowledge construction process
- Provide experience in and appreciation for multiple perspectives
- Embed learning in realistic and relevant contexts
- Encourage ownership and voice in the learning process
- Embed learning in social experience
- Encourage the use of multiple modes of representation
- Encourage self-awareness in the knowledge construction process. (p. 11)

Using these sets of principles and goals, the researcher will create a set of guidelines that will serve as a framework of assessing to what extent digital storytelling workshops create

constructivist learning environments.

Jonassen's (1991) design principles for constructivist learning environments are quite similar to Honebein's in content with some variations in their descriptions:

- Create real-world environments that employ the context in which learning is relevant
- Focus on realistic approaches to solving real-world problems
- The instructor is a coach and analyzer of the strategies used to solve these problems
- Stress conceptual interrelatedness, providing multiple representations or perspectives on the content
- Instructional goals and objectives should be negotiated and not imposed
- Evaluation should serve as a self-analysis tool
- Provide tools and environments that help learners interpret the multiple perspectives of the world
- Learning should be internally controlled and mediated by the learner (pp.11-12).

While constructivist scholars describe essentially the same characteristics in slightly varying ways, their central concepts exhibit extensive overlap.

Bandura on Social Learning Theory

Bandura (1971) states, "In the social learning system, new patterns of behavior can be acquired through direct experience or by observing the behavior of others" (p. 3). According to Bandura,

> Most of the behaviors that people display are learned, either deliberately or inadvertently, through the influence of example. There are several reasons why modeling influences figure prominently in human learning in everyday life. When mistakes are costly or dangerous, new modes of response can be developed without needless errors by

> providing competent models who demonstrate how the required activities should be performed. (p. 5)

Bandura (1971) suggests that the anticipation of reinforcement plays an essential part in what ends up being noticed: "Anticipation of reinforcement is one of several factors that can influence what is observed and what goes unnoticed. Knowing that a given model's behavior is effective in producing valued rewards or averting negative consequences can enhance observational learning by increasing observers' attentiveness to the model's actions" (p. 6). Interestingly enough, Bandura also states that "It would follow from social learning theory that a higher level of observational learning would be achieved by informing observers in advance about the payoff value for adopting modeled patterns of behavior than by waiting until observers happen to imitate a model and then reward them for it" (p. 9). The knowledge of the reward, according to Bandura, would result in ameliorated results with regards to *observational learning*.

Experiential Learning

Dewey (1938) is also known for defining the concept of experiential learning that arises between a human and the environment in which they interact. Dewey suggests that learning arises only through the process of doing things or by having and participating in experiences. According to Dewey learning was much broader than subject matter content, noting that "perhaps the greatest of all pedagogical fallacies is the notion that a person learns only the particular thing he is studying at the time" (p. 48).

This means that learning occurs not just through intentional efforts, but also through subconscious and poorly understood sensory (e.g., sights, smells, sounds, touch, emotions) elements that are also assimilated into the human experience that may or may not be of the cognitive domain. While Dewey (1938) uses the term *experience*, this concept is synonymous to

what is referred to as *engagement*. Through life, more experiences and thus more engagement with the environment means more *learning*.

Adult Learning Theory and Motivation

Knowles, Holton, and Swanson (2005) indicate that the focus of learning is on the student. Their andragogical model comprises six primary considerations of adult learning: (a) the need to know, (b) the learners' self concept, (c) the role of the learners' experiences, (d) readiness to learn, (e) orientation to learning, and (f) motivation. In addition, motivation is an essential component of adult learning. In order for adult learners to be motivated, they need to see how the activity, for example, will ultimately contribute to their overall life-long learning. In the article *Digital Storytelling: A Powerful Technology Tool for the 21st Century Classroom*, Robin (2008a) asserts that "most serious educators and policy makers would agree that motivation is a critical ingredient for learning" (p. 225). He notes that although few studies have been conducted on the effectiveness of digital storytelling, numerous studies indicate that one of the key benefits of multimedia projects is that students are showing an increase in research skills and, more importantly, "a greater interest in the content being taught" (Robin, 2008a, p. 225). TPCK, refers to the knowledge required by teachers for integrating technology into their teaching in any content area. It is important to understand this framework for it is a factor that contributes to the effectiveness of digital storytelling projects as a learning tool.

Mishra and Koehler on TPCK Framework

The TPCK framework, as posited by Mishra & Koehler (2006), serves as a framework for examining the relationship between teacher learning, pedagogical content expertise, and the role of technology in teaching and learning. Derived from the work of Schulman (1986), who critiques the tendency of teacher preparation programs to focus on either pedagogy or subject

matter, TPCK is a conceptual framework for implementing educational technology. According to Mishra and Koehler (2006), Shulman argues that professional development should center on three areas: (a) content knowledge (CK), (b) pedagogical knowledge (PK), and (c) pedagogical-content knowledge (PCK). CK refers to deep knowledge of the subject matter and skills being taught, while PK refers to expertise in instructional practices related to the content that is being taught. PCK is the expertise in instructional practices that addresses the challenges of teaching and learning associated with specific subject areas. Shulman (1986) asserts that knowledge and pedagogical practice are intertwined and should not be treated as separate components (Mishra & Koehler, 2008).

Mishra and Koehler (2006) also argue that a similarly integrated view of content, pedagogy, and technology is needed to enhance teacher learning and that the thoughtful, purposeful use of technology for teaching and learning is part of a situated learning process. Echoing Shulman's (1986) criticisms around separating content from pedagogy, Mishra and Koehler posit that technology integration is too often considered as a separate body of knowledge. This view of technology as a discrete entity fails to address the connections between technology, content, and pedagogy. The TPCK framework speaks to the thoughtful, pedagogical use of technology for the purposes of teaching and learning. Mishra and Koehler (2006) state,

> Technologies often come with their own imperatives that constrain the content that has to be covered and the nature of possible representations. These decisions have a ripple effect by defining, or in other ways constraining, instructional moves and other pedagogical decisions. (p. 1025)

Mishra and Koehler (2006) contend that technology tools are not neutral and that focusing on the dynamic interplay between technology, content, and pedagogy is essential from

learning and teaching perspectives. The use of technological tools should not be separated from the content, and therefore, should be situated in what is being learned or taught. These tools need to be implemented for the purpose of providing students with quality learning experiences.

It is imperative that teachers are equipped with not only pedagogical skills and CK, but also to have the ability to apply effective learning approaches that consider technological aspects of content area instruction, as put forth by Mishra and Koehler (2006) in the TPCK framework. This requires teachers to first become adept at learning ways that incorporate technology effectively so that they can then utilize this knowledge to assist their student populations acquire these skills. Mishra and Koehler supported "helping teachers respond to the rapidly shifting needs and desires of increasingly diverse student populations" by pointing out that "teachers must themselves have experiences with media comparable to those their students have outside classroom walls, so that educators understand first-hand the strengths and challenges promoted by lifestyles infused with new media" (p. 239). The goal is for teachers to facilitate *quality* learning experiences and the ability to implementing technology effectively is a component of creating a *quality* learning experience. Dewey (1938) discusses the characteristics of a quality learning experience and how those characteristics are necessary to create *authentic* learning experiences.

Dewey on Quality Learning Experience

Dewey's (1938) definition of a quality learning experience includes three essential components: continuum, purpose, and interaction. When authentic learning experiences are occurring, these experiences create the conditions needed for further growth. It is as if learning is a living organism; it can continue to grow as long as it is receiving what it needs to sustain itself and perpetuate growth. When students' desire to learn is lost, they will no longer attempt to

learn. Their experience with learning needs to be positive to sustain the desire to continue learning. This desire is also sustainable when there is a purpose to the learning process.

Dewey (1938) suggests that the purpose of learning begins with the desire to achieve. Without the desire to achieve, learning would lack meaning or purpose. Especially with regard to adult learners, purpose is an essential driving component that makes learning occur. Dewey also asserts that learning is a transactional process between an individual and his or her environment. This exchange between the individual and the environment is what Dewey refers to as *interaction*. According to Dewey, what the individual brings to his or her situation and the learning environment itself are equally significant.

The Teacher or Facilitator as Guide

The teacher contributes to the way in which a student's desire to achieve is most effectively by being a *guide* as Ohler (2013) suggests in *Digital storytelling in the classroom: New media pathways to literacy, learning, and creativity.* Ohler believes that it is "not important that teachers be advanced technicians.… What is important is that teachers be advanced managers of their students' talents, time, and productivity. They need to be the *guide* rather than the technical magician" (p. 15). It is interesting that Ohler points out that the most important role that a teacher plays is as a guide, one who will ideally also motivate his or her students, even in the context of leading technologically driven exercises; possessing knowledge about technology is not the most significant aspect of teaching, even in this context. The leadership style that best fits the role of a *guide* who will motivate and inspire students, is that of transformational leadership. Learning is truly effective when transformation occurs, and for this to happen, teachers need to understand the needs of the students to the best of their abilities.

According to Northouse (2007), there are four factors of transformational leadership: (a)

idealized influence, (b) inspirational motivation, (c) intellectual stimulation, and (d) individual consideration. The idealized influence factor is one that "describes leaders who act as strong role models for followers; followers identify with these leaders and want very much to emulate them.…They are deeply respected by followers, who usually place a great deal of trust in them" (p. 174). The inspirational motivation factor is "descriptive of leaders who communicate high expectations to followers, inspiring them through motivation to become committed to and a part of the shared vision in the organization" (p. 176). Intellectual stimulation refers to: "leadership that stimulates followers to be creative and innovative, and to challenge their own beliefs and values as well as those of the leader and the organization. This type of leadership supports followers as they try new approaches and develop innovative ways of dealing with organizational issues" (Northouse, 2007, p. 177).

The fourth factor, which is individualized consideration, "is representative of leaders who provide a supportive climate in which they listen carefully to the individual needs of followers. Leaders act as coaches and advisers while trying to assist individuals in becoming fully actualized" (Northouse, 2007, p. 177). When instructors take on the role of a coach, students become receptive in a way that is very meaningful. In the best learning conditions, the needs of the students are at the center of the instructional environment, and every attempt is made to engage students actively and to promote inclusivity (Brooks & Brooks, 2000; Hull & Nelson, 2005; McCombs & Whisler, 1997). Clearly the transformational leadership style is most suitable for promoting an environment that fosters students' intellectual transformation.

National Survey of Student Engagement: Five Areas of Successful Educational Practice

The Seven Principles for Good Practice in Undergraduate Education, one of the most established set of aspirational guidelines relevant to the evaluation of learning, stipulates that a

teacher engaged in good undergraduate pedagogical practice: (a) encourages contact between students and faculty, (b) develops reciprocity and cooperation among students, (c) encourages active learning, (d) gives prompt feedback, (e) emphasizes time on task, (f) communicates high expectations, and (g) respects diverse talents and ways of learning (Chickering & Gamson, 1999). Based on this model of the *Seven Principles for Good Practice in Undergraduate Education*, the National Survey of Student Engagement (NSSE) assesses student engagement across all of higher education, modifying the original seven into five areas of successful educational practice. These areas are comprised of: (a) level of academic challenge, (b) active and collaborative learning, (c) student interaction with faculty members, (d) enriching educational experiences (including social interaction), and (e) supportive campus environments (Kuh, 2001). The role of the instructor is key in creating an environment that promotes student engagement (Chen, Lambert, & Guidry, 2010; Kuh, 2001). Of these five components, the researcher will be discussing: a) active and collaborative learning, b) student interaction with faculty members, and c) enriching educational experiences. These are three of the areas defined by the National Survey of Student Engagement that are relevant to this research study.

Active learning and collaboration. NSSE measures the level of student engagement through the frequency and quality of active participation both inside and outside of class. Collaborative learning is supported by social learning theory (Bruner, 1990; Vygotsky, 1978) and by its nature mandates that two or more people communicate with one another in the pursuit of educational goals. Dewey (1938) states, “When education is based upon experience and educative experience is seen to be a social process, the situation changes radically;” furthermore, instructors need to be made aware of the idea that under these conditions, “the teacher loses the position of external boss but takes on that of leader of group activities” (p. 59).

Kear, Chetwynd, Williams, and Donelan (2012) assert that "there is some evidence to suggest that student-to-student interaction is more likely to take place when the tutor is not present, so this could be encouraged by using breakout rooms" (p. 961). Social presence will likely promote group cohesion and increase the likelihood that students will become more engaged. Social learning theory states that learning occurs mandatorily via communication between individuals. While all communication is useful, peer-to peer interaction has advantages through references to the zone of proximal development in promoting shared learning experiences that do not "create a form of mastery that is contingent upon the perpetual presence of the teacher" (Bruner, 1990, p. 53).

Student–faculty interaction. Student–faculty interaction is one of the *hallmark* assumptions of institutional education and learning theory. Dewey (1938) stated:

> A primary responsibility of educators is that they not only be aware of the principle of the shaping of actual experience by environing conditions, but that they also recognize in the concrete what surroundings are conducive to having experiences which lead to growth. Above all, they should know how to utilize the surroundings, physical and social, that exist as to extract from them all that they have to contribute to building up experiences that are worthwhile. (p. 40)

Instructors therefore have numerous responsibilities to the students, all for the sake of student learning. While teaching and informing students is the main concern, there is also the need for this to go beyond the unilateral classroom lecture style of instruction.

According to Dewey (1938), "The principle that development of experience comes about through interaction means that education is essentially a social process" (p. 58). For learning to take place, there must be some form of interaction between two or more humans. Much more

significant, however, is the fact that knowledge represents the reified artifacts of human experience (Vygotsky, 1978). Written, visual, or physical works represent formerly acquired and applied human knowledge in a form that can be passed asynchronously from one person to the next; these are the artifacts of culture. For Dewey (1938), the educator has a role in facilitating the transmission of cultural knowledge:

> The educator is responsible for a knowledge of individuals and for a knowledge of subject-matter that would enable activities to be selected which lend themselves to social organization, an organization in which all individuals have an opportunity to contribute something, and in which the activities in which all participate are the chief carrier of control. (p. 56)

In order to promote learning, it is necessary to choose activities and exercises embedded in environments that are both hospitable and conducive to active participation in a multilevel, shared, and collaborative manner.

Historically, it had been seen as a potentially negative thing when the instructor would be de-emphasized in the learning process and become more of a facilitator or enabler for social conditions between peers to play a more prominent role in the learning processes of individuals. However, as Bruner (1990) points out, increased focus on the learner–learner interaction creates invaluable learning experiences. It would be better, for example, to have an exceptionally talented and trained mentor who could intentionally behave in a manner that would mimic a more novice learner in order to emphasize learner-learner interaction. A second method is to narrow this gap between learner and instructor through peer-to-peer interactions where differences in competence would be fundamentally reduced.

Enriching educational experiences. Another word used in higher education is

transformation, and enriching educational experiences include those that provide for students' intellectual transformation. Dewey (1938) mentions that "the central problem of an education based experience is to select the kind of present experiences that live fruitfully and creatively in subsequent experiences" (pp. 27–28). Here, he is stating that it should not be the objective of institutions just to promote a learning of the facts, events, and players from the past, but to create scenarios that promote unique learning experiences.

This transformation comes largely from providing students opportunities to participate in activities and with unfamiliar people. Some of the evidence from the NSSE survey used in assessing this engagement comes from participants who had conversations with diverse groups or people, especially those that were different from the participant. Extracurricular activities (e.g., sports, student government, service organizations, etc.), discipline-specific work or internships, and exposure to other cultures through travel, alternative breaks, study abroad, or foreign language study promote enriching educational experiences (National Survey for Student Engagement, 2011).

As assessed in the NSSE data, internships, study abroad, community service, and field experiences represent bridges of authenticity to student accomplishment and experience that is much larger than classwork. These types of activities expose students to the personal and professional lives that they will encounter when their degrees are completed and they move away from the university. In short, instead of learning about tasks they might tackle after graduation, they begin to tackle these activities in a suepervised and supportive, apprentice-style manner.

Communities of Practice and Enriching Educational Experiences

The CoP theoretical model is useful model for discussing what is meant by an enriching educational experience. Arising from social learning theory, the CoP theoretical model has

origins in the works of Lave and Wenger (1991), who stated that learning viewed as a situated activity has as its central defining characteristic the process called *legitimate peripheral participation*. Lave and Wenger (1991) thus draw attention to the point that learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the socio-cultural practices of a community.

As described in *Situated Learning: Legitimate Peripheral Participation* (Lave & Wenger, 1991), a CoP has become one of the most accepted and well-researched areas of educational theory. Inherent in this work is the notion that learning comes from the process of novice participants entering into an existing community of more experienced individuals through participation in a community over time.

According to Lave and Wenger (1991), the key phrases in deciphering these processes are *apprenticeship* and *situated learning*. While the term is credited to Lave and Wenger, *situated learning* takes on special meaning across the educational commentary of multiple predecessors. Dewey (1938) believes that "there is no such thing as educational value in the abstract" (p. 46) and that "perhaps the greatest of all pedagogical fallacies is the notion that a person learns only the particular thing he is studying at the time" (p. 48). Essentially, literally everything in the environment contributes to the experience at that moment and all collectively form the *learning experience*. Bruner (1990) additionally touches upon this topic:

> What must be plain—is that the issues to be faced are far broader than those conventionally comprised in what is called "education."…Our proper subject is, of course, how a culture is transmitted—its skills, values, style, technology, and wisdom—and how, in transmission, it produces more effective and zestful human beings. (p. 149)

Therefore, educators are suited to serve the growth of their students' capacity and ability to learn all things.

Lave and Wenger (1991) describe how midwives, tailors, butchers, and nondrinking (recovering) alcoholics assimilated a set of knowledge and skills as well as a culture through their practices. A relationship between expert and novice has traditionally been referred to as that between an apprentice and a master or mentor. The descriptive process of this interplay and resulting transfer of practice competence from master to novice has become known as situated learning. This socio-cultural practice involves social interaction, individuals engaging in a common goal, and a gradual evolution of the community and possibly its practices by the members of the community over time (Lave & Wenger, 1991).

The concept of *enriching academic experiences* describes a certain type of engagement that exposes students to diversity. Moving students to activities that are less about performing academic exercises for the sake of academics alone and toward legitimate personal, social, service, and professional activities are marks of enriched academic experience engagement. In this sense, the social learning model known as CoP is useful in understanding the interplay between instructor and learner. One of the fundamental aspects of CoPs is the way in which knowledge and information is made available to and passed on to the members of the community. Thus, the mode of information transfer serves as the means by which members participating in a peripheral, less involved manner can become fully active members in the community.

Digital storytelling is a tool that uses the power of audiovisuals to engage students' visual and auditory senses in a powerful way, and therefore it can be used to create a kind of ideal learning situation. The combination of text, image, and audio motivates students to engage in

deep learning (Pounsford, 2007), which is not surprising given the extent to which today's students are familiar with this interaction involving multi-media. Digital storytelling projects enhance "learners' motivation, and helps teachers in building constructivist learning environments that encourage creative problem-solving based on collaboration and peer-to-peer communication" (Smeda, Dakich, & Sharda, 2014, p. 2).

Lambert on Digital Storytelling

Lambert (2010) discusses some salient points regarding the Center for Digital Storytelling's storytelling approach in *The Digital Cookbook* with sections entitled: stories of our lives, seven steps of digital storytelling, approaches to scripting, storyboarding, digitizing story elements, an introduction to photoshop elements, and final cut express. Lambert describes the first steps of *finding your story* (p. 2) and the process of *story-building*: "As you are putting together your raw material for your story, you are also working to build your narrative voice… Getting feedback also helps us identify our narrative voice" (pp. 3-4).

The seven steps of digital storytelling are:

1. Owning your insights
2. Owning your emotions
3. Finding the moment
4. Seeing your story
5. Hearing your story
6. Assembling your story
7. Sharing your story

In a discussion describing the kind of *safe* space the Center for Digital Storytelling aimed to create, Lambert (2010) writes:

> People are rarely presented with opportunities for deep, connected listening, and if they are presented with them, they often don't take the opportunity to listen with a depth that matches that of the speaker's. Therefore our practice is predicated on providing a safe space for telling and listening to emotionally honest stories. Stories that emerge in this sacred space of deep listening can source our emotional core, and can surprise both the teller and the listener. (p. 13)

Learning occurs through sharing and observing others share their stories. Both the storyteller and the audience have significant opportunities to learn from one another in the process of sharing stories in the workshop. Lambert (2010) states:

> Compelling stories reproduce the insight and experience of the storyteller while prompting the audience to ask questions about their own experiences and look for larger truths. Compelling storytellers construct scenes to show how change happened, how they dealt with it, what they were like before the change, and what they are like after. (p. 14)

To select images to accompany the story as a component of the process of creating a visual narrative, Lambert suggests certain questions that the storytellers should ask themselves: "What images come to mind when recalling the moment of change in the story?" (p. 15). Afterwards, storytellers are asked to "explore the meaning that the images they convey [by asking] Why this image? What is it conveying to you? Is the meaning explicit or implicit?" (p. 15).

In the 2009 book, *Story Circle*, Lambert contributes a chapter called *Where It All Started: The Center for Digital Storytelling in California.* This chapter offers a description of the history of CDS as well as discussing methods for assessing CDS's work in digital storytelling. Lambert explained the principles that CDS has used to distinguish their work:

> Our work always places the sharing of tools and the direction of the participant as the ultimate creative arbiter. We distinguish our work from other forms of media or educational practice through a deep concern for genuine collaboration. We are not focused on the artist-expert at the center of the process…but on a community of learning that situates the story circle at the heart of the practice, with everyone having an equal opportunity to receive and provide feedback. We attempt to view each workshop, or process of working with a group, as unique and adjust or practice accordingly.…Something about the depth of engagement with other humans, not just listening but acting with and alongside people, the use of every conceivable aesthetic tool and cultural reference, the fluidity and improvisational complexity of the production processes, and the never-ending humbling of one's expectations and senses of authority, make this work a profound journey for an individual. (pp. 88–89)

In *Digital storytelling: Capturing lives and creating community*, Lambert (2013) discusses the history of the CDS and reviews the methods of digital storytelling including the Seven Steps of Digital Storytelling, details about the three-day workshop offered at CDS, and the process of working in story circles. The three-day workshop offered at CDS begins with a introductions, the seven steps lecture, story circle, individualized support on scripts, image selection, storyboarding, and possible voiceover recording. The second day is focused on scripting, voiceover recording, image selection, and completing a rough edit. The third day involves individual support in final design and production along with the screening of the films produced (p. 75).

Lambert (2013) describes the ar*t of facilitation* in these workshops as one a process in which the facilitator is "listening for the storyteller's conscious and unconscious

vulnerabilities—to delicately probe the borders of the extent their ego can withstand critique" (p. 73). He emphasizes the importance of facilitators to be good listeners and discusses the delicate balance between "erring on the side of caution [versus] pushing a storyteller at precisely the right moment [to get them to] yield a transformational breakthrough for the story" (p. 73). Since stories *emerge* in their own time, Lambert compares the process of inducing a story to process of birthing a child. Clearly, Lambert understands the delicacies of creating a safe, nurturing environment for storytellers to share and develop their work. Lambert's story circle process shows a great level of respect and attentiveness toward the storyteller.

Lambert's (2013) latest book is called *Seven Stages: Story and the Human Experience*, where among other topics, he discusses the seven stages of stories. These stages are called: rejoice, react, reconsider, revise, reclaim, resolve, and rebirth (p. 141). Throughout the book, Lambert uses the number seven in reference to such things as the seven stages of life, from birth to becoming an elder, as well as the seven stages of our body, associated with the seven chakras in Buddhism and Hindu tradition. For Lambert, many things tell a story, including our bodies (p. 30). The contributions Lambert has made to the field of DS are invaluable. As one of the major pioneers in the movement of digitizing stories, Lambert remains a major contributor and scholar in the area of DS, through his books, leadership in thousands of workshops, and as a important speaker on the topic of DS with regards to both the process of *story-ing* as well as that of the digital.

Pertinent Scholars on Digital Storytelling

Writers across various disciplines are calling the attention of educators to the importance

of synthesis, creativity, play, and passion as elements that enable learners to succeed both on a personal as well as professional level (Gardner, 2006; Pink, 2006). Pink (2006) explains that a major shift in society is occurring: "We are moving from an economy and a society built on the logical, linear, computer-like capabilities of the Information Age to an economy and a society built on the inventive, empathic, big-picture capabilities of what's rising in its place, the Conceptual Age" (p. 2). As students create digital stories, they are opened up to various possibilities for learning and this research project aims to understand how this process works with a particular focus on the social learning that occurs. The researcher will discuss some of the pertinent scholars who have contributed research on digital storytelling in education.

Ohler. Ohler (2013) put words to students' enthusiasm for being more comfortable with a storytelling approach to communication. Ohler (2013) wrote:

> Outside the academic arena, students engage with new media because they enjoy it and because it has great practical value to them as communicators. Digital media extends the hours of the school hallway, provides a collective canvas for emerging artists, and puts young people at the helm of a culture creation engine that is constantly surprising all of us with its potential. (2013, p. 52)

Students will play with this new media whether instructors teach it in classes or not, but if the new media can help students compose powerful texts that they can share with real audiences, instructors can help them negotiate a wider circle of discourse communities.

Digital storytelling clearly serves many different functions in a variety of settings. But whatever purpose it serves in other areas, digital storytelling in the context of education is a *narrative* method of facilitating learning in which social learning clearly takes place (Rossiter & Clark, 2007).

Robin. Robin (2008a) argues that educators of all levels and most subjects would be able to use digital storytelling in various ways that would support students' learning by encouraging them to organize and express their ideas and knowledge in an individual and meaningful way. Barrett (2006) also finds that digital storytelling facilitates the convergence of four student-centered learning strategies: (a) student engagement, (b) reflection for deep learning, (c) project-based learning, and (d) the effective integration of technology into instruction. Within the last 10 years, digital cameras, editing software, authoring tools, and electronic media outlets have encouraged instructors to utilize many more approaches and tools than ever before to help students to construct their own knowledge and ideas to present and share them more effectively (Standley, 2003).

Robin (2008a) believes that digital storytelling has captured the imagination of both students and teachers and the act of crafting meaningful stories has elevated the experience for students and teachers. Compared to conventional storytelling, digital storytelling audiences are viewed not only as listeners but also as learners who can interact and shape the story (Dörner, Grimm, & Abawi, 2002). Meadows (2003) views digital storytelling as the social practice of telling stories, ones that make good use of low-cost digital cameras, non-linear authoring tools, and computers to create short multimedia stories.

Gils, Jonassen and Hernandez-Serrano, and Lim and Tay. Gils (2005) suggests many advantages of using digital storytelling in education: (a) to provide more variation than traditional methods in current practice, (b) to personalize the learning experience, (c) to make explanation or the practicing of certain topics more compelling, (d) to create real-life situations in an easy and cheaper way, and (e) to improve the involvement of students in the process of learning.

Jonassen and Hernandez-Serrano (2002) suggest three different ways in which learning can be supported using stories. First, they can be used as exemplars of concepts or principles being taught by direct instruction. Second, they can be used as problem cases to be solved by students. Third, stories can be used as advice for students, for helping them learn to solve problems. Lynch and Fleming (2007) indicate that the flexible and dynamic nature of digital storytelling, which encapsulates aural, visual, and sensory elements. They note that digital storytelling utilizes the multitude of cognitive processes that underpin learning—from verbal linguistic to spatial, musical, interpersonal, intrapersonal, naturalist and bodily-kinesthetic (Lynch & Fleming, 2007, p. 7).

Lim and Tay (2003) classify the ICT tools (or Information and Communication Technology Tools) used in the classroom to improve student learning into four types: (a) informative tools, (b) situating tools, (c) communicative tools, and (d) constructive tools. Informative tools are applications that store and provide vast amounts of information in various formats (e.g., databases, encyclopedias, and web resources). *Situating tools* are systems that situate students in an environment where they may experience the context (e.g., simulations and games). *Communicative tools* are systems that facilitate communication between the student and others (e.g., e-mail and discussion boards). Multimedia authoring and presenting tools, in particular, like *PowerPoint*, *Illustrator*, *MultiMedia Builder, HyperStudio*, *MovieMaker.* and *iMovies* have proven to be good constructive tools to learn through production, collaboration and project management.

Strommen and Lincoln and Spivey. Strommen and Lincoln (1992) argue that it is not which technology is used, but how the technology is used which is relevant to a constructivist classroom. According to Wheatley (1991), a student will construct his/her own meaning based

on his/her interpretation; therefore, technology can become a vital educational tool depending on the way it is used in learning. Constructivist strategies include collaborative and cooperative learning methods, engaging in critical and reflective thinking, and evaluation through electronic portfolios (Nanjappa & Grant, 2003). Ultimately, the interaction between students, the flow of ideas, and thinking aloud foster active learning, in which users discover and address gaps in their understanding when explaining concepts to others. To take these concepts a step further, Spivey (1997) states that constructivists view students as constructive agents and view knowledge as built instead of being passively received by students, whose ways of knowing and understanding influence what is known and understood.

As Strommen and Lincoln (1992) state, it is how the tools are used, not the tools themselves that is pertinent to a constructivist environment, for it is the students who determine how the tools are used. Students have the opportunity to observe how their peers are telling their stories as well as how they are using multi-media tools to showcase them. Social learning occurs in both the story construction as well as process of incorporating the digital aspects in the process of DS. As discussed previously, Barrett (2006) suggests that digital storytelling facilitates convergence of four student-centered learning strategies, one of which includes reflection for deep learning. This social practice of sharing stories allows for audience members to learn and reflect upon their own stories, even during the final observation phase of the presentation portion of the work. The entire process of DS provides students with numerous opportunities for social learning, both for the student audience as well as the students who are sharing their stories as they observe other students' responses to their work.

Guzdial and Landry, Ganz, and Jensen. Guzdial and Landry (2013) discussed what they call the "human and technical support mechanisms provided by the Center for Digital

Storytelling (CDS)—experts in digital narrative authoring—to understand how they enable everyday people to succeed at creating digital narratives" (para. 3). Ganz (2010) described the work of CDS, suggesting that, "They assist people in using the tools of digital media to craft, record, share, and value the stories of individuals and communities, in ways that improve all our lives" (para. 2). Jensen (2014) wrote about the CDS and the process of creating digital stories in *Toward a Postmodern Definition of Digital Storytelling.* Jensen stated, "With their own story playing back in their headphones, students add both video and still images that they have preferably created themselves…The level of sincerity in the stories produced by CDS students is both daunting and beautiful" (para. 5). The Center for Digital Storytelling is one of the most established, if not most established digital storytelling centers in the United States, one in which facilitators are encouraging participants to share their stories in a meaningful way. Not only are the participants encouraged to produce do so, they have been successful at inducing participants in the workshops to produce *sincerely* written, compelling digital stories. For this study, the researcher chose to interview Joe Lambert, founder of the Center for Digital Storytelling, for this precise reason.

Meaningful Technology Integration and Learner Engagement

Dexter, Anderson, and Becker (1999) indicate that the effectiveness of technology integration into education is largely dependent upon its ability to engage students in learning. Trilling and Hood (1999) note that the key in using educational technology is to utilize meaningful activities that may engage students to construct their knowledge in different ways, which before the technology was introduced were unavailable. Harnessing the power of the integration of technology requires not only a new or advanced technology, but also a systematic way of utilizing the technology to improve student learning (Schofield, 1995). Research indicates

that in order to achieve meaningful technology integration, learning must be designed from a constructivist approach that encourages students to learn in a social context and helps them to develop an ability to readily create new knowledge, solve new problems, and employ creativity and critical thinking (Griest, 1996; Richards, 1998).

Studies show that learner engagement is paramount to learning success (Herrington et al., 2003). Many teachers believe, however, that technology integration is a difficult, time-consuming, and resource-intensive endeavor and is more trouble than it is worth (Sheingold & Hadley, 1990). Jacobsen (2001) believes that many teachers worldwide are not able to adopt technology for teaching and learning tasks and that the gap between technology presence in schools and its effective use is too wide. Teachers are not always introduced to meaningful technology-based approaches that would give some sort of challenge and purpose to the activities that often happen in authentic situations (Pritchard, 2004). One of the studies the researcher will discuss in this chapter is based on instructors who are not adequately trained to use the technology prior to working with digital storytelling tools. Teachers are more than capable of use computers as tools for accessing information, interpreting and organizing their personal knowledge, and producing and representing what they know to others, so as to engage students more, resulting in more meaningful and transferable knowledge (Jonassen et al., 1999).

According to Stake (1995), examining teachers' changes in skills and behaviors, as well as their perceptions of educational innovation, requires a methodology that allows for individual thought and expression to be recorded and analyzed. Therefore, multiple methods of data collection and analysis were employed in Stake's research to enhance the validity and reliability of the study. Observations and interviews were used in Stake's study to investigate factors that influenced teachers as they implemented and integrated digital storytelling into their curricula

and to provide concrete and contextual knowledge of their concerns about and perceptions of the integration process.

In particular, a scoring rubric instrument was used to assess students' success and level of engagement in authentic learning using digital storytelling. A scoring rubric is a type of scoring scale that provides scaled levels of achievement or understanding for a set of criteria of quality for a given type of performance such as an essay or presentation (Allen & Tanner, 2006).

Moskal (2003) recommends six considerations to take into account in developing scoring rubrics: (a) the criteria should be clearly aligned with the requirements of the task and the stated objectives, (b) the criteria should be expressed in terms of observable product characteristics, (c) scoring rubrics should be written in specific and clear language, (d) the number of points that are used in the scoring rubric should make sense, (e) the separation between score levels should be clear, and (f) the statement of the criteria should be fair and free from bias.

By integrating personal narratives as well as textbook content into curriculums, teachers promote personal empowerment, a sense of community, and self-efficacy, thereby increasing chances of student success (Bandura, 1997; Harris, 2005). What then emerges are stories of self-acceptance, such as the digital story entitled *Brown*, in which a student revealed how she learned to embrace her heritage as a first-generation Chicana. Similarly, in *My Heroes Don't Look Like Me*, a student reflected on a youth lacking superheroes from his culture (Roby, 2010). Teacher-facilitated personal narrative creation captures life experiences and provides students with material from which identity and meaning are crafted and connections are made (Wiessner, 2005). By sharing these stories in a classroom setting, "we tell ourselves [and others] who we are, why we are here, how we come to be what we are, what we value most, and how we see the world" (Colombo, Lisle, & Mano, 1997, p. 5). Such is evident in *Paul Bunner*, a story by a

teacher that chronicles the travels and adventures of his pioneering grandfather (Roby). The teacher situated himself in the story by connecting his grandfather's journeys with the family that has since resulted and expanded (Roby).

Digital storytelling is important and relevant inside and beyond the classroom. For students, the self-awareness and self-validation that result from orchestrating an identity-inclusive personal narrative can be adapted to address other aspects of their educational and social experiences. Additionally, the potential for expanded worldviews and global awareness become boundless when students experience the unique yet sympathetic stories of others.

Aural and Visual Elements of Digital Storytelling

Although visual elements play a role in digital storytelling design, the researcher did not find any articles that focused specifically on this component of digital storytelling for the literature review. The aural elements in a digital story include the narrated voiceover, any background audio, and special sound effects. The narrated voiceover differs from the written story in that it cannot be constructed in sentence and paragraph form. Rather, it should flow as conversation often does—short sentences, stand-alone phrases, edifying comments—because, indeed, a digital story is a conversation between the storyteller and the audience. It is also crucial to understand that it differs from conventional oral storytelling in an important way.

One of the unique features of digital storytelling in the educational setting is that it offers an expanded array of media, or, in the words of Porter (2004), a "palette of technical tools" (p. 1) for creative expression. Digital storytelling harnesses the power of audiovisuals to engage students' visual and auditory senses in ways that printed textbooks can never accomplish.

Self-Authorship and Engagement

Student-produced digital stories represent a method of autobiographical learning. Such

learning is grounded in the tenets of narrative psychology, namely, that identity is an unfolding story (McAdams, 2001) and that lifespan development is a process of constructing, and reconstructing, a satisfactory and satisfying life narrative (Kenyon & Randall, 1997). As we go through life, we repeatedly rework and reinterpret the events of our lives to bring coherence and meaning to the whole of our life narrative. Transformative autobiographical learning can be understood as a process of *restorying*, or retelling the story of our lives (Kenyon & Randall, 1997).

Part of the process of generating the digital story involves sharing and disclosure. Students may make statements like the following: "I can really relate to that story because the same thing [or something similar] happened to me" (Benmayor, 2008, p. 198). The desire to create a good story to share with the class will be in part driven by the confirmation the students receive from other students in class who relate to their stories. Acknowledgement and acceptance of the whole student in the classroom—including each student's home culture—build the students' confidence in their ability to perform academically (Bandura, 1997; Zimmerman, 1998).

Personal narratives help to support learning through increased literacy skills (Allison & Watson, 1994; Bishop & Kimball, 2006; Speaker, 2000); enhanced problem-solving skills (Jonassen & Hernandez-Serrano, 2002); and improved listening, recall, and sequencing skills (Reed, 1987). Many theorists have suggested that personal narrative storytelling can help students clarify and articulate identity (Bruner, 1990; Taylor, 1991). Success is promoted when students are allowed to acknowledge their own identities and are invited to demonstrate those identities in the classroom.

Ultimately, student-produced digital stories represent a method of autobiographical

learning. Such learning is grounded in the tenets of narrative psychology—namely, that identity is an unfolding story (McAdams, 2001) and that lifespan development is a process of constructing, and reconstructing, a satisfactory and satisfying life narrative (Kenyon & Randall, 1997).

Web-based video animation programs used for creating digital stories. *GoAnimate* is one example of a video animation program that has the unique ability to transform the notion of role-play as students shift from being actors to the content developers, directors, and producers to having the opportunity to write dialogue, plan movement, and design characters who will perform accordingly. Students become the creators of their own short animation movies and, in the process, gain a sense of empowerment as the designers of their own multi-media projects.

One of the challenges when seeking to engage students in experiential learning is finding out how to complement traditional exercises like role-play. Although role-play has been found to be effective, research demonstrates that students may become bored and disinterested if it is overused (Hunger, 2013). As noted in much of the extant literature, the millennial generation is generally comfortable and proficient with technology (Gerard, 2012; McHaney, 2011; Myers & Sadaghiani, 2010; Worley, 2011).

It is evident that it is in the best interest of educators to learn how to best direct students' interest in technology and media to their own educational benefit. While there may still be gaps in the research, for example, as to how to avoid overuse, digital storytelling is proving to serve students in providing them with a creative means for coupling their personal narratives to new media and technological tools.

Digital Storytelling in Application

Combs and Beach (1994) indicate that including storytelling in the social studies

curriculum develops students' understanding of democratic ideals, cultural diversity and participatory citizenship; improves their communication skills; motivates them to learn about the past and present; and creates a class bond through shared experiences. Tsou, Wang, and Tzeng (2006) find that integrating digital storytelling into the language curriculum is a creative language learning technique that can improve student's level of learning in reading, writing, speaking, and listening.

While digital storytelling is more frequently associated with the arts and humanities, research indicates that it can also be an effective strategy for learning in mathematics and science. With regard to mathematics education, Jonassen (2003) note that story problems are the most common form of problem solving in education. "Students begin solving story problems in early elementary school and do not escape until graduate school or beyond" (Jonassen, 2003, p. 294). Traditional assessment methods, which may not reflect what students learn using technology, should be replaced by appropriate assessment strategies that help teachers look for evidence of a deeper understanding. One possible solution is the use of digital storytelling as an e-portfolio tool of formative assessment for learning. Using digital storytelling as a reflective portfolio would give more opportunities for learners to collect, organize, reflect upon, and communicate evidence of their learning with others, which is an essential component of classroom work, possibly raising the standards of achievement more effectively than any other strategy. This use, furthermore, can strongly influence student cognitive development and accomplish the long-term goals of technology integration into learning (Gils, 2005).

Schiro (2004) uses digital storytelling to teach students algorithms and problem solving through several stages of learning in order to help them develop mathematical skills. He argues that digital stories, with other materials like worksheets, not only present mathematical skills that

students need to learn but also situate the mathematics in a context that is interesting, engaging, and relevant.

Papadimitriou (2003) suggests that digital storytelling can be used to teach computer science and programming to a wider and more diverse audience. He indicates that digital storytelling can be used, for example, to share with students Al Khwarizmi's discovery of arithmetic algorithms and notes on how to calculate the Bernoulli numbers to communicate the message more effectively.

Li (2007) conducts an ethnographical study of PAR (participatory action research) using DST. Li participates in a CDS workshop with her participant with the purpose of investigating whether DST can foster community participation and empowerment. According to Rudinski, Li's "dialectical relationship with her participants through the study led to cultural empowerment" (p. 47). Li (2007) investigates the use of digital storytelling to integrate multimedia technologies into higher education. In that study participants were pre-service and in-service teachers in higher education. The results contribute to the understanding of the advantages of technology-based experiences, showing that these experiences can improve students' learning skills during the incorporating phase of technology implementation in education.

Hublinka's (2003) research is centered on DST and reflective practice at MIT for her master's thesis research. The participants in Hublinka's research were between the ages of 12 and 18, at two Computer Clubhouse after-school centers. The students created digital stories about themselves, and afterwards reflected on the storytelling process with a mentor. Hublinka was concerned with how the act of creating stories encouraged young students to reflect upon the creative work that they did (p. 164). According to Hublinka, "activities centered around

reflection…may not only enrich a learner's design process," but they may also "strengthen the social ties between all those who constitute the community of learners" (p. 164).

Worcester (2012) examines the capacity of DST practices to express women's diverse experiences as they relate to empowerment through a DST project at the South Asia Hub of the Pathways of Womens Empowerment Research Programme Consortium. According to Worcester, there are at least two dynamics that are overlooked in DST. The first is concerned with how an organization adopts narrative guidelines to match their framework and purpose, and the other is the social relationships that mediate how the "actors relate to one another in the workshop" (p. 91). These social relations may be "framed by power dynamics of age and occupation" (p. 95). Worcester argues that DST "may be an excellent tool for strengthening groups with a shared agenda or frame of reference such as 'empowerment,'" but that it is not an "innate component of the technology" but "rather, it is the social context and framing discourses of its use that matter" (p. 96).

Poletti (2011) critiques the seven story elements developed by CDS, which Worcester refers to as "the foundation of DST writing" (Worcester, p. 93). Poletti states that the seven elements "establish expectations about the kinds of stories that will be told…and the speaking positions available to the participants," for in the seven elements framework, stories are encouraged to be told in first person, be explicit, and have resolve (Poletti, p. 77). Although there are many different types it is possible to classify most of these into three main groups: Personal Narratives, Historical Documentaries, and Inform or Instruct stories. According to Poletti, the seven story elements guide students to produce personal narratives.

Hull and Katz (2006) research is concerned that of adults and youth in a Bay Area community and how they use the "multiple-modality literacy of digital storytelling to articulate

pivotal moments in their lives" as well as how they "assume agentive stances toward their present identities, circumstances, and futures" (pp. 1 -2). Hull and Katz use case studies to examine the multimedia literacy of digital storytelling and the "social context for learning provided" through a community technology center referred to as "DUSTY" or Digital Underground Storytelling for Youth (p. 2).

Sadik's (2008) research focuses on digital storytelling as an integrated approach for engaged student learning. The results of the study illustrated that the digital story projects implemented by Egyptian teachers supported students' understanding of specific content in an academic course. Sadik's research illustrates the fact that teachers are in fact willing to use digital storytelling for teaching content and to provide more effective instruction. This study, to some extent, dispels the notion that teachers are resistant to using new technologies in their classrooms or are resistant to change.

Yuksel, Robin, and McNeil (2011) use an online survey method to research how digital storytelling was being used for educational purposes around the world. They collected surveys from educators, students, and other individuals in educational settings toward this aim. Based upon their study, they conclude that the individuals using digital storytelling were in need of more training as to how to utilize this technology tool more in a more effective manner.

Heo's (2009) study is based on an experimental inquiry on the effects of digital storytelling on pre-service teachers' self-efficacy and professional dispositions. Heo concludes, "Knowledge and skills of personal technology can be transferred to educational technology settings with the help of digital storytelling" (p. 423). Heo's research contributes to the understanding of the merits of implementing technology in education.

Gordon (2011) examines the results of two high school teachers and one middle school

teacher's experiences facilitating digital storytelling projects. Each teacher's experience was studied as a case study, which subsequently was compared and contrasted in a cross-case analysis. Gordon's study focuses on teachers engaging in projects without prior training in the medium. Gordon's research purpose was to discover what occurs when a small group of non-trained teachers facilitate a digital storytelling project with their students for the first time.

Davis (2004) researches an after school digital storytelling project for 13-year olds where students create stories about important events in their lives. He describes the process as being highly interactive and discusses the significant role of other participants in the formation of the identities of the participants. Digital storytelling was introduced to the Cyber Cougar team in the fall of 2003 as an optional activity for a group of eighth grade African American youth. Davis was primarily interested in the ways in which digital storytelling worked as a developmental resource for youth who usually came from low-income families. The Cyber Cougar Club was formed out of a partnership between the Laboratory of Learning and Activity at the University of Colorado at Denver and an urban middle school.

Davis (2004) believes that the narrative we decide to tell reflects the current perception of storyteller at a given moment in time and that the act of narrating "shapes the sense of self" (Davis, section 3). He also believed that learning occurs through participating in activities with other peers and other adults who act to some extent as mentors or models. In order to understand the narrative process, is essential to understand what the *story core* is and how it is used. In Ohler's (2013) book, *Digital storytelling in the classroom: New media pathways to literacy, learning, and creativity*, the author expounds upon what the *story core* is and it's function in the context of digital storytelling.

The body of research discussed in this section illustrates that digital storytelling is

enhancing student learning, increasing student engagement, and in certain cases, increasing students' sense of empowerment. Frameworks within which to examine the quality of learning that students are experiences are continuing to be defined by various scholars invested in understanding the educational applications of digital storytelling. While offering continuous training for teachers will also improve the effectiveness of using these tools, it is evident that social learning is a significant component of how students are learning. Further research on the specifics of how students are learning in the constructivist environments created in storytelling workshops will assist in deepening future scholars' understanding of the learning process involved in creating digital stories.

Ohler on Story Core

Ohler (2013) discusses Joseph Campbell's concept of the hero's journey and how it relates to *story core*: "The journey that the hero takes consists of particular stages including being called to adventure, denying the call, accepting a guild to help navigate the journey, passing tests, personal transformation, and returning to the beginning" (p. 96). The story core, according to Ohler, is a "vastly simplified version of the hero's journey" (p. 96). This is significant to digital storytelling in that the "story core" assists students in finding the essential "components of any story" (p. 96). These three components are: a) "the central challenge that creates the story's tension and forward momentum," b) "character transformation that facilitates the response to the challenge," and c) "the response to and resolution of the challenges that resolves the tension and leads to story closure" (p. 96-97). These three essential components are focused on the way in which individuals change and transform as a result of the "challenges and opportunities in their lives" (p. 96). Ohler suggests that the story core works to help students understand both "the essence of stories in their lives" as well as "many of life's challenges in

very simple but essential terms" (p. 98).

In Figure 9.2, Ohler illustrates a simple version of Campbell's adventure diagram, where transformation occurs during the threshold of adventure (p. 148). The eight levels of transformation that Ohler described are: physical, inner strength, emotional, moral, psychological, social, intellectual/creative, and lastly, spiritual (p. 141). In the context of education, these transformations make it possible for "students to tell more effective stories…to understand students through their stories…and to help students grow through their stories (p. 144).

Rudnicki and Story Circles

Rudnicki (2009) explores the "digital story development process of graduate students in a digital storytelling popular culture course. Rudnicki is most concerned with the process by which digital storytellers create their stories and how they come to tell the best, most meaningful and effective digital stories (vii). As a teaching assistant in a popular culture course, Rudnicki became aware of the fact that there had been no qualitative study into the experiences of the students in the course and decided to contribute research to this area.

Story circles, first developed by Lambert, are "circles" where students talk about their stories within a group. These groups are comprised of about three to five students who share their first draft with each other. Rudnicki suggests, "One does not create a digital story in a vacuum. They are created for oneself, as well as for an audience, and in addition, if they are created with others there is more opportunity for developing a better story" (p. 21).

Rudnicki examines the experiences of the students in story circles during their digital storytelling course. She does a narrative inquiry into the experiences of the digital storytelling students with a special focus on dialogue development. Rudnicki states, "Digital storytelling is

actually a form of dialogue itself—a way of communicating to others one's experiences, one's feelings, thoughts, and knowledge. Since we create digital stories to communicate our experiences we are dialoguing with our audience" (p. 24). Rudnicki finds meaning in helping students find their story or assist by listening to them in the process of working it out for themselves. According to Rudnicki:

> Many digital storytelling practitioners and educators agree on one essential characteristic of digital storytelling: Technology is secondary to the story.…the story is the focus of the digital story not the technology. Working with students to create the best possible story first, then how to use the technology to enhance the telling of the story second is most effective.…Technology, or multimedia, helps tell the story and allows students to use multiple modalities to tell their stories. (p. 36)

Rudnicki (2009) focuses on student experiences in story circles within the digital story development process, with an emphasis on the dialogical aspects of the process in the dissertation. Rudnicki conducts a narrative inquiry on students' digital storytelling experiences in a graduate-level digital storytelling and popular culture course at the University of Houston where Rudnicki worked as a teaching assistant. The purpose or goal of her research is to strengthen the digital storytelling curriculum and instruction. At the end of her research project, Rudnicki proposes a Story Circle Guide designed to assist teachers and students as they conduct story circles in their classes (p. viii). By taking a CDS workshop, Rudnicki furthers her understanding of the personal digital story. According to Rudnicki, "in the process of creating digital stories relationships are formed, and possibly, storytellers are changed, and therefore, so are their stories (p. 42). This is what Rudnicki refers to as being central to the task of a storycatcher.

Current Frameworks of Digital Storytelling

In the article, *Developing a Framework for Advancing E-Learning through Digital Storytelling,* (Smeda, et al. 2014) review some of the existing models of digital storytelling and discuss the educational benefits of digital storytelling for students. They believe that digital storytelling is an "innovative pedagogical approach that has the potential to engage learners in student-centered learning" (p. 1). Additionally, they propose an *overarching* framework for creating digital stories (p. 6). The purpose of their research is to "contribute to future research in creating constructivist learning environments with digital technologies" (p. 2). As more research is conducted, these findings will be easier to substantiate and increasing methods for producing these results will be definable for application in future courses.

The first task of creating a digital story is to develop the story itself. Smeda et al. (2014) explain how the story, event, plot, and narrative are distinguished:

1. An event is an incident that takes place in a story. By itself a single event does not make an emotionally engaging story.
2. A story is formed by stringing together a sequence of events, which together create an emotionally engaging discourse.
3. The plot of a story is the way in which the events of the story are linked so as to create a meaningful and emotionally engaging discourse. Often, a story will have a main plot, and one ore more subplots.
4. The narrative of the story is the actual order in which the events are presented to the audience. A given story with a given plot can be presented as different narratives, each having a somewhat different impact on the audience" (p. 4)

The Seven Elements of Digital Storytelling found in the *Digital Storytelling Cookbook*

created by Lambert (2010) is arguably *the* handbook for creating digital stories (Smeda et al.. 2014). Based on the "heuristics gathered in a community of storytellers" (Smeda et al., 2014, p. 5), voice, soundtrack, economy of story events, and pace and rhythm of the story, it offers a systematic approach for writing and producing short video-based digital stories. The seven elements include: point of view, dramatic question, emotional content, author's voice, soundtrack, economy of story events, and pace and rhythm of the story (Lambert, 2010). Advice on how to create scripts and storyboarding, as well as tips on using software such as Final Cut Pro are also addressed.

In Movement Oriented Design (MOD), there are two parts including: the knowledge and the narrative part. The narrative part, considered to be the *core*, is based on three facets identified as: motivation, need, and structure (p. 5). According to the authors, the MOD model is applicable for creating both *linear* and *non-linear* stories. The steps involved in MOD:

> …start with a story concept…generate a story plot by choosing well-linked Movements…create a storyboard by representing Movements with iconic multimedia elements…develop the required set of content using text, videos, graphics, and sound elements, and lastly, author the presentation by instantiating the story plot with multimedia components. (p. 5)

With relevance to the *Dramatica* framework, the focus is placed on the how the "various story characters dramatize the narrative" (p. 4). The story is represented by a model called the *story mind*; the author expresses their ideas in the form of a linear story, and certain aspects of this story "are populated with suitable content" (p. 4). As such, it is suitable for developing multi-media stories and is mostly used for creating stories for entertainment purposes.

As far as the *Adaptive Digital Storytelling* (ADS) model is concerned, an array of

different narratives can be created from the *same* story. Within this framework, a story can be adapted by the user prior to entering the story in a "flexible story-schema" (p. 4). The authors posit that the "main advantage of ADS [is its ability to be] combined easily with other models to create new forms of digital storytelling" (p. 4).

Lastly, the *Hypermedia Novel* is considered to be a multimedia version of the *Graphic Novel*, one that "extends the original narration concept" of the *Graphic Novel* (p. 4). Not only does it add multimedia content to graphics and text, but it also offers a "higher degree of interactivity" for users, and permits users to structure the narratives "arbitrarily in a story graph" (p. 5).

Smeda, et al. (2014) assert that an "overarching framework" is necessary for creating digital stories in order to "facilitate the harnessing of the pedagogical benefits" of digital storytelling (p. 6). They view DS as an,

> …effective pedagogical tool that enhances learners' motivation, and provides learners with a learning environment conducive for story construction through collaboration, reflection, and interpersonal communication…Consequently, digital storytelling provides avenues for students to engage in active and authentic learning by building on their prior experiences and by helping them to design powerful social interactions. (p. 6)

The framework that they design has a list of twelve DSA's or digital storytelling aspects. These aspects are: purpose, plot, narrative, dramatic question, story characters, language usage, emotional content, story content, production, presentation, content detail, and evaluation (p. 7). These aspects are plotted vertically in a table with the horizontal factors representing 5 levels of learners from low to very high. Low-level authors are for example primary school students whereas a level-5 learner may be an author or "professional media creator" (p. 6). These

researchers plan to develop this framework on several dimensions to make it applicable for a wide range of educational environments (p. 6). Ultimately, these authors view digital storytelling as a powerful tool for designing e-learning environments "based on constructivist principles of teaching and learning" and see the significance of designing what they call an *overarching* framework for educational purposes (p. 8).

As Robin (2008a) suggests, there are three main groups of stories: the personal narratives, historical documentaries, and inform or instruct stories; however, these authors believe that all three methods can be combined without necessarily having to remain as distinct entities (Smeda et al., 2014, p. 4). As new frameworks for digital storytelling emerge and research on constructivist learning environments continue, educators will be able to continue to improve and better meet the evolving needs of student learners.

Conclusion

There are no other studies of Joseph Lambert, how the creation of digital stories created constructivist learning environments, and how social learning theory reveals important insights about the quality of the learning experiences students have as a result of participating in the process of digital storytelling. While valuable learning continues to take place, there was a gap of research with regards to better understanding the social learning that is occurring as students create digital stories. As the founder of the first official center for digital storytelling, where story circles are integrated as a key component of the three-day workshop and author of over three books on digital storytelling, Joseph Lambert was an essential figure to interview regarding the process of creating digital stories, one in which many levels of social learning occurs. Understanding better how these learning processes work enabled future scholars and instructors to refine their knowledge of how best to facilitate these learning environments for students of

DS.

In Chapter 3, the researcher will provide a description of the study's methodology along with the procedures and data collection processes that were applied in this qualitative study.

Chapter 3: Methodology

In Chapter 3, the researcher restated the research questions, described the research design and rationale, the proposed study site and participants, the data collection, the proposed study sample, the data collection methods, the data sources, the phases and timeline of data collection, the proposed data analysis, reliability, validity, ethical considerations, and provided a description of the IRB process. In addition, the researcher discussed the process of conducting qualitative research based on interviews with Joe Lambert, founder of the Center for Digital Storytelling.

The purpose of this study was to contribute to the existing research on constructivist environments in digital storytelling workshops and classes. Constructivism "is characterized by its emphasis on learning through the use of authentic contexts, and the focus on the importance of the social dimension of learning" (Smeda, et al., 2014, p. 3). As Wilson (1996) describes it, it is "a place where learners may work together and support each other as they use a variety of tools and information resources in the guided pursuit of learning goals and problem solving activities" (p. 5). The researcher endeavored to determine how the use of digital storytelling exercises is providing quality learning experiences for students by examining the process of creating digital stories through the lens of social learning theory. This was done by analyzing data from an interview conducted with the founder of the Center for Digital Storytelling, Joseph Lambert, as well as through the examination of another published interview from Lambert's (2013) book, *Digital Storytelling: Capturing Lives, Creating Community.* The researcher believed that gaining insights from one of the most significant figures who helped to establish thousands of digital storytelling workshops and seminars around the world, Joseph Lambert, would shed light upon the integral component that social learning plays in the process of creating digital stories.

Research Question

In order to determine how digital storytelling was providing quality learning experiences for students through the lens of social learning theory, the researcher will endeavored to address the following research question:

1) How does Lambert's digital storytelling work align with social learning theory?

Research Design and Rationale

Creswell (2008) discusses three approaches in designing a framework for research: qualitative, quantitative, and lastly, mixed methods, which is a combination of qualitative and quantitative methods. Upon reviewing these approaches, the researcher has identified the qualitative method as the best strategy of inquiry for this study based on the need for a historical and social perspective, purposeful sampling, open-ended data collection, content analysis, and personal interpretation of the findings (Creswell, 2008; Crotty 1998).

Creswell defines some of the salient characteristics of the qualitative approach. According to Creswell (2008):

> A qualitative approach is one in which the inquirer often makes knowledge claims based primarily on constructivist perspectives (i.e., the multiple meanings of individual experiences, meanings socially and historically constructed, with an intent of developing a theory or pattern)….uses strategies of inquiry such as narratives, phenomenologies, ethnographies, grounded theory studies, or case studies…collects open-ended, emerging data with the primary intent of developing themes from the data. (p. 9)

In addition to matching a study's purpose to an approach, Creswell emphasizes that the approach selection also involves a researcher's personal experiences and the audience for whom the research is written. For example, a researcher with experience in conducting interviews or

trained in a literary form of writing for journal readers may prefer the qualitative approach. In this study, the researcher will use a narrative strategy of inquiry to report the data collected in the interview process.

Creswell continues to describe some of the significant characteristics of the qualitative inquiry. Qualitative inquiry:

- takes place in a natural setting allowing the researcher to be involved in the actual experience(s) of the participant(s).
- utilizes multiple methods of data collection, including observation, interviews, documents in a variety of formats (e.g., audio, books, email, survey, word data, photos, etc.).
- is "emergent" (p. 181) in that questions may change as the researcher discovers more to question, or the data collection process may change as some avenues provide no value but may open the door to additional or alternative paths of information that develops into broad themes or patterns.
- is "fundamentally interpretive" (p.182) in that the researcher personally filters and interprets the data resulting in themes, categories, and conclusions. Therefore, personal interpretation in qualitative analysis cannot be avoided.
- involves viewing "social phenomena holistically" (p. 182) meaning qualitative studies result in "broad, panoramic views rather than micro-analyses."

For these reasons, the researcher determined that the qualitative approach has the appropriate characteristics that best suit the approaches of this research study. The researcher developed a narrative analysis based on an in depth, in-person interview with Joseph Lambert, founder of the Center for Digital Storytelling.

Kumar on Research Methodology

In the book *Research Methodology*, Kumar (2011) states that how a researcher will "process and analyze data in a qualitative study depends upon how" the researcher plans "to communicate the findings" (p. 278). According to Kumar, the three ways that a researcher can write about their findings in qualitative research are by:

> (1) developing a narrative to describe a situation, episode, event or instance; (2) identifying the main themes that emerge from" one's "field notes or transcription of" one's "in-depth interviews and writing about them;" (3) and quantifying "the main themes in order to provide their prevalence and thus significance. (p.277)

Regarding the narrative style, Kumar states, "for writing in a narrative format there is no analysis per se; however, you need to think through the sequence in which you need or want to narrate" (p. 278).

Czarniawska on Developing Narratives

In the book "Narratives in Social Science Research," Czarniawska (2004) discusses the concept of using the "interview transcript as a narrative" (p. 55). According to Czarniawska:

> There are basically two things that can be done with—and to—narratives elicited in interviews. The first is to concoct a researcher's own *narrative out of them*—that is, to write up, or to rewrite, or to interpret them. These are synonyms—after all, each act of interpretive reading writes a story anew. Treated in this way, the narratives coming from interviews do not differ from other narratives: field notes, documents, official histories…The second is to analyze them as *narratives of interviews*, a special kind of texts. (p. 55)

The researcher planned to utilize the first method that Czarniawska (2004) describes

above to develop a narrative that will result from the interview. Additionally, the researcher used direct observation to accompany the interview process. Direct observation is "a recommendation often made by ethnographers" that the researcher believes will prove to be an "immensely valuable measure," making "it much easier for the interviewer to visualize the stage on which the reported events are taking place" as Czarniaswka suggests (p. 50). This is a method that "greatly enhances understanding" of the interviewee and the data collected through the in-person interview process (p. 50). The researcher followed this method and treated the interview "as a recorded interaction" from which to obtain significant data (p. 50). The researcher used a video-recording device, upon approval of the interviewee to document the interaction.

Schutt on Narrative Analysis

Narrative analysis, as Schutt (2011) explains, differs from conversational analysis in that it does not focus on the moment-to-moment interchange between the interviewer and interviewee, but rather seeks to put the bigger picture about an individual's experiences, focusing on the story itself, "seeking to preserve the integrity of personal biographies or a series of events that cannot be adequately understood in terms of their discrete elements" (p. 339). Essentially, as the author states, it is "a form of qualitative analysis in which the analyst focuses on how respondents impose order on the flow of experience in their lives and thus make sense of events and actions in which they have participated" (p. 339). By using open-ended interview questions that work as prompts to elicit in-depth conversation, the researcher was able to collect more detailed information that will contribute to a deeper understanding of the respondent's positions on the research topic.

The coding strategy for a narrative analysis, as a result, is "typical of the narratives as a whole, rather than of the different elements in them. The coding strategy revolves around reading

the stories and classifying them into general patterns" (p. 339). In order to accomplish this, the researcher not only conducted an in-person interview, but also examined a publicly available interview included at the end of Lambert's (2013) book *Digital Storytelling: Capturing Lives, Creating Community,* which was examined in order to discover and classify any emerging patterns within them. This enabled the researcher to examine the in-person interview along with an additional published interview for further examination.

Proposed Study Site

The in-person interview took place in Glendale, California during a trip Lambert scheduled to visit the Los Angeles area. The researcher scheduled an interview time and date that works with Joseph Lambert's schedule to ensure that it takes place at a convenient time for both him and the researcher.

Population, Sample, and Sample Procedures

The sample size of this study is one. The individual for this study is Joseph Lambert. This study involved the examination of data that will result from an interview with one individual. Joseph Lambert is the Executive Director of the Center for Digital Storytelling, which is an international, non-profit training and research organization in Berkeley, California that provides workshops in digital media to assist people in telling meaningful stories about their lives. The CDS has trained over 15,000 people through their digital storytelling workshops (Storycenter, n.d., "our story," para. 4). Born and raised in Texas, Lambert came to the San Francisco Bay Area to study Theater and Political Sciences at UC Berkeley where he earned a bachelor's degree. For the last 25 years, he has worked an arts activist, producer, writer, and producer in the Bay Area arts community, traveling extensively around the world to spread the practice of digital storytelling. Lambert's published books include: the *Digital Storytelling Cookbook* (2010),

Digital Storytelling: Capturing Lives, Creating Community (2013), and *Seven Stages: Story and the Human Experience* (2013). He has also produced over 500 shows, ranging from theatrical productions, city festivals, digital story screenings, and conferences.

Instrument. The researcher began the interview by identifying herself as a graduate student who was completing a dissertation at Pepperdine Graduate School of Education and Psychology. The researcher then reviewed the purpose of the study as explained in the letter (See Appendix A). With the interviewee's agreement, a digital video device was used to record the interview. The recordings were labeled and saved as .mov files on a computer to which only the researcher had access. No one other than the researcher had access either to the digital recordings or the transcribed files which were kept in a separate file in a locked office.

An interview was conducted using a conversational style (Richardson, 1990) in which open-ended questions were used as prompts to elicit the individual's experience of becoming the founder of the Center for Digital Storytelling, his experience that led him to the position, and to gain insights about his views about the role that digital storytelling plays for storytellers and how it is beneficial to the field of education. The interviewee was encouraged to openly express the insights that he has gained as a result of decades of working as a significant contributor to the field of digital storytelling as both an author and founder of Center for Digital Storytelling. As Riessman (1993) suggests, certain types of open-ended questions are more likely than others to encourage narrative conversations in which participants are able to construct. The open-ended questions that the researcher designed could be answered in a number of ways, and as such, the researcher believed that the interviewee will be led to answering them in a way that does not seem pre-designed for a particular aim or constructed to elicit a particular type of response.

One of the stories categories that Lambert (2013) describes as "The Story About What I

Do," directly addresses the ways in which an individual's personal experiences inform their profession and vice versa. An individual's career or working life offers "some people a sense of identity" (p. 21), and in many cases, this identity becomes a significant part of how an individual perceives his or her role in society. The interview questions that the researcher used, were based in part on the list of questions in Lambert's description of how "a life story is shaped by" one's "job" (p. 21). The questions were used to guide the flow of the conversation in an open-ended manner, rather than to be a formally structured interview based on Lambert's list of questions. These are the researcher's questions that were used as prompts:

The following table (Table 1) illustrates how each of the research questions were addressed by the researcher's following interview question prompts:

Background Questions on Joseph Lambert

1. What particular experiences did you have growing up that you would attribute to how you became drawn to the world of storytelling?
2. In what ways has becoming a founder of the CDS been a meaningful or purposeful experience to you?

Questions Directly Pertaining to Digital Storytelling and Social Learning Theory

3. How important is the social interaction of the students during the workshops and why?
4. To what extent are the students learning through each other in the story circles and narrative writing workshops and through their instructors?
5. To what extent would you consider the workshop environments to be constructivist environments?
6. What are some of the most important things a workshop facilitator can do to create a

learning environment for students, one that elicits the best work from them?

7. How do you view the role of social learning theory in digital storytelling practices?
8. In designing your digital storytelling workshops, were you conscious of the role that social learning would play in student learning?

General Questions Regarding DS and Storytelling

9. Could you speak about the seven steps of DS… how did you come to develop these seven steps that became a significant framework for developing digital stories for thousands of workshops across the United States?
10. What purpose does telling stories serve? Why is it so important for individuals to tell their stories?

Table 1

Corresponding Research Questions with Interview Questions

Research Questions	The corresponding Interview Questions that directly address the RQ in the left column
1. How does Lambert align social learning theory with digital storytelling?	Questions # 3, #4, #5, #6, #7, and # 8 Note: Questions # 1, #2, # 9, and # 10 included in the interview pertain to the study by providing background context for the study

In addition to an in-person interview, the researcher examined a publicly available interview in the textbook, *Digital Storytelling: Capturing lives, creating community*; the researcher reviewed and analyzed one that had content that addresses the researcher's question in order to supplement the in-person interview (Lambert, 2013). The interview was examined to add to the data collected in the in-person interview. Approval by the University's Institutional Review Board was obtained for the study prior to the start of the interview. Compliance with all

IRB guidelines ensured that no harm would be done as a result of the interview (see Appendix D).

Data Collection Methods

Merriam (1998) stresses the importance of collecting and analyzing data through the research process in order to reduce the risk of repetition of large volumes of information and to effectively identify significant patterns. The researcher attempted to identify and characterize patterns throughout the study through analysis of in-person interviews as the main source of data.

The researcher described the data collection methods in this section. Table 1 is a sequential outline of the data collection steps and procedures that will be utilized during this study.

Table 2

Data Collection and Data Analysis Procedures

1. Identified and contacted the interviewee and his significance to the field of digital storytelling.
2. Conducted an in-person interview with the interviewee. In addition, the researcher examined an additional publicly available interview with Joseph Lambert to supplement the data.
3. Saved interview files in a password protected computer that the researcher has exclusive access to.
4. Retrieved stored interview files from the researcher's password protected personal computer.
5. The interview was transcribed.
6. Coded and themed qualitative data from the in-person interview as well as from the additional published interview. The coding process for narrative analysis revolved "around reading the stories and classifying them into general patterns" as discussed earlier in this chapter under the section Narrative Analysis.
7. The researcher examined additional publicly available interviews.
8. The researcher provided the results of the coding in Chapter 4.
9. The qualitative data was examined to triangulate the results. This was be done in order to increase the probability that findings and interpretation were be found credible through cross-checking of data and finding emerging patterns in the interviews and direct observations.

1. The first step was to identify and describe the interviewee along with his contributions to the field of digital storytelling. The researcher contacted the interviewee via email in order to arrange a date and time for the interview (See Appendix C).
2. The researcher conducted an in-person interview with Joseph Lambert (See Appendix E). For interview purposes, an interview protocol form was used (See Appendix B). During the in-person interview, the researcher also used direct observation to collect data. An informed consent form was filed for IRB purposes (See Appendix A). The interview questions that were used as prompts to open-ended questions are listed in Appendix E.
3. The researcher saved the interview files recorded on a video recorder (with the permission of the interviewee), to a personal, password-protected computer.
4. The researcher then retrieved the stored data in order to analyze.
5. The researcher transcribed the interview. An outside individual was not be hired to complete the task.
6. The qualitative data was then coded using narrative analysis focused on the individual's story as a whole using *thick* description methods. Data was organized by the researcher into themes using the language or wording expressed by the interviewee. Recurring ideas and meanings became topics, and topics were developed and sorted to develop themes and descriptions for documentation and analysis. The researcher used a set of themes from social learning theory and constructivism to code the data. To ensure reliability of the data, the researcher used the inter-rater reliability method. One or two colleagues reviewed the data and provide indication of

agreement or disagreement with the coding methods. Any disagreements were discussed and reviewed to resolve any discrepancies.

7. For further supplementation of data, the researcher examined an additional publicly available interview published in the book, *Digital storytelling: Capturing lives, creating community* (Lambert 2013). Additional literature written by Lambert was examined including chapter three of *Story circle* (2009) and other articles written about Lambert. The researcher will compare and contrast the interviews with observations and other literature. See Table of Sources Appendix F.
8. The researcher provided the results of the coding in Chapter 4.
9. In the discussion section (Chapter 5), the qualitative data was discussed to triangulate the results. Within-method triangulation adopts different strategies but stays within a single paradigm; for instance, participant observation and open-ended interviews are often used together in one qualitative study. For this study, the researcher will apply *within-method triangulation* or *intra-method triangulation* to analyze the interview data collected and utilize direct observation of the participant during the interview.

Validity of Data Gathering Instrument

It was important to assess the validity of the data-gathering instrument to ensure the quality of the assessments. The validity of an instrument is a measure of its quality, and refers to how effectively the data gathering instruments measure the intended data (Creswell, 2008). The researcher plans to use *rich* and *thick* descriptions to elucidate the findings and shed light upon the conclusions for readers to gain an understanding of its insights (p. 196). In this case, the primary instrument was the researcher herself. The researcher used annotations and memos in the process of conducting the textual analysis to support internal validity (Creswell). These

annotations and memos were saved using the researcher's password-protected program *MacJournal*. *MacJournal* was the secondary instrument used in this study.

According to Kumar (2011), "One of the areas of difference between quantitative and qualitative research is in the importance given to the concepts of validity and reliability," for in qualitative research, "answers to research questions are explored through multiple methods and procedures which are flexible and evolving" (p. 184). However, Lincoln and Guba (1985) established two sets of criteria "for judging the goodness or quality of an inquiry in constructivism paradigm," which are *trustworthiness* and *authenticity*, where *trustworthiness* is determined by the following four criteria: credibility, transferability, dependability, and confirmability (p. 114). Kumar suggests that this "framework of four criteria" act in parallel to "validity and reliability in qualitative research" (p. 184).

Reliability

In order to measure reliability, inter-rater reliability was applied to this study. For the purposes of ensuring that a repeatable process is feasible, the data collection method measured reliability (Creswell, 2008). The researcher had two colleagues review each section in the data collection. The inter-raters had 3 weeks to review the data and provide an indication of agreement or disagreement. Documentation of their reviews were included a data report sheet. The researcher will review any discrepancies and work with the inter-raters to resolve any disagreements.

Transferability

A technique used to establish transferability in qualitative research is called *thick* description, which includes a detailed accounting of the researcher's findings, (in this particular study, an in-person interview). This results ultimately in explicit data content patterns. The

researcher was able to evaluate and draw conclusions that may then be *transferable* to other situations or people through the process of describing the data in a sufficient manner (Lincoln & Guba, p. 125). Thick descriptions related to findings from the in-person interview and published interview will be available through interviewee's responses. Recurring ideas and meanings were evaluated with a particular focus on what Lambert believes to be the significance of social learning as it occurs through the creation of digital stories.

Data Management

The interview was recorded, with the permission of the interviewee, on a video-recording device. These video recordings were then transferred on to the researcher's private, password protected computer, and stored as .mov files in the program *iMovie*. These files were stored and will be protected for three years, at which time the files will be destroyed. As mentioned earlier in this chapter, no one other than the researcher had or will have access to the digital video recordings or the transcribed files which will be stored in a private, password protected document folder on the researcher's computer.

Ethical Considerations

In research, ethical issues relating to the protection of participants must be addressed (Berg, 2004; Merriam, 1998). Prior to conducting the study, the researcher had the proposed research plan reviewed by the Institutional Review Board at Pepperdine University in order to address potential risks, confidentiality, and other issues related to voluntary participation in the study. The researcher obtained IRB clearance for this study.

IRB Process

Upon discussion with the IRB department at Pepperdine University, the researcher concluded that this research fell under exempt category 2. Category (2) of 45 CFR

46.101includes:

> Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: a) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. (IRB literature)

Due to the fact that the participant or interviewee of this research study wished to be identifiable, the researcher obtained the Informed Consent for Participation in Research Activities form with specific language that indicates the participant's agreement that their identity will be revealed. An interview protocol form was used as well (See Appendix B). Lastly, an e-mail correspondence confirming the participant's interest and willingness to participate in the interview are documented in Appendix C. The interview was scheduled upon gaining IRB approval for the research according to the guidelines specified.

Confidentiality

McMillan and Schumacher (2006) discussed the fact that researchers are responsible for protecting participants' identities from the general public and protect participants' confidences to the extent they cannot be identified. However, in using purposive sampling in this study, the participant already have been identified in the study and waived confidentiality in the Informed Consent Form (Appendix A) prior to participation (McCall, 2002).

Summary

By utilizing a qualitative approach with these objectives in mind, the researcher was able

to analyze the results of the interview data. Recommendations for future research were provided and a speculative contribution will be made to the improvement and development of best practices for using digital storytelling in the context of higher education.

In Chapter 4, the researcher will provide the results derived from the qualitative data. In Chapter 5, the researcher will analyze the themes that emerged from the data, the researcher's observations, comparisons to other studies, and recommendations for future study.

Chapter 4: Data Findings

The purpose of this dissertation was to conduct a qualitative research study on the constructivist environments in digital storytelling workshops and classes using literature on the founder of the Center for Digital Storytelling, Joseph Lambert, along with published interviews, and an in-person interview. This data was collected in the Summer and Fall of 2015. This chapter provided the results of the qualitative coding method that was defined in Chapter 3. More specifically, the researcher discussed the following: a) Honebein's (1996) seven pedagogical goals of designers of constructivist learning environments; b) the overall results of data coded from the three primary sources used for this study; c) background information and data from each of the primary sources including chapter three of *Story Circle* (Lambert, 2009), a published interview called *Conversations with Amy Hill: In Higher Education Silence Speaks* (Lambert, 2013), and an in-person interview with Lambert c) the researcher's observations of the interviewee; d) secondary sources on the Center for Digital Storytelling (CDS); and e) a summary of the data presented in Chapter 4.

The researcher used key phrases that indicated a relationship to social learning theory and constructivist environments and the frequency of their appearance in the data.

According to Honebein (1996), "Designers of constructivist learning environments live by seven pedagogical goals" (p. 11). The goals were described as the following:

1. Provide experience with the knowledge construction process (characteristic # 1)
2. Provide experience in and appreciation for multiple perspectives (characteristic #2)
3. Embed learning in realistic and relevant contexts (characteristic # 3)
4. Encourage ownership and voice in the learning process (characteristic # 4)
5. Embed learning in social experience (characteristic # 5)

6. Encourage the use of multiple modes of representation (characteristic # 6)
7. Encourage self-awareness in the knowledge construction process (p.11) (characteristic # 7)

The researcher utilized Honebein's (1996) seven pedagogical goals to design the categories of data within which to code the data for this study. Using these sets of principles and goals, the researcher created a set of guidelines that will serve as a framework of assessing to what extent digital storytelling workshops create constructivist learning environments.

Results

In this section, the researcher provided information on the coded data, their corresponding sources, and report the total number of coded items per constructivist characteristic examined. Table 3 below showed the number of data items that were coded from each of the three primary sources used for this study and the constructivist characteristics they represent.

Table 3

Table of Occurrence of Data per each Constructivist Characteristic

Constructivist Characteristics	In-person interview with Joseph Lambert (2015)	Published interview with Amy Hill by Joseph Lambert (2013)	Published literature: Chapter Three from *Story Circle* (2009) written by Lambert
Characteristic #1	3	2	6
Characteristic #2	2	6	4
Characteristic # 3	2	3	2
Characteristic #4	24	12	13
Characteristic #5	9	5	8 (continued)

Constructivist Characteristics	In-person interview with Joseph Lambert (2015)	Published interview with Amy Hill by Joseph Lambert (2013)	Published literature: Chapter Three from *Story Circle* (2009) written by Lambert
Characteristic #6	8	4	2
Characteristic #7	5	3	1
Total data items per source	53	35	36

Fifty-three total codes were identified from the in-person interview with Lambert, 35 data items from the *In Higher Education Silence Speaks* interview with Amy Hill published at the end of Lambert's (2013) book, *Digital storytelling: Capturing lives, creating community,* and 36 total data items were coded from chapter three of *Story Circle* (Lambert, 2009). As a percentage breakdown, the majority of the data items were found in the interview at 42%, the interview with Hill on *Silence Speaks* constituted 28%, and 29% of the data items came from the *Story Circle* (Lambert, 2009), for a total of 124 data items from the three sources. Two inter-raters examined the accuracy of the data coding process. One of the inter-raters was a graduate of the doctoral program at Pepperdine in Educational Technology and the other held a doctoral degree from U.S.C.

Figure 1 below was a chart illustrating the total number of data items coded from the three primary sources. The names of the characteristics were abbreviated for ease of representation in Figure 1. The abbreviation that corresponds to each constructivist characteristic was indicated in the parenthesis:

- Provide experience with the knowledge construction process (Knowledge)
- Provide experience in and appreciation for multiple perspectives (Perspectives)
- Embed learning in realistic and relevant contexts (Realistic)
- Encourage ownership and voice in the learning process (Ownership)

- Embed learning in social experience (Social)
- Encourage self-awareness in the knowledge construction process (Awareness)

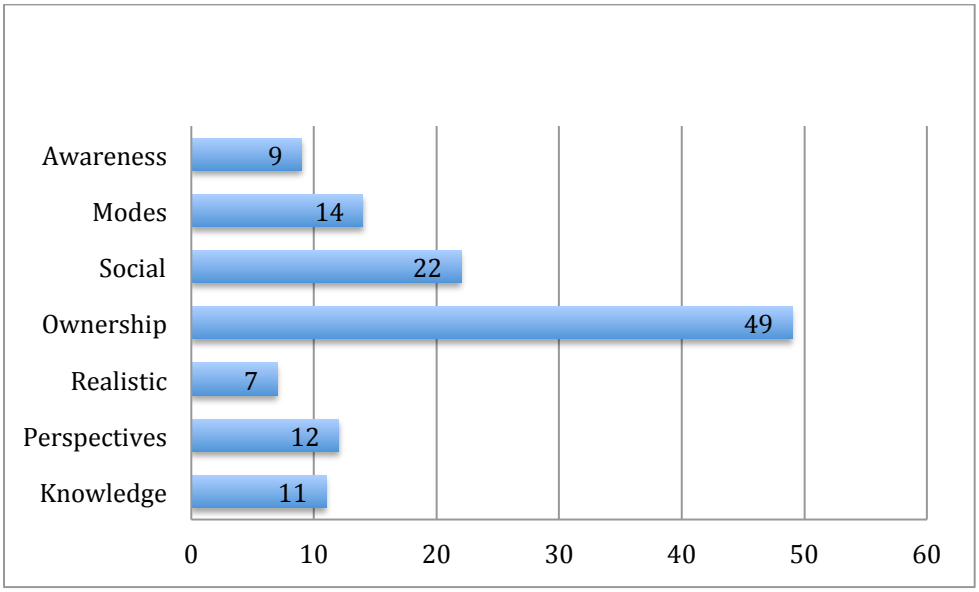

Figure 1. Data Items per Code (Constructivist Learning Environment Characteristics).

Figure 1 showed that the most common constructivist characteristic is encouraging "ownership and voice in the learning process" (Honebein, 1996, p. 11) with 49 data items, followed by embed learning in social experience with 22 data items, and third encourage the use of multiple modes of representation with 14 data items. The researcher will discuss the three primary sources from which the data items were coded: chapter three of *Story Circle*, Lambert (2009), a published interview called *Conversations with Amy Hill: in Higher Education Silence Speaks,* (Lambert, 2013), and an in-person interview with Joe Lambert conducted with the researcher on September 21, 2015. Following this section, the researcher will report background information on the three primary sources including: *Story Circle* (Lambert, 2009), the in-person interview with Lambert, and Lambert's interview with Hill from *Digital storytelling: Capturing lives, creating community* (Lambert, 2013). Some additional data on single-word coding will also reported; however, the single-word coding was not included in the final analysis. In the next

section, the researcher will begin by reporting the data items found in chapter 4 of *Story Circle* (Lambert, 2009).

Story Circle

Story Circle is a collection of chapters written by various scholars on digital storytelling compiled and edited by Hartley and McWilliam (2009). In this text, Lambert contributed chapter 4, titled *The Center for Digital Storytelling in California.*

In *Story Circle*, Lambert (2009) wrote, "Our work borrowed from the general participant-centered perspective of progressive education and community cultural development" (p. 86). He also stated that "Everyone has a story to tell, but most people do not feel that their story has meaning or significance. The work of digital storytelling focuses on individual authorship in order to address this problem" (p. 86). In addition to the three-day workshop Center for Digital Storytelling (CDS) offered, there were projects "that allow for ongoing work with participants in after-school or community based projects that take people from their personal stories to other more broadly defined projects" that "tend to build the kind of cohort structure that supports *self-agency* and broader social awareness" (p. 89).

Lambert also writes,

> Even if our efforts are just showing people a way to take responsibility for their own lives, their own stories, as the first step to larger awareness, all our choices are informed with a touch of the subversive. It is a subtle, or not so subtle, an indirect or not so indirect confrontation with the dominant culture and representative authorities. (p. 82)

Assisting participants in developing a sense of self-agency is clearly one of the goals at the Center for Digital Storytelling. Ultimately, this self-awareness is something that enables participants to develop a sense of self-agency as well as a broader social awareness.

In a discussion of the principles that CDS uses to *distinguish* their work, Lambert (2009) described six core principles:

- Our work always places the sharing of tools and the direction of the participant as the ultimate creative arbiter.
- We distinguish our work from the other forms of media or educational practice through a deep concern for genuine collaboration.
- Because of the focus on personal stories people often leave feeling that the opportunity for self-expression is the most important part of the experience.
- We are not focused on the artist-expert at the center of the process (the mater lecturer/teacher in the educational model), but on a community of learning that situates the story circle at the heart of the practice, with everyone having an equal opportunity to receive and provide feedback.
- We attempt to view each workshop, or process of working with a group, as unique and adjust our practice accordingly.
- If literacy levels (or other causes) preclude participants writing their own stories, we do interviews and work with them to edit the interviews. If time, resources, or circumstances prevent us from allowing the participants to learn the basics to operate the computers, we strive to have the participants direct the artistic process, or have the *final say* on its editing distribution. (p. 88)

These principles were significant to understand in that provide a strong foundation for the CDS practice, the principles that foster environments where constructivist characteristics are present in the production of digital stories.

Lambert (2009) also discusses the multiple modes of representation that digital

storytelling offers to students:

> But perhaps the largest argument for the digital storytelling approach as a community arts practice in addressing social issues (and as a tool in education) is its *multi-modality*. Digital storytelling, like other community-or-activist-based film and video projects, speaks a language that is attractive to vast numbers of people raised on screen culture. (p. 85)

Students have the opportunity to create digital stories that are expressed through a number of media tools that is attractive,ß as Lambert suggests, to learners who have grown up in this digital age.

In chapter four of *Story Circle*, 53 instances of the word *community* and sixteen instances of the word *social* were found. In addition, 20 instances of words that reference the notion of self-empowerment, personal growth, or self-agency were present. Although this data indicated a relationship with constructivist environments, the researcher did not include this data as a part of the collective analysis due to the fact the words can be used in different contexts that change their meanings, making the data less precise. The researcher used data items coded exclusively from phrases indicative of Honebein's (1996) constructivist characteristics from this source.

In the following section, the researcher discussed background information on Lambert's published interview with Hill, who worked in a branch of the Center for Digital Storytelling called *Silence Speaks* in Berkeley, California.

Conversations With Amy Hill: in Higher Education Silence Speaks

In this interview published in *Digital storytelling: creating community* (Lambert, 2013), Amy Hill and Joseph Lambert discussed some salient aspects of an initiative called the *Silence Speaks* program, a program at the Center for Digital Storytelling that was initially focused "on

violence prevention," which has now grown to "include a variety of gender, health, and human rights issues" (p. 140). Amy Hill is the co-founder and director of Silence Speaks.
Hill states, "Above all, a key part of our work lies in creating beauty out of situations that are not at all beautiful" and "encourages critical thought and action against violence and oppression. And to be honest, many of the stories created in our workshops would absolutely not have been made in other community production environments which are still quite often excessively focused on technology tools and skills rather than on offering a safe and open space for reflection" (p. 147).

Lambert (2009) describes the participatory production process of creating and sharing digital stories as being "enormously powerful" (p. 147). Lambert talks about a trauma survivor, using an image of an image of her abusive father, "taking control of the image in a new way. And as she talked about her experience, her voice added another layer of depth and complexity. It was enormously powerful" (p. 145).

Lambert (2009) explains, "when people experience trauma, violence, oppression, what happens is a de-signification of their lives… Cultural work is about re-signifying people, giving them tools to declare the value of their existence and insist on being heard" (p. 148). He shares his experience with the workshops by stating, "What I have seen is the actual lifting of spirit that occurs as people see their own images, hear their voices, and connect their stories to the medium of film and video" (p. 148).

Hill talks about their own individual problems as being relatable to a larger social struggle… sense of community, togetherness, shared struggles… communal experience. Hill suggests that the *Silence Speaks* program is "helping to provide a transformative experience for survivors of violence and other human rights abuses links us to a continuum of movements for

health, economic, social, and political justice" (p. 149). "Taking ownership … to re-examine, explore, and reclaim events from their own lives" (p. 146). Transformative in that "a key part of our work lies in creating beauty out of situations that are not at all beautiful, in a way that touches people at a core emotional level" (p. 147).

In the *In Higher Education Silence Speaks* interview, there were 11 instances of the word *community* that were found, one instance of the word *collaboration*, and seven instances of the use of the word *social.* The researcher did not include the single word data items in this study due to the potentially arbitrary use of words in different contexts.

The next set of coded data came from the researcher's interview with Lambert. The researcher reviewed background information about the interview with Lambert as well as the researcher's observations during the interview.

In-Person Interview With Joe Lambert

I scheduled a meeting with Joseph Lambert during a short trip he made to Los Angeles. We selected a location close to where he was staying in Glendale that was quiet enough to do an interview. The name of the location was the *Green Corner Café*. Upon ordering a couple of kombuchas, we sat down and began the interview. The interview time exceeded an hour, lasting approximately 70 minutes. The informed consent form was collected by the researcher and is included in as Appendix A. Lambert. I also took a photograph upon finishing the interview (see Appendix G).

Lambert came from what he describes as "a family of political activists of the civil rights and union type in the south" (J. Lambert, personal communication, Sept. 21, 2015). His parents were involved in movements that aimed to "bring new deal progressivism and civil rights legislation into the south. My mom was probably at Selma when Selma happened" (J. Lambert,

personal communication, Sept. 21, 2015). He described how he grew up with the "sense that all people should have a voice, in particular, individuals who are marginalized in their culture" (J. Lambert, personal communication, Sept. 21, 2015). In his explanation of what the *best* and *worst* part of Texas, he describes Texas as a "populous culture [and the need for people to] "speak directly, be very honest and tell stories from one's own experiences, rather than selling of a bigger idea" (J. Lambert, personal communication, Sept. 21, 2015), in particular if a person was interested in playing any kind of organizing role in the community. Hearing Lambert talk about his family background and the culture that he grew up in, helped make it clear in my mind why he became involved in anti-gentrification work in San Francisco and why his desire to offer individuals the opportunity to voice themselves became one of his convictions.

Moving into the discussion of Lambert's work, he discussed the various processes involved in digital storytelling including composition, writing and recording, as well as making short films. He described the self-reflective quality of watching one's own digital story develop as a moment that "allows you to step into the role of hearing yourself [and] come out of the other side" (J. Lambert, personal communication, Sept. 21, 2015), a process that provides individuals with a moment of self-examination. Despite the significance of multi-media, Lambert expressed that the "emphasis should be on the story, and just being heard even if just *one* time around the room [offers] students a sense of validation and signification" (J. Lambert, personal communication, Sept. 21, 2015). Another interesting statement he made was that the process enables the storyteller to view his or herself "as an instrument of communication" (J. Lambert, personal communication, Sept. 21, 2015). He talked about the process of presenting of one's digital story as being performative, a step of the process that "allows introverts to find a way to share" (J. Lambert, personal communication, Sept. 21, 2015). In a number of ways, he described

the process of creating and sharing digital stories to be opportunities for self-reflection, developing one's voice, and opportunities to view the process of digital storytelling through not only multiple media forms, but also from a different perspectives.

Lambert stated, "Digital storytelling forces you into a compositional moment. There is pride in succeeding [resulting] in a moment of importance" (J. Lambert, personal communication, Sept. 21, 2015). He talked about *transformative* learning, and suggested that when a workshop facilitator makes efforts to create a *social* and *emotional* space where students are "given an opportunity to feel safe [it allows them to] feel recognized in the environment" (J. Lambert, personal communication, Sept. 21, 2015). Lambert used the phrases, "We are all in it together [and] do it all together" (J. Lambert, personal communication, Sept. 21, 2015) to describe the experience of sharing experiences in the digital storytelling workshop environment; it is one where other people going through a similar experience are willing to share these experiences. When he was making these statements, his tone relayed a sense of honesty and a very caring attitude towards the participants in the workshops.

Researcher's observations. I made observations during the interview process and reflected on them as part of understanding the results and determining their validity. Lambert's matter-of-fact manner of speech relayed a deep level of sincerity and truthfulness. He used examples of situations in workshops in his responses to address some of the researchers questions, aimed at helping the researcher understand how CDS worked in application. His answers seemed to have no embellishments or exaggerations and had a very down-to-earth mode about him. Lambert also discussed something called *Real Family*, a program associated with the Center for Digital Storytelling that enables individuals to share their stories about adoption. It was interesting to learn more about other programs associated with the Center for Digital

Storytelling such as *Silence Speaks* and *Real Family*.

As a very family- and community-oriented person, Lambert displayed a very accepting and understanding attitude. His views on the workshop process, the individuals involved who have experienced and share significant stories of trauma, and his respect for the people who are involved in working at the CDS, all illustrated a deep sense of compassion. There was a very human, honest element to the interview and his manner. I felt privileged to have the opportunity to speak with him and gain a deeper understanding of his background and value systems.

Secondary Sources of Literature on the Center for Digital Storytelling

Guzdial and Landry (2013). Guzdial and Landry (2013) discussed what they call the "human and technical support mechanisms provided by the Center for Digital Storytelling (CDS)—experts in digital narrative authoring—to understand how they enable everyday people to succeed at creating digital narratives" (para. 3). Six data items were found in this journal publication. These categories included: a) provide experience with the knowledge construction process, b) provide experience in and appreciation for multiple perspectives, c) embed learning in realistic and relevant contexts, d) embed learning in social experience, e) encourage ownership and voice in the learning process, and f) encourage the use of multiple modes of representation.

Ganz (2010). Ganz (2010) described the work of CDS, suggesting that, "They assist people in using the tools of digital media to craft, record, share, and value the stories of individuals and communities, in ways that improve all our lives" (para. 2). In a section within this article that addresses the work of CDS, one data item was identified as applicable to three of the constructivist characteristics being used in this study. Those categories were: a) encourage the use of multiple modes of representation, b) embed learning in social experience, and c) encourage ownership and voice in the learning process.

Jensen (2014). Jensen (2014) wrote about the CDS and the process of creating digital stories in *Toward a Postmodern Definition of Digital Storytelling.* Three data items were found corresponding to the characteristics: a) embed learning in realistic and relevant contexts, b) encourage ownership and voice in the learning process, and c) encourage the use of multiple modes of representation. Jensen stated, "With their own story playing back in their headphones, students add both video and still images that they have preferably created themselves…The level of sincerity in the stories produced by CDS students is both daunting and beautiful" (para. 5).

Data coded from the primary sources and secondary sources showed that characteristics of constructivist learning environments exist in the digital storytelling workshops at the Center for Digital Storytelling. The data items coded from the secondary sources were also reviewed by the inter-raters to ensure accuracy. The specific constructivist characteristics of the learning environment were discussed in Chapter 5, as well as the sources that the data came from in order to elucidate the results.

Summary

In Chapter 4, the researcher described the themes found by the researcher in the in-person interview with Lambert, Lambert's published interview with Hill, literature from chapter 4 of Story Circle, as well as other secondary literature that pertained to the workshops at the Center for Digital Storytelling. Chapter 5 will discuss the themes each of the constructivist characteristics represent, the relevant data from which the themes originated, present an analysis of the findings, draw comparisons to other studies, offer recommendations for future studies, and discuss the researcher's personal observations.

Chapter 5: Conclusion

Using Honebein's (1996) seven goals for designers of constructivist learning environments, the researcher created categories of themes that represent essential qualities of effective constructivist learning environments. Through the findings of this study, the researcher concluded that Lambert's work, pertaining to the digital storytelling workshops at the Center for Digital Storytelling, are indeed constructivist learning environments. In order to elucidate upon the themes that emerged from the coded data, the researcher will address how the data items corresponded to each constructivist characteristic, compare this study to earlier studies, offer an analysis of the researcher's observations during the interview, give recommendations for future study, and discuss the researcher's conclusions on this study.

Discussion of Results

There were 124 data items coded to Honebein's (1996) list of constructivist characteristics from the primary sources and ten data items found in the secondary sources for a total of 134 data items coded. Data items were found in each of Honebein's (1996) constructivist characteristic categories. This led the researcher to conclude that Lambert's digital storytelling work, as reflected in the digital storytelling workshops at CDS, reflect all seven essential characteristics of constructivist learning environments in a significant manner. The highest occurrence of coded data items were identified in the characteristic of constructivist environments described as *encouraging ownership and voice* in the learning process. Fifty-one data items were found in this category, followed by the second highest number of data items in the *learning in social experience* category with 25 data items, and thirdly, the *multiple modes of representation* category had 17 data coded items. The largest percentage of data items were found in the in-person interview with Joseph Lambert, making up 40 % of the coded data, 26%

from the interview with Amy Hill entitled *In Higher Education Silence Speaks* (Lambert, 2013), and 27% of the data was found in *The Story Circle* (Lambert, 2009). The data from the secondary sources made up 7% of the total data. The researcher endeavored to answer the following research question.

Restatement of research question. In order to determine how digital storytelling is providing quality-learning experiences for students through the lens of social learning theory, the researcher will endeavor to address the following research question:

1. How does Lambert's digital storytelling work align with social learning theory?

The researcher concluded that Lambert's digital storytelling work aligned with social learning theory; this analysis continued to explain how this was determined. In the following section, the researcher will offer an analysis of the themes that emerged in each of the constructivist characteristics.

Constructivist Characteristics and Data Items

The researcher will discuss the occurrences of data items that originated from each of the main sources and the in-person interview as well as the themes that emerged from them as a result. The researcher will also provide examples for each of the categories of characteristics where applicable and summarize the significance of each characteristic at the end of each of the seven sub-sections.

Provide experience with the knowledge construction process (constructivist characteristic 1). In *Seven Goals for the Design of Constructivist Environments*, Honebein (1996) explains this goal in the following way: "Students take primary responsibility for determining the topics in a domain they pursue, the methods of how they learn, and the strategies or methods for solving problems. The role of the teacher is to facilitate this process" (p. 11).

With this in mind, six data items were found in *Story Circle* (Lambert, 2009), two instances *In Higher Education Silence Speaks* (Lambert, 2013), and three data items were found in the in-person interview with Lambert that corresponded to this goal. The inter-raters examined and approved the data coded in this category. A few of these examples include:

In *Story Circle*, Lambert (2009) uses phrases such as "participant-centered" (p. 82) to describe the way that digital storytelling workshops are facilitated, and states that the students are "encouraged to find their own path" (p. 82). The students determine what stories they tell, with the facilitators acting as guides to assist them.

In the Hill interview, *In Higher Education Silence Speaks* (Lambert, 2013), the facilitator of the digital storytelling workshops at CDS is described as "remaining transparent and open" for the purpose of encouraging students to experience and make choices on their own (p. 142). These qualities indicate that the facilitators not only allow but encourage students to make the learning their own, unique experiences.

In the in-person interview, Lambert used words such as "enable student experience," that there is "no right or wrong," indicative of the importance of the students' selection of the stories they decide to tell with minimal direction or judgment by the facilitator (J. Lambert, personal communication, Sept. 21, 2015). These phrases show that the decisions the students make with regards to the design of their digital story are supported without judgment by the facilitator.

Conclusion for constructivist characteristic 1. Approximately 9% of data items originating from the primary sources aligned with the theme of this constructivist characteristic. Allowing participants to select their own topics is a significant workshop design decision, especially since the goal is to have participants share a story that is of significance to them. Only the participant would be able to make the assessment of which stories are significant to them at

that time. In addition, guiding students to make their own decisions about the medium they utilize to showcase their work, results in a sense of self-authorship. The researcher believes that this goal works to promote a sense of personal pride in the work. There were no contradictory statements in any of the triangulated sources. This research showed a very high agreement between the sources and characteristic # 1.

Provide experience in and appreciation for multiple perspectives (constructivist characteristic 2). Honebein (1996) states, "People in the real world rarely have one correct approach or one correct solution…Students must engage in activities that enable them to evaluate alternative solutions to problems as a means of testing and enriching their understanding" (p. 11).

Relevant to this category, four data items were found in *Story Circle* (Lambert, 2009), six instances in *In Higher Education Silence Speaks* (Lambert, 2013), and two data items were found in the interview with Lambert. The inter-raters examined and approved the data coded in this category. The researcher explained a few examples from the primary sources.

In *Story Circle* (2009) Lambert states, "our goal is not simply to argue for our methods as a way to learn software and hardware we are working towards people adopting the total package of principles, approaches to a process with participants, methods of teaching, and connection to communities" (p. 87). The approach used in the Center for Digital Storytelling (CDS) workshops is one that facilitates students to make their own choices and offers them multiple ways in which to do so. This method of facilitation is clearly one of the core principles of the CDS.

In the published interview, *In Higher Education Silence Speaks* (Lambert, 2013), Hill states that the CDS digital storytelling workshops "enable people to access multiple ways of conveying meaning in order to represent their experiences," enabling "people to access multiple

ways of conveying meaning in order to represent their experiences" (p. 145). The students are able to select from a range of different mediums with which to express their stories thereby gaining experience with telling their stories from multiple perspectives.

In the in-person interview, Lambert described the various aspects of digital storytelling, some of which include "composition, writing and recording, making a short film" (J. Lambert, personal communication, Sept. 21, 2015). Using multi-media in and of itself encourages an appreciation for multiple perspectives, but there are other ways in which multiple perspectives are encouraged as well. Lambert discussed the process of viewing one's own media production and how it "allows you to step into the role of hearing yourself," or "come out of the other side" (J. Lambert, personal communication, Sept. 21, 2015). In this sense, the storyteller can examine his or herself from an outside perspective.

Lambert also suggested that the process of sharing work enables individuals who are generally not accustomed to sharing their work with others, a chance to present in front of a group. Introverts have the opportunity to *perform* when they go in front of the group and present their digital storytelling work, individuals who may have otherwise been to shy to present in front of a class. Lambert talked about the aspect of performance involved in sharing one's digital storytelling work. He stated that it helps participants to learn about themselves "as an instrument of communication" (J. Lambert, personal communication, Sept. 21, 2015). In various ways, creating and sharing digital stories in workshops at the Center for Digital Storytelling, fosters an appreciation for multiple perspectives as well as providing experiences for multiple perspectives.

Conclusion for constructivist characteristic 2. Enabling participants to have access to multiple ways of expressing their stories makes it possible for them to produce work that is multi-dimensional, adding richness to their resulting stories. The researcher believes that the

ability to create a digital story using multi-media devices, promotes the sense that the story the participants are sharing has a particular significance to it since the effort to portray the story in a multi-dimensional way shows that care has been taken to tell the story in a well-thought out, planned manner. Additionally, the researcher believes that the use of multi-media tools itself encourages participants to view their own stories from multiple perspectives. The corresponding data items to this characteristic attributed for almost 10% of the total data from the primary sources. There were no contradictory statements in any of the triangulated sources. This research showed a very high agreement between the sources and characteristic # 2.

Embed learning in realistic and relevant contexts (constructivist characteristic 3). Honebein (1996) writes:

> Most learning occurs in the context of school whereby educators remove the noise of real life from the learning activity. For instance, word problems in math textbooks rarely relate to types of problems in real life. To overcome the problem, curriculum designers must attempt to maintain the authentic context of the learning task. (p. 11)

The researcher believes that the storytelling workshop environments at the CDS, enabled students to share experiences from their lives that represented real struggles, obstacles, and aspirations. Without being immersed in an authentic environment that nurtures this kind of sharing, this kind of sharing did not seem possible. For this characteristic, two data items were found in *Story Circle* (Lambert, 2009), three instances in *In Higher Education Silence Speaks* (Lambert, 2013), and two data items were coded from the in-person interview with Lambert. The inter-raters examined and approved the data coded in this category.

In *Story Circle* (2009) Lambert states, “Something about the depth of engagement with other humans, not just listening but acting with and alongside people, the use of every

conceivable aesthetic tool and cultural reference, the fluidity and improvisational complexity of the production process…make this work a profound journey for an individual" (p. 89). The fact of being in an environment where other individuals are sharing personal stories about their lives, make the contexts *realistic* and *relevant*. Additionally, the tools that the students work with including video recording devices and other multi-media devices, are very relevant to the technological tools students use in their lives outside of the workshop environment. Not only are the stories the students share relevant to their lives, but so are the tools and the very environment in which they share them are as well.

In the published interview, *In Higher Education Silence Speaks* (Lambert, 2013), Hill states, "Above all, a key part of our work lies in creating beauty out of situations that are not at all beautiful" and "encourages critical thought and action against violence and oppression. And to be honest, many of the stories created in our workshops would absolutely not have been made in other community production environments which are still quite often excessively focused on technology tools and skills rather than on offering a safe and open space for reflection" (p. 147). The *Silence Speaks* program is "helping to provide a transformative experience for survivors of violence and other human rights abuses links us to a continuum of movements for health, economic, social, and political justice" (p. 149).

In the in-person interview, Lambert describes how "transformative learning" occurs when an environment is created where participants feel free to share stories about experiences from their lives. He explains that when students are in a "social and emotional space" that feels "safe," students "can flourish at a greater level," ultimately achieving a sense of "validation and signification" (J. Lambert, personal communication, Sept. 21, 2015). These environments are relevant in that students are encouraged to share stories from their real lives, in a space where the

entire class is also doing the same thing. Lambert explains that there is strong sense of community that develops, for these workshops work to foster the sense that the participants "do it all together;" it is a space where there are many other "people going through a similar experience" (Lambert, personal communication, Sept. 21, 2015). He continues to express how when students are "given an opportunity to feel safe," the result is a "kind of moment of importance," where people are "allowed to feel recognized in the environment" (Lambert, personal communication, Sept. 21, 2015). Being surrounded by other students who are also sharing personal stories, creates a space where students can realize that it is a part of reality that life can present its set of challenges, and these experiences get reflected back to them through the other students. In this way, these contexts are both relevant and realistic.

***Conclusion for constructivist characteristic 3*.** Digital storytelling workshops at the CDS do not "remove the noise of real life" (Honebein, 1996, p. 11). Instead, they work to connect students to their lives outside of the workshop in relevant ways, through the use of technological tools as well as by sharing the space with other participants who are also engaging in the process of telling real-life relevant and personal stories. The researcher believes that by observing other storytellers share stories that are meaningful to them, promotes an environment that encourages others to do so as well. 5% of the data items from the primary sources came from this category. There were no contradictory statements in any of the triangulated sources. This research showed a very high agreement between the sources and characteristic # 3.

Encourage ownership and voice in the learning process (constructivist characteristic 4). Honebein (1996) states, "This illustrates the student-centeredness of constructivist learning. Rather than the teacher determining what the students will learn, students play a strong role in identifying their issues and direction, as well as their goals and direction" (p. 11). The

distinguishing feature of this characteristic from the first characteristic described by Honebein (1996) regarding the process of assisting students to choose their own topics, is the facilitation of students to find and express their own *voice*, as well as to take ownership of their experience. This is the category for which the researcher coded the highest number of data items. Thirteen data items were found in *Story Circle,* twelve instances in *In Higher Education Silence Speaks,* and twenty-four data items were found in the interview with Lambert. The inter-raters examined and approved the data coded in this category.

In *Story Circle* (2009) Lambert suggests, "The work of digital storytelling focuses on individual authorship" (p. 86). Lambert continues to state, "As our culture becomes more digitized, we have responded to each of these social concerns within the digital environment. The ability to express oneself in digital media, in our case using digital video editing, has become a central literacy for full participation in society" (p. 85). As Lambert states, it is important for individuals to be able to have a voice or express themselves through digital mediums, and this is one of the tools that students gain familiarity with through the CDS. Coupled with the opportunity to tell their stories, students are provided with a chance to do so with tools that are relevant and empowering for them in the context of our technologically driven world. Lambert (2009) also suggests that the "opportunity for self-expression is the most important part of the experience," using phrases such as "self-agency" describe what the CDS strives to give the students an opportunity to develop (p. 86-89). The learning environments at the CDS are clearly ones that encourage students to take ownership and practice asserting themselves through the telling of their stories, thereby developing their voices and other means of self-expression.

In the published interview, *In Higher Education Silence Speaks* (Lambert, 2013), Lambert describes the participatory production process of creating and sharing digital stories as

being “enormously powerful” (p. 147). Lambert talks about a trauma survivor, using an image of an image of her abusive father, “taking control of the image in a new way. And as she talked about her experience, her voice added another layer of depth and complexity. It was enormously powerful” (Lambert, 2013, p. 145). He also describes his experience with the workshops by stating, “What I have seen is the actual lifting of spirit that occurs as people see their own images, hear their voices, and connect their stories to the medium of film and video” (p. 148). Clearly, assisting students to cultivate a stronger sense of self-agency and voice is an important aspect of the work done through the *Silence Speaks* program at the Center for Digital Storytelling.

In the in-person interview, Lambert stated that when students tell their stories in the CDS workshops, in the process of “telling something important,” their “voice is heard,” allowing “people to feel recognized in the moment,” and the ability to have this opportunity to share their story is “validating” (J. Lambert, personal communication, Sept. 21, 2015). The students experience a sense of importance when they feel *heard*, and the CDS workshops offer them an opportunity to accomplish this. Lambert discussed the aspect of *performativity* involved in creating and sharing digital storytelling projects. For students who are less outgoing or introverted, this provides them with a special opportunity to *perform* in front of their peers, when they share and screen their digital stories with the group.

***Conclusion for constructivist characteristic 4*.** Having an opportunity to have one’s voice be heard and develop a sense of self-agency is an invaluable growth experience, integral to the building of personal confidence and pride. A learning environment that promotes this kind of learning should not be undervalued. The researcher anticipated that this category might contribute a significant amount of the data items found in the primary sources; however, 40%

was significantly more than expected. The significance of this category of data items contributed to the researcher's conclusion that digital storytelling workshops at CDS are indeed effective learning environments. There were no contradictory statements in any of the triangulated sources. This research showed a very high agreement between the sources and characteristic # 4.

Embed learning in social experience (constructivist characteristic 5). For this goal, Honebein (1996) explains, "Intellectual development is greatly influenced through social interactions. Thus learning should reflect collaboration between both teachers and students, and students and students" (p. 11). In digital storytelling workshops, students share their digital projects; this is an important component of the shared experience. Eight data items were found in *Story Circle*, five instances in *In Higher Education Silence Speaks*, and nine data items were found for this characteristic in the interview with Lambert. The inter-raters examined and approved the data coded in this category.

In *Story Circle* (Lambert 2009), phrases such as "creative intercourse *among* persons" were indicative of learning that was embedded in social experience (p. 82). Clearly, the learning environment is social in this context, but it is also a *creative* one.

In the published interview *In Higher Education Silence Speaks* (Lambert, 2013), the digital storytelling work is described as "amazing team-building experiences" (p. 141), ones that build "support and collaboration across organizations and sectors" (p. 141), where participants are "sharing in public spheres respectfully" (p. 143). The adjectives that Hill used to describe these experiences indicate that the learning is social but also *supportive* and *collaborative*.

In the in-person interview, Lambert expressed the belief that "the experience of the workshop environment" provides a sense that "we are all in it together," where the environment creates "a social and emotional space," where "students can flourish at a greater level" (J.

Lambert, personal communication, Sept. 21, 2015). The social factor in the learning process at the CDS is one that provides a sense of community, a network of support for the storytellers.

Conclusion for constructivist characteristic 5. The data coded in this category indicated that there was a strong sense of unity and togetherness that both the participants and facilitators seemed to experience in these workshops. The social aspect of the work produced in digital storytelling workshops at CDS is an inextricable component of the experience. Representing almost 18% of the data items from the primary sources, the second highest amount of data originated from this category. Since social learning is an essential component of constructivist environments, the researcher found that this quantity of data correlated with their expectations. There were no contradictory statements in any of the triangulated sources. This research showed a very high agreement between the sources and characteristic # 5.

Encourage the use of multiple modes of representation (constructivist characteristic 6). Honebein (1996) writes:

> Oral and written communication is the two most common forms of transmitting knowledge in educational settings. However, learning with only these forms limits how students see the world. Curricula should adopt additional media, such as video, computer, photographs, and sound, to provide richer experiences. (p. 11)

The use of media outside of traditional oral and written communication is essential to the constitution of a digital story. Two data items were found in *Story Circle* (Lambert, 2009), four instances in *Silence Speaks* (Lambert, 2013) and eight data items were found in the interview with Lambert in this category. The inter-raters examined and approved the data coded in this category. The following are a couple of data items that were coded for this category.

In Story Circle, Lambert (2009) states:

> But perhaps the largest argument for the digital storytelling approach as a community arts practice in addressing social issues (and as a tool in education) is its multi-modality. Digital storytelling, like other community-or-activist-based film and video projects, speaks a language that is attractive to vast numbers of people raised on screen culture. (p. 85)

Encouraging students to use multiple modes of representation seems inherent to the concept of digital storytelling itself. Digital stories most often utilize at least two mediums, audio (for the audience to be able to hear the story) and one visual medium (such as photographs or video recordings).

In the published interview *In Higher Education Silence Speaks* (Lambert, 2013), the CDS workshops are described as being a "space where people who do not have these skills can access multi-media tools to explore" (p. 146). Although the use of multi-media tools seems inherent to the process of digital storytelling, it is still important to recognize this process as being a characteristic of constructivist learning environments.

In the in-person interview, Lambert refers to the ability to "speak through multiple media of the social media moment" being of "importance," and the CDS gives students an opportunity to exercise these tools (J. Lambert, personal communication, Sept. 21, 2015). This statement resonated with a previously discussed quote from Story Circle, where Lambert (2009) discussed how the "ability to express oneself in digital media, in our case using digital video editing, has become a central literacy for full participation in society" (p. 85). The researcher observed a significant amount of consistency in the data between the literature sources and the in-person interview.

Conclusion for constructivist characteristic 6. A few of the core mediums that students can use include: voice-recording devices for narration, photographs, and video recording devices. The *digital* component of digital storytelling, makes the use of "multiple modes of representation" (Honebein, 1996, p. 11). The data items relevant to this category represented approximately 11% of the total data from the primary sources. There were no contradictory statements in any of the triangulated sources. This research showed a very high agreement between the sources and characteristic # 6.

Encourage self-awareness in the knowledge construction process (constructivist characteristic 7). Honebein (1996) states:

> In constructivist learning environments, how a learner knows is more important than what a learner knows… Thus the designer must create learning activities that encourage or require learners to show their work, explain why their solutions are valuable, or defend their positions. (p. 11)

The researcher, for this definition, coded data items that indicated an encouragement of increased *self-awareness* on the part of the students. Honebein (1996) explains that the emphasis of the learning experience is on the process of learning rather than the knowledge itself. However, the researcher believed that a student's goal of being self-reflective was ultimately for the purpose of achieving a higher sense of self-awareness. With this in mind, one data item was found in *Story Circle* (Lambert, 2009), three instances in *Silence Speaks* (Lambert, 2013), and five data items were found in the interview with Lambert. The inter-raters examined and approved the data coded in this category. The following are a few examples of data relevant to this characteristic:

In Story Circle (Lambert 2009), explains that helping students become self-aware is an

important goal at the Center for Digital Storytelling. He states,

> Even if our efforts are just showing people a way to take responsibility for their own lives, their own stories, as the first step to larger awareness, all our choices are informed with a touch of the subversive. It is a subtle, or not so subtle, an indirect or not so indirect confrontation with the dominant culture and representative authorities. (p. 82)

It is clear that the facilitators strive to achieve a level of learning that goes beyond learning the skill of using digital mediums to produce digital stories. They care about the students and aim at having students achieve both a greater self-awareness and a "broader social awareness" whenever possible (p. 89).

In *In Higher Education Silence Speaks* (Lambert, 2013), the process of creating digital stories is described as an opportunity to "re-examine, explore, and reclaim events from" students' "own lives" (p. 146). The process of telling stories is a social experience, but it also encourages students to evaluate their own experiences, and perhaps even "reclaim events" that happened to them in the process of revisiting and re-telling these stories (p. 146).

In the in-person interview, Lambert states, "if you are ready to tell the right story about the right thing, it can change your life" (J. Lambert, personal communication, Sept. 21, 2015). The storytelling process can be a very powerful one, not only one that helps students examine their lives and gain an increased self-awareness, but it can be a *life-changing* experience.

There is a myriad of things students learn about themselves during this process where they act as "an instrument of communication" (J. Lambert, personal communication, Sept. 21, 2015). Clearly, by engaging in this process, can allow students to *reclaim* significant live events, the self-reflection that occurs as a result of this is formidable.

Lambert continued to discuss the way in which writing about life experience or *trauma*

"liberates you more [and the act of] "writing and crafting liberates you *even* more" (J. Lambert, personal communication, Sept. 21, 2015). For Lambert, the process of engaging in writing and crafting your story in this digital context is *liberating*, one that changes "yourself and everyone around you. That is our experience. We get people who go there and take ourselves with them and their stories matter that's why we keep doing the work" (J. Lambert, personal communication, Sept. 21, 2015). Lambert described the process as being potentially *transformative*.

Conclusion for constructivist characteristic 7. Lambert's description of the life-changing possibilities that come from writing about one's significant life experiences were highly impressionable to the researcher. The data items pertaining to this category exceeded the researcher's expectations concerning the degree of self-awareness that can be achieved in the process of creating digital stories in this environment. 7% of the primary source data items were coded for this category. There were no contradictory statements in any of the triangulated sources. This research showed a very high agreement between the sources and characteristic # 7.

Summary on Honebein's (1996) constructivist characteristics themes. On some levels, the process of speaking with Lambert in and of itself was a transformational experience. He did not hesitate to address the emotional and social consequences that happen as students create their narratives in the digital storytelling environment. As Hill suggests *In Higher Education Silence Speaks* (Lambert, 2013), there is a way that the stories have of "deeply moving viewers" in a "way that touches people at a core emotional level" (p. 141). I felt moved and inspired while hearing Lambert talk about this process. Hill explains further that, "the level of sincerity in the stories produced by CDS students is both daunting and beautiful" (p. 147). Hill expressed a similar kind of appreciation of the both the students and the work they produced that

Lambert did in the interview. While the researcher anticipated that there would be discussing of the social experience of participating in a digital storytelling workshop, the discussion of the emotional consequences of sharing digital narratives was not expected.

The results in each of these categories indicated that several essential characteristics of constructivist environments were present in CDS workshops. It was interesting to note the highly significant data came from the characteristic of *giving learner's a sense of agency or voice*, with the second highest amount of data coming from *embedding learning in a social experience* (Honebein, 1996, p. 8).

Wilson (1996) defines a constructivist environment as "a place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuit of learning goals and problem- solving activities" (Wilson, 1996). The data indicated traits of constructivism not only that Honebein's (1996) delineated, but they also correlate with the descriptions of other theorists such as Wilson (1996) and Jonassen (1991).

Jonassen's (1991) design principles for constructivist learning environments are quite similar to Honebein's in content with some variations in their descriptions. He lists eight characteristics rather than seven, but many represent the same concepts:

- Create real-world environments that employ the context in which learning is relevant
- Focus on realistic approaches to solving real-world problems
- The instructor is a coach and analyzer of the strategies used to solve these problems
- Stress conceptual interrelatedness, providing multiple representations or perspectives on the content

- Instructional goals and objectives should be negotiated and not imposed
- Evaluation should serve as a self-analysis tool
- Provide tools and environments that help learners interpret the multiple perspectives of the world
- Learning should be internally controlled and mediated by the learner (pp.11-12)

While constructivist scholars describe essentially the same characteristics in slightly varying ways, the core of the principles remain consistent. According to Murphy (1997), these theorists "provide the beginnings of an orienting framework for a constructivist approach to design, teaching or learning" (para. 2).

The principles that distinguish the Center for Digital Storytelling from other organizations, according to Lambert's (2009) discussion in *Story Circle*, include " a deep concern for genuine collaboration" (p. 88) and "a community of learning that situates the story circle at the heart of the practice" (p. 88). In reference to Goldbard (2006), Lambert (2009) states that her "potential framework for evaluating community arts…is quite relevant to the model in digital storytelling" (Lambert, 2009, p. 88) of CDS. Both sets of principles value "meaningful collaborations with the community" (p. 88) and the importance of "participants being seen as full co-directors" (p. 88). These authors clearly share what Lambert describes as a "commitment to democratic, civic participation," (p. 88), the valuing of community, participant-centered experiences, the opportunity for participants to engage in "self-expression" (p. 88) and the chance for participants to learn from each other in a reciprocal manner (p. 88). While Lambert does not reference social constructivism in this discussion, his principles clearly mirror essential characteristics of constructivist environments that Honebein (1996) delineates.

The researcher chose to utilize Hoenbein's (1996) seven characteristics of constructivism

for purposes of this study; however, confirming fact that the data items found in this study were also in agreement with Wilson (1996) and Jonassen (1991) definitions of constructivist characteristics, further reinforced the fact that the digital storytelling workshops were indeed constructivist environments. Conclusively, the resulting themes that emerged from the research led the researcher to conclude that Lambert's digital storytelling work, with relevance to the Center for Digital Storytelling workshops, aligned with social learning theory. Additionally, there were no disconfirming data points that were indicative of the contrary.

Comparison to Earlier Studies

This study, *Examining Digital Storytelling Practices through the Lense of Social Learning Theory: An Interview with Joseph Lambert*, is the only one the researcher found that examines the constructivist characteristics present in the CDS digital storytelling workshops. Studies that showed similarities to this researcher's dissertation, while having slightly different focal points, were studies that included varying combinations of the following factors: digital storytelling workshops and their environments, the way in which they promoted effective learning, and the characteristics of constructivism present in them, as well as students' experiences in these learning environments.

Smeda et al. (2014). In *Developing a Framework for Advancing E-Learning through Digital Storytelling,* Smeda, et al. (2014) review some of the existing models of digital storytelling and discuss the educational benefits of digital storytelling for students. They believed that digital storytelling was an "innovative pedagogical approach that has the potential to engage learners in student-centered learning" (p. 1). As the researcher asserted in Chapter 2, the purpose of Smeda, et al. (2014) research was to "contribute to future research in creating constructivist learning environments with digital technologies" (p. 2). Having a deeper understanding of the

elements involved in designing constructivist environments, increases the possibility of effectively recreating these environments, which seems to be a shared goal for those engaged in examining these educational practices. Although the focus of this study is on developing a revised framework for digital storytelling practices in e-learning environments while my study focuses on a pre-existing one, this study by Smeda, et al. (2014) agrees with my study. Both studies examine the effectiveness of digital storytelling as *student-centered* learning environments and contribute to the research of creating effective constructivist learning environments.

Smeda (2014). *Creating Constructivist Environments with Digital Storytelling*, Smeda's (2014) dissertation, was concerned with the analysis of case studies in order to examine the implementation or integration of digital storytelling effectively in courses at an Australian school. Smeda (2014) states,

> Pedagogical research needs to focus on testing the efficacy of digital storytelling as a new teaching and learning paradigm, with a particular focus on the effectiveness of story creation as an innovative learning environment. Therefore, moving from traditional learning towards a new learning environment, digital storytelling is a powerful tool for creating a constructive environment based on the principles of teaching and learning. (p. 223)

Smeda's (2014) dissertation agrees with my study in its conclusion that digital storytelling is a practice that implements the constructivist approach to learning effectively. In contrast, however, Smeda's study contributed to studies on an academic environment. In essence, both studies examine the same principles but in different environments.

Rudnicki (2009). As discussed by the researcher in Chapter 2, Rudnicki (2009) examines

the experiences of the students in story circles during their digital storytelling course in a dissertation entitled *Coming Full Circle: Exploring Story Circles, Dialogue, and Story in a Graduate Level*. Rudnicki states, "Digital storytelling is actually a form of dialogue itself—a way of communicating to others one's experiences, one's feelings, thoughts, and knowledge. Since we create digital stories to communicate our experiences we are dialoguing with our audience" (p. 24). Although Rudnicki examines a particular aspect of digital storytelling, namely *dialogue,* her research was centered on the analysis of story circles, which is a highly significant component of the Center for Digital Storytelling's digital storytelling workshops. Rudnicki's (2009) study contributes to the specific analysis of dialogue in digital storytelling, one of the significant aspects of storytelling. In this sense, Rudnicki's study and my study contribute to different aspects of the study of digital storytelling.

Sadik (2008). Additional articles such as Sadik's (2008), *Digital Storytelling: A meaningful technology-integrated approach for learning,* focus on digital storytelling as an integrated approach for engaged student learning. Through the analysis of how digital storytelling is being used in educational environments, the specific characteristics that enable effective learning through the creation of constructivist environments, and the development of new digital storytelling design frameworks, the continuous honing of effective digital storytelling practices can become fully possible. Sadik's (2008) study agrees with my study in our conclusion that digital storytelling is a potentially effective learning tool. Sadik's study is different from mine in that it examines teachers who use digital storytelling as a part of their classroom curriculum. Sadik (2009) discovered that there were technical difficulties reported by the Egyptian teachers who engaged in digital storytelling practices, but still concluded that digital storytelling practices need to be "designed from a constructivist approach" in order to

achieve "meaningful technology integration" (p. 488). Sadik's study, like Smeda's (2014), contributes to the study of digital storytelling practices in educational settings. Although each of these studies contributes to research on digital storytelling practices from quite a range of environments and locations around the world, they are in agreement with the findings in my study.

Researcher's Observations

The researcher observed a few salient points during this her time conducting this research: similarities between two of the constructivist characteristics, interesting aspects of the role of technology in digital stories, transformative experiences, and a strong consistency of themes in each of the primary sources.

There was data overlap in these two categories of constructivist characteristics: *provide experience in and appreciation for multiple perspectives* and *encourage the use of multiple modes of representation*. The researcher found that data items that displayed evidence of an appreciation for multiple perspectives were highly related to content that indicated the use of multiple modes of representation. In these cases, the data was coded for as being applicable to both categories.

When I began this journey, I was not aware of the *Real Family* project or the *Silence Speaks* program that exist in conjunction with the regular digital storytelling workshops at the Center for Digital Storytelling. In addition, I was not expecting to see the level of depth of stories that were discussed in both the in-person interview and the published interview with Hill (Lambert, 2013). Lambert used the word *transformative* to describe the life-changing experiences that occur as a result of liberating oneself by telling a significant story in one's life, and this was also an unexpected element I experienced while doing this research. While I

endeavored to examine the social learning that occurred in these digital storytelling workshops, I had not expected to learn about what Lambert referred to as the *social* and *emotional* outcomes or consequences of these experiences.

In the Hill interview (Lambert, 2013), Hill also uses the word *transformative* as well in her description of the work done at *Silence Speaks*: "I really do feel that the work Silence Speaks is doing in helping to provide a transformative experience for survivors of violence and other human rights abuses links us to a continuum of movements for health, economic, social, and political justice" (p. 149). Both Hill and Lambert displayed a deep sense of compassion for the participants as well as a strong conviction about the *transformative* work that is accomplished through the programs.

I hadn't perceived the process of gaining literacy in multi-media technology as being quite as empowering as it actually is; now I understand the magnitude of these applications. Lambert (2013) states,

> Cultural work is about re-signifying people, giving them tools to declare the value of their existence and insist on being heard. For better or for worse, in our culture, there is a hierarchy of signifying presentations. At the top of that hierarchy is the screen: the computer, television, and film. What I have seen is the actual lifting of spirit that occurs as people see their own images, hear their voices, and connect their stories to the medium of film and video. (p. 148)

Not only does the act of sharing one's story give one a sense of agency, but the fact that it is showcased through the digital medium does as well. Hill also makes an important statement about the storytelling aspect:

> In sharing their own stories and listening to others, people can begin to make links

> between their own struggles and the larger social struggles within their communities. Individual stories add up to the larger socio-political story. By starting with an analysis of how structural power informs your own problems, a particular kind of engaged political consciousness becomes possible. (Lambert, 2013, p. 148)

With individuals like Hill and Lambert working at the Center for Digital Storytelling, individuals who understand the digital storytelling process with this level of depth and the ability to provide these experiences for the students within the constructivist environments that they endeavor to create, it is clear why these programs at the CDS have flourished for decades.

I was also impressed with the level of consistency of content in the in-person interview with Chapter 4 in the Story Circle (Lambert, 2009), as well as in the published interview with Hill (Lambert, 2013). Although I noticed many of the same themes in each of these sources, I saw yet a deeper connection Lambert had to his work in the in-person interview, along with his sincere compassion for his students. The way that he described the process of hearing students' stories as "holding their compassion," for example, was extremely touching (J. Lambert, personal communication, September 21, 2015).

Looking back on the day of the interview, on some levels, I felt like I was immersed into a constructivist environment, for it was an authentic and relevant learning experience for me. Lambert helped me to learn about the principles of Center for Digital Storytelling by using examples of his experiences to illustrate his points, thereby guiding me to formulate my own ideas about it. The experience of learning through this interview was almost as important as the knowledge itself, and I was able to reflect on my own life experiences and achieve a greater sense of self-awareness as a result. I realized through this experience, that any environment, where learning is occurring and these constructivist principles are at work, are constructivist

environments.

Recommendations for Future Study

While Smeda's (2014) study analyzes the digital story design frameworks of established digital storytelling programs, it would be interesting to research the constructivist qualities present in other digital storytelling programs as well the one that this researcher studied at the Center for Digital Storytelling. Additionally, the researcher would recommend studies that researched the potential subject areas of higher education that would be able to offer workshops such as these, the obstacles that might be encountered, and possible solutions to concerns that may arise. The researcher believes that such digital storytelling workshops would work effectively in subjects such areas as creative writing, psychology, or sociology, but this further research on this topic would be useful. In the researcher's opinion, many of the qualities of constructivist environments would enhance not only digital storytelling workshops, but other subject-driven courses as well such as: film studies, sociology, psychology, and anthropology. Participant-centered, student-driven learning is the direction in which education should continue to be heading, if not already.

Summary

There are a variety of elements that contribute to designing an effective constructivist learning environment. The scholars that are examining this in the context of digital storytelling are adding to an endeavor that will only grow in scope. *Digital* storytelling is the next major evolutional phase that storytelling is transforming into, and while other forms of storytelling will always exist, understanding the complex mechanisms of how this technology-driven mode of storytelling is shaping our educational practices needs to be better understood for its use to be continuously improved. Not only how it is taught, but also with regards to the training of

facilitators who are adjusting to the way in which technology is influencing education. There are still many aspects of this area that would benefit from further research. While quite a bit more scholarship may be necessary for these practices to become fine-tuned, the researcher hopes to have added another essential component to this area of educational scholarship. The researcher is of the belief that every study is important, much in the way that Lambert believes that every story is significant.

In conclusion, as stated in Chapter 1, the researcher believes that this particular study was significant because it examined what may be considered the longest running, most established workshops of digital storytelling since the inception of digital storytelling. Despite the presence of burgeoning centers and practices of digital storytelling, Lambert's Seven Elements of Digital Storytelling was consistently referenced as a guide by many of the researchers who followed, primarily since it played a significant part in the history of how digital storytelling practices emerged. Statistically, the Center for Digital Storytelling has worked with approximately a thousand organizations globally and "trained more than fifteen thousand people in their workshops to share stories from their lives" (Storycenter, n.d. "our story," para. 4). As such, it is essential to understand the characteristics of the Center for Digital Storytelling workshops since it is a fundamental component of how digital storytelling developed into an educational practice.

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APPENDIX A

Informed Consent Form

PEPPERDINE UNIVERSITY

Graduate School of Education

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

(CONSTRUCTIVIST LEARNING ENVIRONMENTS IN DIGITAL STORYTELLING WORKSHOPS: AN INTERVIEW WITH JOSEPH LAMBERT)

You are invited to participate in a research study conducted by Elizabeth Shin, doctoral candidate in Educational Technology, under the direction of chairperson Dr. Leo Mallette, (Ed.D) at Pepperdine University, because you are a published author, scholar, and co-founder of the Center for Digital Storytelling. Your participation is voluntary. You should read the information below, and ask questions about anything that you do not understand, before deciding whether to participate. Please take as much time as you need to read the consent form. You may also decide to discuss participation with your family or friends. If you decide to participate, you will be asked to sign this form. You will also be given a copy of this form for you records.

PURPOSE OF THE STUDY

The purpose of the study is…

The purpose of this study is to contribute to the existing research on constructivist environments in digital storytelling workshops and classes. The researcher will endeavor to determine how the use of digital storytelling exercises is providing quality learning experiences for students by examining the process of creating digital stories through the lens of social learning theory. This will be done by researching data from an interview conducted with the founder of the Center for Digital Storytelling, Joseph Lambert, as well as through the examination of other publicly available interviews and literature.

STUDY PROCEDURES

If you volunteer to participate in this study, you will be asked to…
For the purposes of this research study, you will be asked to participate in one 60-minute, in-person interview. This interview will take place in Berkeley, California upon designation of a date that best fits your schedule.

POTENTIAL RISKS AND DISCOMFORTS

The potential and foreseeable risks associated with participation in this study include…

These risks include possible fatigue and the time spent to participate in the interview.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

While there are no direct benefits to you, the study participant, there are several anticipated benefits to society:
This research will enable researchers and educators to gain a deeper understanding of the ways in which students are learning and the quality of student learning experiences within constructivist environments in digital storytelling practices.

CONFIDENTIALITY

I will keep your records for this study ***confidential*** as far as permitted by law. However, if I am required to do so by law, I may be required to disclose information collected about you. Examples of the types of issues that would require me to break confidentiality are if you tell me about instances of child abuse and elder abuse. Pepperdine's University's Human Subjects Protection Program (HSPP) may also access the data collected. The HSPP occasionally reviews and monitors research studies to protect the rights and welfare of research subjects.
The data will be stored on a password-protected computer in the principal investigators place of residence. The data will be stored for a minimum of three years. The data collected will be coded, de-identified, identifiable, transcribed.
The interview will be recorded, with your permission, on a video-recording device. These video recordings will then be transferred on to the researcher's private, password protected computer, and stored as .mov files in the program iMovie. The video recordings will be destroyed immediately after being transcribed. The transcribed data will then be coded. This coded data will be stored on a password-protected computer for three years, at which time the data will be destroyed. No one other than the researcher will have access to the digital video recordings or the transcribed files which will be stored on a private, password protected document folder on the researcher's computer.

PARTICIPATION AND WITHDRAWAL

Your participation is voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

ALTERNATIVES TO FULL PARTICIPATION

The alternative to participation in the study is not participating or completing only the questions with which you feel comfortable. If you do not wish to answer any of the questions you may skip the question and continue on with the other questions in the interview.

QUESTIONS FOR THE INTERVIEWEE:

1. You have the option of being identified or de-identified. If you would like to be identified, please circle "Yes." If you do not wish to be identified, please circle "No" at the end of this sentence. Circle : Yes No
2. The researcher would like to make a video recording of this interview. Do you agree to allow this interview to be recorded on a video device? Please circle "Yes" if you agree and "No" if you disagree. Circle: Yes No
3. If you do not wish to be video recorded in this interview, do you agree to allow the researcher to record this interview on a voice recorder?
   Circle: Yes No

THE PARTICIPANT UNDERSTANDS AND AGREES TO THE FOLLOWING TERMS

2. I understand that the investigator(s) will take all reasonable measures to protect the confidentiality of my records. The video recordings will be destroyed once they have been transcribed. I understand that the interview will be recorded on a video device and that my responses will be kept confidential with researcher having exclusive access to the data on a password-protected computer. The data will be stored for three years and then destroyed.

3. I understand that this project is research being conducted in partial fulfillment of the requirements for a dissertation.

4. The confidentiality of my records will be maintained in accordance with applicable state and federal laws. Under California law, there are exceptions to confidentiality, including suspicion that a child, elder, or dependent adult is being abused, or if an individual discloses an intent to harm him/herself or others. I understand there is a possibility that my medical record, including identifying information, may be inspected and/or photocopied by officials of the Food and Drug Administration or other federal or state government agencies during the ordinary course of carrying out their functions. If I participate in a sponsored research project, a representative of the sponsor may inspect my research records.

5. I understand that in the event of physical injury resulting from the research procedures in which I am to participate, no form of compensation is available. Medical treatment may be provided at my own expense or at the expense of my health care insurer which may or may not provide coverage. If I have questions, I should contact my insurer.

6. I understand to my satisfaction the information regarding participation in the research project. All my questions have been answered to my satisfaction. I have received a copy of this informed consent form which I have read and understand. I hereby consent to participate in the research described above.

7. I understand that I may choose to be either identifiable or de-identifiable.

8. I understand that I have the option of deciding whether or not I agree to be video recorded in this interview, voice recorded, or not at all.

9. I have read the information provided above. I have been given a chance to ask questions. My questions have been answered to my satisfaction and I agree to participate in this study. I have been given a copy of this form.

INVESTIGATOR'S CONTACT INFORMATION

I understand that the investigator is willing to answer any inquiries I may have concerning the research herein described. I understand that I may contact Dr. Leo Mallette at leokathy96@aol.com or at (310) 416-7305 if I have any other questions or concerns about this research.

RIGHTS OF RESEARCH PARTICIPANT – IRB CONTACT INFORMATION

If you have questions, concerns or complaints about your rights as a research participant or research in general please contact Dr. Thema Bryant-Davis, Chairperson of the Graduate & Professional School Institutional Review Board at Pepperdine University 6100 Center Drive Suite 500 Los Angeles, CA 90045, 310-568-5753 or gpsirb@pepperdine.edu.

SIGNATURE OF RESEARCH PARTICIPANT

I have read the information provided above. I have been given a chance to ask questions. My questions have been answered to my satisfaction and I agree to participate in this study. I have been given a copy of this form.

Joseph Lambert

_____

Name of Participant/Interviewee

_____ _____

Signature of Participant/Interviewee Date

SIGNATURE OF INVESTIGATOR

I have explained the research to the participants and answered all of his/her questions. In my judgment the participants are knowingly, willingly and intelligently agreeing to participate in this study. They have the legal capacity to give informed consent to participate in this research study and all of the various components. They also have been informed participation is voluntarily and that they may discontinue their participation in the study at any time, for any reason.

Elizabeth Shin

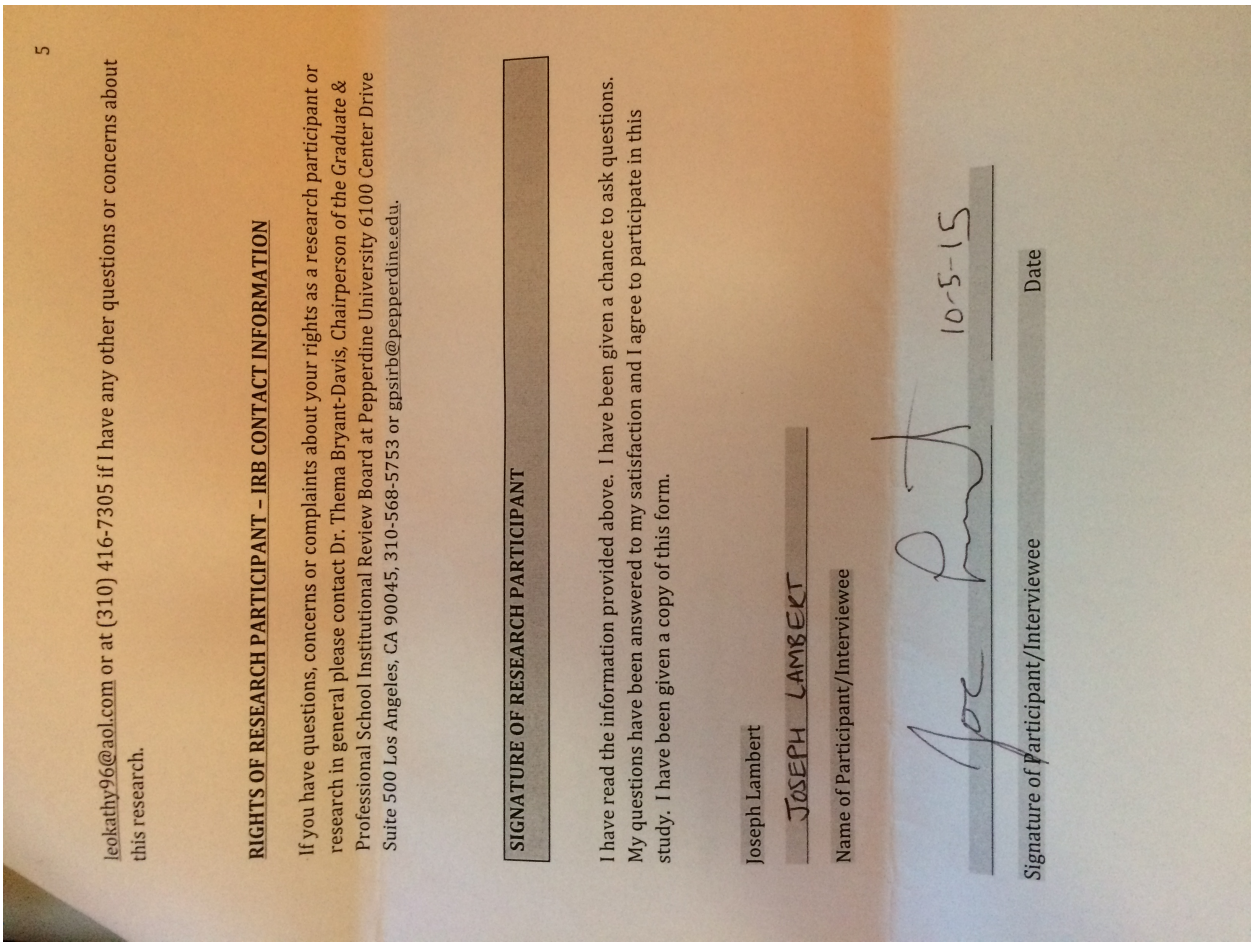
_____

Name of Person Obtaining Consent/Researcher

Elizabeth Shin 10 /5/2015

_____ _____

Signature of Person Obtaining Consent/Researcher Date



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leokathy96@aol.com or at (310) 416-7305 if I have any other questions or concerns about this research.

RIGHTS OF RESEARCH PARTICIPANT – IRB CONTACT INFORMATION

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SIGNATURE OF RESEARCH PARTICIPANT

I have read the information provided above. I have been given a chance to ask questions. My questions have been answered to my satisfaction and I agree to participate in this study. I have been given a copy of this form.

Joseph Lambert

JOSEPH LAMBERT

Name of Participant/Interviewee

10-5-15

Signature of Participant/Interviewee Date

The interview will be recorded, with your permission, on a video-recording device. These video recordings will then be transferred on to the researcher's private, password protected computer, and stored as .mov files in the program iMovie. The video recordings will be destroyed immediately after being transcribed. The transcribed data will then be coded. This coded data will be stored on a password-protected computer for three years, at which time the data will be destroyed. No one other than the researcher will have access to the digital video recordings or the transcribed files which will be stored on a private, password protected document folder on the researcher's computer.

PARTICIPATION AND WITHDRAWAL

Your participation is voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

ALTERNATIVES TO FULL PARTICIPATION

The alternative to participation in the study is not participating or completing only the questions with which you feel comfortable. If you do not wish to answer any of the questions you may skip the question and continue on with the other questions in the interview.

QUESTIONS FOR THE INTERVIEWEE:

1. You have the option of being identified or de-identified. If you would like to be identified, please circle "Yes." If you do not wish to be identified, please circle "No" at the end of this sentence. Circle : (Yes) No
2. The researcher would like to make a video recording of this interview. Do you agree to allow this interview to be recorded on a video device? Please circle "Yes" if you agree and "No" if you disagree. Circle: (Yes) No
3. If you do not wish to be video recorded in this interview, do you agree to allow the researcher to record this interview on a voice recorder?
   Circle: (Yes) No

THE PARTICIPANT UNDERSTANDS AND AGREES TO THE FOLLOWING TERMS

1. I understand that the investigator(s) will take all reasonable measures to protect the confidentiality of my records. The video recordings will be destroyed once they have

APPENDIX B

Interview Protocol Form

Time of interview: TBD
Date: TBD
Place: Berkeley. California at the Center for Digital Storytelling
Interviewer: **Elizabeth Shin**
Interviewee code #:

May I start the recorder?
I'm going to start the recorder now. [Start recorder]

Today is _____ and this is interview code number _____.

Demographic Questions:
1. *How many years have you worked in …*
2. *Etc.*

Preface to interview questions:
I'm going to ask you a series of questions about _____[describe]_____. There are no right or wrong answers, however if a question is not clear, you are encouraged to ask for clarification.

Is there anything you need before we start?

Interview Questions:

Background Questions on Joseph Lambert

1. What particular experiences did you have growing up that you would attribute to how you became drawn to the world of storytelling?
2. In what ways has becoming a founder of the CDS been a meaningful or purposeful experience to you?

Questions Directly Pertaining to Digital Storytelling and Social Learning Theory

3. How important is the social interaction of the students during the workshops and why?
4. To what extent are the students learning through each other in the story circles and narrative writing workshops and through their instructors?
5. To what extent would you consider the workshop environments to be constructivist environments?
6. How do you view the role of social learning theory in digital storytelling practices?
7. In designing your digital storytelling workshops, were you conscious of the role that

social learning would play in student learning?

8. What are some of the most important things a workshop facilitator can do to create a learning environment for students, one that elicits the best work from them?

General Questions Regarding DS and Storytelling

9. Could you speak about the seven steps of DS… how did you come to develop these seven steps that became a significant framework for developing digital stories for thousands of workshops across the United States?

10. What purpose does telling stories serve? Why is it so important for individuals to tell their stories?

That concludes the interview. Thank you for your time.

[Stop recorder]

APPENDIX C

Confirmation of Interviewee Participation Agreement

2/23, 4:58pm
2/23/15
Dear: Joe Lambert
Hello Joseph,
My name is Elizabeth Shin. I'm completing my doctorate in Educational Technology Design at Pepperdine Graduate School of Education and Psychology and am currently writing a dissertation on Digital Storytelling. My dissertation is a narrative style biographical research study, and wanted to know if you might be available for an interview. I have done quite a bit of reading on the Center for Digital Storytelling and would love to be able to work in some capacity with you.
I am based in the Los Angeles area but I believe we could do an interview over on a visit to the Bay Area perhaps if you area available.
As an educator, I have used digital storytelling exercises in my classes as an adjunct instructor over the past 2 years, and really believe that it is an important development in storytelling practices of all kinds.
Please let me know at your earliest convenience if you might be available.
Best Regards,
Elizabeth Shin
I hope you don't mind that I am messaging here. I am a part of the Center for Digital Storytelling group page and found it easier to contact you here directly.
My email is also: elizabeth.shin@pepperdine.edu or engdue@gmail.com if email is preferable.
Thank you again for your consideration.
Response from Joseph Lambert:

Joe Lambert

Feb 23

<joe@storycenter.org>

to elizabeth.shin, me

Elizabeth,

Got your message. Yes, of course I would be happy to do interview.

-Joe

APPENDIX D

IRB Approval Letter

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

September 4, 2015

Elizabeth Shin

Protocol #: E0715D06

Project Title: Examining Digital Storytelling Practices through the Lense of Social Learning Theory: An Interview with Joseph Lambert

Dear Ms. Shin:

Thank you for submitting your application, *Examining Digital Storytelling Practices through the Lense of Social Learning Theory: An Interview with Joseph Lambert*, for exempt review to Pepperdine University's Graduate and Professional Schools Institutional Review Board (GPS IRB). The IRB appreciates the work you and your faculty advisor, Dr. June Schmieder, have done on the proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations (45 CFR 46 - http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html) that govern the protections of human subjects. Specifically, section 45 CFR 46.101(b)(2) states:

> (b) Unless otherwise required by Department or Agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:
>
> **Category (2) of 45 CFR 46.101**, research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: a) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
>
> b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit a **Request for Modification Form** to the GPS IRB. Because your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the GPS IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the GPS IRB as soon as possible. We will ask for a complete explanation of the event and your response.

Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the GPS IRB and the appropriate form to be used to report this information can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* (see link to "policy material" at http://www.pepperdine.edu/irb/graduate/).

Please refer to the protocol number denoted above in all further communication or correspondence related to this approval. Should you have additional questions, please contact Kevin Collins, Manager of the Institutional Review Board (IRB) at gpsirb@peppderdine.edu. On behalf of the GPS IRB, I wish you success in this scholarly pursuit.

Sincerely,

Thema Bryant-Davis, Ph.D.

Chair, Graduate and Professional Schools IRB

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives Mr. Brett Leach, Regulatory Affairs Specialist

Dr. Leo Mallette, Faculty Chair

APPENDIX E

Interview Questions

Background Questions on Joseph Lambert

1. What particular experiences did you have growing up that you would attribute to how you became drawn to the world of storytelling?
2. In what ways has becoming a founder of the CDS been a meaningful or purposeful experience to you?

Questions Directly Pertaining to Digital Storytelling and Social Learning Theory

3. How important is the social interaction of the students during the workshops and why?
4. To what extent are the students learning through each other in the story circles and narrative writing workshops and through their instructors?
5. To what extent would you consider the workshop environments to be constructivist environments?
6. What are some of the most important things a workshop facilitator can do to create a learning environment for students, one that elicits the best work from them?
7. How do you view the role of social learning theory in digital storytelling practices?
8. In designing your digital storytelling workshops, were you conscious of the role that social learning would play in student learning?

General Questions Regarding DS and Storytelling

9. Could you speak about the seven steps of DS… how did you come to develop these seven steps that became a significant framework for developing digital stories for thousands of workshops across the United States?
10. What purpose does telling stories serve? Why is it so important for individuals to tell their stories?

APPENDIX F

Table of Sources

Table 3. Table of Sources

Category of Data Source	Source
Interviews	In-person interview with Lambert, published interview(s) included in the book *Digital storytelling: Capturing lives, creating community*. Additional online interviews may also be included.
Direct observation	Direct observation during the in-person interview
Literature by Lambert	Chapter 4 of *Story Circle* (Lambert, 2009), *Capturing Lives*, *The Digital Storytelling Cookbook* (Lambert, 2013), and any other relevant literature
Literature on Lambert	

APPENDIX G

Photo of Lambert

Photo taken with Lambert at the conclusion of the interview.