

# Engaging Students in Traditional and Digital Storytelling to Make Connections Between Pedagogy and Children's Experiences

Peggy S. Lisenbee<sup>1</sup> · Carol M. Ford<sup>2</sup>

Published online: 16 March 2017  
© Springer Science+Business Media New York 2017

**Abstract** Traditional and digital storytelling is a powerful literacy tool which engage students in making connections between pedagogy and academic content. Definitions of traditional and digital storytelling, pedagogical methods aligned with curriculum standards, and examples of literacy centers associated with storytelling in early childhood classrooms are shared. The theoretical framework, Technological Pedagogical Content Knowledge (TPACK), is included to illustrate how pedagogy, storytelling, and technology interact to teach content knowledge and 21st-century skills. The five literary elements and additional elements of stories identified from research which enhance students' engagement in stories are provided. A checklist for selecting stories, book lists and storytelling websites offer resources that will support teachers in using both digital and traditional storytelling with their students.

**Keywords** Traditional storytelling · Digital storytelling · Literacy centers · Pedagogy · 21st-century skills · Student engagement

## Introduction

Actively engaging students in traditional and digital storytelling activities offers students an opportunity to make authentic connections between their experiences and academic content. Storytelling provides early childhood teachers a wide variety of literacy standards to engage students in demonstrating their content mastery. Fluency in reading and oral language are a reported benefit for students practicing storytelling in classrooms (Campbell and Hlusek 2015; Isbell et al. 2004).

Vivian Paley, a retired early childhood teacher and author, spent her entire career demonstrating the power of story as a teaching tool in classrooms. She created books with descriptive words to assist students in hearing, feeling and seeing each story more clearly. Paley used stories to teach basic concepts in a classroom; she also encouraged students to write, illustrate, and perform their stories. Action and interaction with storytelling demonstrate engagement in the pedagogy of the classroom (Paley 2001). "Storytelling carried out in this way provides a good example of curriculum that is play-based, child-centered, and highly beneficial" (Wright et al. 2008, p 369).

The purpose of this article is to encourage teachers to include traditional and digital storytelling in their pedagogy. It describes the power of storytelling to make connections between academic content for students as they engage in real-world experiences. Traditional and digital storytelling definitions, pedagogical methods aligned with curriculum standards, defining 21st-century skills supported through storytelling and examples for using both types of storytelling in early childhood classrooms is explained. The elements of fiction, additional elements associated with digital storytelling, and how to select traditional and digital stories are described. Student engagement

---

✉ Peggy S. Lisenbee  
Peggy-lisenbee@utulsa.edu

Carol M. Ford  
Carol.ford@mps20.org

<sup>1</sup> School of Urban Education, The University of Tulsa, 800 S. Tucker Drive, Tulsa, OK 74104, USA

<sup>2</sup> Muskogee Public Schools, Ben Franklin Science Academy, 300 Virgil Matthews Dr, Muskogee, OK 74401, USA

in traditional and digital storytelling will be shared through research conducted in early childhood classrooms. Limitations and advantages of using storytelling are discussed. The article concludes with a list of resources teachers can use to integrate both digital and traditional storytelling into the curriculum.

## Pedagogy

Traditional and digital storytelling is a literacy tool teachers use to interactively engage students in telling a story to make connections between academic content and their experiences. Literacy centers are a pedagogical method used in early childhood classrooms which provide a variety of interactive storytelling experiences using items such as puppets, felt boards, whiteboards, illustration/murals, sensory tables, and writing. Students make connections with pedagogical content through their active exploration of each center's activity offering students experiences to build upon their understanding of the world. In general, literacy centers function by assigning small groups of 2–4 students to work collaboratively and demonstrate mastery of specific academic content assigned to each literacy center. Literacy centers focused on traditional and digital storytelling might include such activities as writing a script, describing the sequence of a story or illustrating the understanding of the main characters in the story.

The choice in pedagogy used in an early childhood classroom relies on several factors such as the teachers' objective for the activity, the students' interest, and the tools available for use in the classroom. For teachers to choose the type of storytelling most effective for supporting student mastery of academic content, definitions of traditional and digital storytelling need to be clarified.

## Traditional Storytelling Defined

Most definitions of traditional storytelling in an early childhood classroom describe an act of telling or writing a story. A broader definition of traditional storytelling includes a range of experiences from a narrative transcribed by a teacher about a child's illustration, using puppets to tell a story about a recent birthday party, performing actions matching the words they read in books and students performing a full-length play. Gallas (2003) extends the definition of storytelling to a "social process" (p 21). The foundation for these definitions are stories created by students from their experiences or from reading a book. "Narrative is an essential form through which children describe their own experiences and communicate their views of the world" (Ahn and Filipenko 2007, p 279). Curriculum standards related to traditional storytelling focus on

narratives demonstrated through the six language arts in the form of reading, writing, listening, speaking, viewing and representing visually.

## Examples Related to Curriculum Standards

The Common Core State Standards (CCSS) for English Language Arts (ELA) are a general source of curriculum standards for early childhood classrooms. Alignment of CCSS-ELA is an important consideration for all language arts activities including storytelling (Campbell and Hlusek 2015; Jalongo et al. 2002; National Governors Association & Council of Chief State School Officers 2010; Schatt and Ryan 2015). Table 1 shares examples of the alignment between CCSS-ELA and storytelling activities.

**Table 1 Storytelling Activities Aligned with Common Core State Standards**

Literacy centers embrace activities aligned with curriculum standards. Literacy centers require students to complete activities based on specific language arts objectives and global skills such as collaboration, critical thinking, creativity and problem-solving. Some traditional storytelling activities which can be assigned for students to complete at literacy centers are:

- Orally reading to a peer or independently reading aloud.
- Write a storyboard script to act out in a Reader's Theater.
- Sequencing stories after reading a book using sentence strips placed in pocket charts
- Illustrating a story using sketch to stretch. Sketch to stretch offers students a chance to visually represent what they just read with a logical 'stretch' of some element of the story to depict their understanding of how the story might be different due to the 'stretch.'

Storytelling assists teachers in meeting state and national curriculum standards by aligning student activities with CCSS-ELA.

## Digital Storytelling Defined

Digital storytelling uses technological tools such as an interactive whiteboard (IW), computer, cellular phone, or tablet. These technological tools provide a foundation for offering digital storytelling experiences in a classroom. Solvie (2004) suggests a SMARTBoard, one brand of an IW, "allowed use of multiple senses, leading to increased levels of engagement and greater understanding" of academic content by students (p. 488).

**Table 1** Storytelling activities aligned with common core state standards (CCSS)

Academic skills (CCSS)	Traditional storytelling activity	Digital storytelling activity
CCSS.ELA-Literacy.RL.K.2: with prompting and support, retell familiar stories, including key details	Orally re-tell a story to an assigned partner	Digitally record a re-telling of a story
CCSS.ELA-Literacy.RL.1.3: describe characters, settings, and major events in a story, using key details	Use a graphic organizer to share key details about a story then re-tell the story to a friend	Use a graphic organizer on an interactive whiteboard to share key details about a story then re-tell the story to a friend
CCSS.ELA-Literacy.SL.1.4: describe people, places, things, and events with relevant details, expressing ideas and feelings clearly	Create cards with descriptions on them to be used during your oral or written storytelling of the people, place, thing or event	Use ChatterPix on an iPad to express your ideas and feelings clearly during your storytelling or for an extension of this standard, create a Prezi as your digital storytelling format
CCSS.ELA-Literacy.RL.1.4: identify words and phrases in stories or poems that suggest feelings or appeal to the senses	Use wordless picture books to identify words or phrases which could be used to tell the story. Create a stack of 3×5 cards with this information on them which are used to re-tell the story of the wordless picture book	Use wordless picture books to identify words or phrases which could be used to tell the story. Take photos of the wordless picture book to insert in PowerPoint (PPT) slides then add the words or phrases identified to tell the story of the wordless picture book in more PPT slides
CCSS.ELA-Literacy.W.2.3: write narratives in which [students] recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure	Write a storyboard script for students to act out in a Reader's Theater from a story or make up a story	Write a storyboard script for students to act out from a story or make up a story. Record the script as an iMovie
CCSS.ELA-Literacy.RL.3.3: describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events	Use pocket charts to demonstrate the sequence of a story accurately then have students describe to a partner the character traits which caused the sequence of events	Use a computer program to write up the sequence of events in a story then use Keynote to create a presentation going beyond the sequence by describing character traits which caused the sequence of events

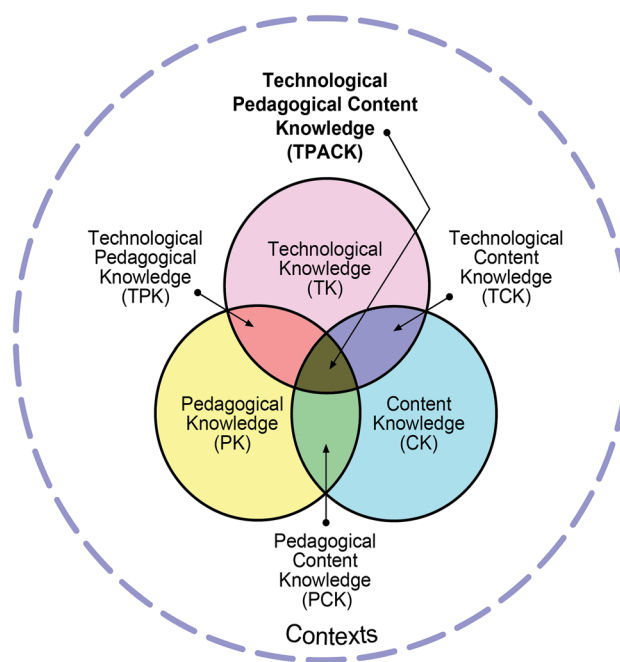
National Governors Association Center for Best Practices &amp; Council of Chief State School Officers (2010)

Most computers use online websites or apps, but some apps were created solely for use on a mobile device (cellular phone or tablet). Websites such as *GetEpic.com*, *Storylineonline.net*, *Audible.com*, and *Starfall.com* and apps such as *StoryCreator*, *ChatterPix*, and *Puppet-Edu* are just seven of thousands of options available for teachers and students to use for digital storytelling.

Computers provide several software options for creating digital stories: *PowerPoint*, *iMovie*, *Prezi*, *Keynote*, *Google Slides*, *SMART Notebook*, and many others.

Most definitions of digital storytelling refer to using a variety of technical tools to share narratives, images, and experiences in a multimedia in the form of audio, video, web publishing and graphics (Educause Learning Initiative 2007; Porter 2004; Robin 2008; Rule 2010; Schrock 2013, 2017). Digital storytelling allows students to use traditional storytelling but “...combined with various types of multimedia... so that it can be played on a computer, uploaded to a website, or burned on a DVD” (Robin 2008, p 222). Other definitions refer to digital storytelling as a medium to teach 21st-century skills (Brown et al. 2005; Czarnecki 2009; Frazel 2010; Karakoyun and Kuzo 2016; Robin 2008). The most common definition of digital storytelling supports this statement, “... digital storytelling as a project-based assessment is a natural to add to the classroom toolbox of resources to help students master the Common Core State Standards” (Schrock 2013, paragraph 7). Digital storytelling includes the use of critical thinking and problem-solving skills, collaboration with others, and creatively narrating experiences. Students with special needs and English Language Learners benefit from the use of digital technology embedded in classroom activities (Skouge et al. 2007). Digital storytelling experiences in the classroom range from creating a video of a science experiment, taking photographs to insert in a PowerPoint to share as a slideshow during Parent Teacher conferences or re-telling stories using graphics to share with pen pals down the hall or across the globe.

Most especially in early childhood classrooms, teachers need to consider the impact of technology on their students’ ability to demonstrate their understanding. The TPACK Model, Technological Pedagogical And Content Knowledge (TPACK), provides a 21st-century connection for teachers to meld pedagogy, content, and technology as they implement standards. Interactions between and among these three contexts guide and engage teachers as they embrace technology as part of their pedagogy (Mishra and Koehler 2006; Schmidt et al. 2009). Figure 1 illustrates the interweaving of these three contexts through the TPACK Model.



**Fig. 1** TPACK model (reproduced by permission of the publisher, © 2012, tpack.org)

**Figure 1 TPACK Model (Reproduced by Permission, © 2012, <http://www.tpack.org>)**

TPACK provides a model for teachers to reflect on their pedagogy and the content knowledge students need while incorporating technology into an activity to motivate students to engage in activities offering all students a chance to learn.

#### Examples Related to TPACK

As explained previously, Table 1 provides examples of the alignment between CCSS-ELA and storytelling activities. Using TPACK encourages a focus on the interplay among pedagogy, content, and the use of technology for assigned classroom activities. Literacy centers remain an ideal pedagogical method to support students’ demonstration of content while allowing them to collaborate, use critical thinking skills, express their creativity, and problem solve. TPACK assists teachers to factor in students’ ability to use technology independently as illustrated in the centermost portion of the TPACK Model. Some digital storytelling activities assigned within literacy centers can be assigned to be completed by students individually or in small groups:

- Orally reading into a tape recorder or digital device.
- Writing a storyboard script using a tablet then letting the students act it out using movie software before

potentially posting the movie on a Web-based site (with protections in place to maintain student confidentiality).

- Sequencing stories by writing the story or illustrating the story sequence on an interactive whiteboard.
- Illustrating a story using graphics for a sketch to stretch assignment.

Using technology focused on content from academic standards, developmentally appropriate pedagogy, and open-ended, self-exploratory technical experiences for students is a facet of digital storytelling (Haugland 2005).

## 21st-Century Connections

Twenty-first-century skills related to storytelling extend beyond using a form of technology to create and share stories. A global list of 21st-century skills has been identified listing these four common skills as areas to focus on when teaching these skills in classrooms: collaboration, problem-solving, critical thinking, and creativity (Brown et al. 2005; Karakoyun and Kuzo 2016; North Central Regional Education Laboratory & Metiri Group 2003; Pacific Policy Research Center 2010; Johnson 2009; Partnership for 21st-century Skills 2015; Robin 2008; University of Houston 2011). The ability to engage students in a variety of literacies, including digital literacies in classrooms, integrates a focus on literacy standards across all curriculum supporting global literacy and education (Ohler 2008; Robin 2008; Swiniarski 2012). Both traditional and digital storytelling experiences embrace these 21st-century skills while focusing on important literacy activities aligned with grade-level CCSS-ELA standards. Overall, both traditional and digital storytelling support early childhood students practice of 21st-century skills.

## Elements of Storytelling

Teachers using traditional and digital storytelling in classrooms embrace the need to align their pedagogy with CCSS-ELA standards. These academic standards associated with storytelling focus on the six language arts, but delving deeper into the language arts offers elements embedded in storytelling which are similar for both traditional and digital storytelling.

Academic standards focused on storytelling relate to mastery of the five literary elements of a story: setting, theme, characters, plot, and conflict. When integrating storytelling in a classroom, students process information through activities associated with the five literary elements and the six language arts such as reading about the characters, writing about the theme, illustrating the setting,

reporting the conflict, and re-creating a connection with the characters in a story (Wright et al. 2008). In this way, students co-construct their knowledge of literary elements of a story through storytelling experiences as they make connections between their storytelling experiences and academic content.

Additional elements beyond the five literary elements seem to captivate students' engagement in storytelling. The additional elements are powerful features appealing to students, but also provide a checklist of elements which can assist teachers in choosing books for storytelling. Robin (2008) found these additional elements embedded in digital storytelling:

- Emotional content
- Power of soundtrack and pacing
- Economy
- Key questions
- Personalizing the story and point of view

Similarly, Lisenbee and Ford, found similar additional elements as a result of deconstructing traditional and digital storytelling experiences:

- A sense of fun
- Repetitive lines
- A limited number of characters
- Age appropriate language
- Colorful pictures and illustrations

Table 2 offers a visual alignment of these storytelling elements with examples of books.

### Table 2 Additional Elements in Storytelling Books

The additional elements listed in conjunction with favorite children's literature validate the embeddedness of these elements in stories.

## Selecting Traditional and Digital Stories

The ability to select stories to use for traditional and digital storytelling activities is an important skill for teachers. A checklist can be created from the elements of storytelling to provide an effective method for identifying and selecting books. Books need to have a sense of fun, emotions, colorful illustrations, personal points of view, age appropriate language, key questions, a feeling of power, effective pacing, repetitive lines, and an economy of characters. Storytelling using quality children's literature with these elements extend students' engagement with stories and expand response to literature in powerful ways (Leu et al. 2004; Robin 2008; Zeece 1997). The overlap and consistent use



**Table 2** Additional elements in storytelling books

Title of book, author	<i>Brown bear brown bear, what do you see?</i> by Bill Martin Jr.	<i>If you give a mouse a cookie</i> by Laura Numeroff	<i>Where the wild things are</i> by Maurice Sendak	<i>No david</i> by David Shannon
Storytelling elements				
Emotional content	X	X	X	
Power of soundtrack and pacing	X	X	X	
Economy		X	X	X
Key questions	X	X		X
Personalizing the story and point of view				X
A sense of fun	X	X	X	
Repetitive lines	X	X	X	
A limited number of characters		X	X	X
Age-appropriate language	X	X		X
Colorful pictures and illustrations				X

Lisenbee and Ford (2017) and Robin (2008)

of these elements in the stories below provide reliability for using these elements as a method for selecting traditional and digital stories.

In the books, *Brown Bear Brown Bear, What Do You See?*, *The Little Red Hen*, *The Gingerbread Man*, *Where The Wild Things Are*, *Fancy Nancy*, *The Cat In The Hat*, and *If You Give A Mouse A Cookie*, the authors include a sense of fun during storytelling. These books include silly characters which students can relate to and emulate during the retelling of these stories. When words rhyme throughout a book, it emits a sense of fun. Before teachers can even read the words of a story, students enjoy being able to predict sentences and rhyming words as a type of participatory celebration of their comprehension of the story. Interactions are robust and rewarding for everyone when emotions are a part of the storytelling process.

Most children enjoy colorful pictures and illustrations. The Caldecott Medal identifies the most prestigious picture books annually which teachers can select for storytelling. *The Lion & The Mouse*, *No David*, *Polar Express*, and *The Three Little Pigs* are a few of the books which have earned this recognition. These books are aesthetically pleasing to students while teachers utilize them to engage students visually in practicing literacy skills during storytelling experiences. Illustrations keep students' attention and provide depth to the author's point of view and plot.

Age-appropriate language is about more than just using a limited number of words in a story. It involves using words students do not have to struggle to understand, thus aiding in their comprehension of a story. *Brown Bear Brown Bear What Do You See?*, *No David*, and *If You Give A Mouse A Cookie* are written using age appropriate language. Some books use uncommon vocabulary such as a "bale of hay" from *The Three Little*

*Pigs* and "wild rumpus" from *Where The Wild Things Are* inviting teachers to personalize the context of the story by scaffolding students' comprehension.

Repetitive lines are a key element found in these stories, *Brown Bear Brown Bear What Do You See?*, *The Little Red Hen*, *The Gingerbread Man*, *Where The Wild Things Are*, *The Three Little Pigs*, *Goldilocks and The Three Bears*, *The Cat In The Hat*, and *If You Give A Mouse A Cookie*. Students enjoy responding with repetitive lines during the storytelling process as it captures their attention and engages them in a collaborative, participatory activity. This element is similar to a sense of fun, but it gives power to students when they know the pacing and soundtrack of the book making them feel as if they are reading the words independently.

*Goldilocks and The Three Bears*, *The Little Red Hen*, *The Gingerbread Man*, *The Lion & The Mouse*, *The Three Little Pigs*, *Fancy Nancy*, *The Cat In The Hat*, *No David*, *Where The Wild Things Are*, and *If You Give A Mouse A Cookie* use a limited number of characters throughout their stories. The economy of characters provides students with the ability to focus on connecting to the story, delving deeper into character traits, and comprehending the story instead of overloading students during a storytelling experience. Additionally, a limited number of characters provides teachers with the option to incorporate higher order thinking skills such as critiquing, evaluating, and analyzing characters during storytelling.

A focus on these elements in children's literature supports teachers' ability to effectively choose both traditional and digital storytelling activities for students to engage in while they construct academic knowledge during their storytelling experiences in a classroom.

## Student Engagement in Storytelling

Engaging in storytelling stresses emotion and authenticity to help students make connections (Leu et al. 2004; Stewart and Gachago 2016). Students' voices demonstrate strength in their understanding as they make connections to academic content through storytelling. As students engaged in traditional storytelling, they are actively working to develop content knowledge through pedagogy. Examples of children's literature which effectively engages students in storytelling in early childhood classrooms are: *The Little Red Hen*, *Goldilocks And The Three Bears*, *Brown Bear Brown Bear What Do You See?*, *The Gingerbread Man*, *Where The Wild Things Are*, *Stone Soup*, *The Lion & The Mouse*, *A Bad Case of Stripes*, *The Three Little Pigs* and *If You Give A Mouse A Cookie*. Research on storytelling is provided to share the engagement of students with learning while using traditional and digital storytelling in early childhood classrooms.

## Research on Traditional Storytelling

The term *traditional* may evoke a rather dull image; however, traditional storytelling in an early childhood classroom is a product of students interacting socially with the elements in a book. An example of a traditional storytelling activity comes from research conducted on early childhood students experiencing the story *The Very Hungry Caterpillar* (Carle 1987; Ford 2009). These early childhood students enjoyed performing the book in addition to exploring the life cycle of a caterpillar through literacy centers.

The storytelling begins with the lights off and classical music playing softly in the background. Students are told to curl up tightly on a towel on the floor pretending to be a caterpillar egg. As the teacher reads the story and turns the lights on to imitate the sun coming up, the students 'hatch' into caterpillars. The students continue to act out the words from the story by crawling around pretending to eat various fruits and leaves. Eventually, the students crawl back to their towels pretending to have a belly ache from eating too much food. They eat one more tasty leaf and wrap themselves in their towels symbolizing a cocoon. The students remain still and silent until the music reaches a crescendo. Finally, the students emerge from their chrysalis using the towel to flap their wings and fly around the classroom recreating the beautiful butterfly from the story.

Integrating *The Very Hungry Caterpillar* into all subject areas using literacy centers is a significant extension of the storytelling process. To practice math skills at a literacy center, students count the number of foods the caterpillar eats then categorizes the food as healthy and unhealthy. An extension of this activity is to explain the difference between the healthy and unhealthy foods the caterpillar eats

using a fact to explain why each food is either healthy or unhealthy. For science centers, students write observations in science journals about live caterpillars (purchased for this activity) as they progress through each stage of their life cycle from egg to butterfly. An extension of this activity is writing a short story from information in their science journals. For reading and writing centers, students act out words in the story and create illustrations of these actions. Students spell out the word(s) underneath their illustrations before the teacher posts the illustrations around the classroom. Writing a Reader's Theater script is an extension of students' literacy skills at this center. Students' participation in a social studies literacy center involves using a map to locate where various types of butterflies fly after hatching. Identifying the exact route of butterfly migration on a world map provides a social studies extension activity.

An art center to coordinate with this book includes the opportunity to illustrate their understanding of the metamorphosis of a butterfly from egg to a butterfly by illustrating a flip book based on their scientific journal reflections. Finally, teachers can play classical music during literacy centers to enrich the atmosphere of the storytelling experience. Traditional storytelling easily integrates activities for all subject areas by engaging students in experiences with academic content and the world around them.

A glimpse into the connections made while participating in traditional storytelling experiences is heartwarming, but observing early childhood students engaging with digital tools to practice digital storytelling can be intense. Twenty-first-century learners expect to engage their senses and interact with digital devices, but if teachers don't utilize the TPACK Model to assess students' technological knowledge before assigning digital storytelling to practice content knowledge, it might set students up for failure.

## Research on Digital Storytelling

An example of a digital storytelling activity comes from research conducted on early childhood students using a SMARTBoard to complete a digital retelling of the story, *Goldilocks and the Three Bears* (Lisenbee 2009). A SMARTBoard is a brand name for an interactive whiteboard (IW). Interactive whiteboards are large screens either rolled into classrooms for use or permanently mounted on a classroom wall for continuous use. Interactive whiteboards use pinching, stretching, inserting text, photos, and images similar to cell phones. The SMART Notebook software offers clip art, templates, and images associated with several traditional children's literature accessed in the Gallery, Language Arts folder.

Three pairs of first-grade students were given instructions to re-tell the story of Goldilocks and The Three Bears using the IW installed in their classroom. The teacher chose

six students based on her perspective that they all would be able to complete the assignment independently on the IW without any technological issues.

One pair of students, Pete and Thomas (pseudonyms), were excited to be chosen to re-tell the story of *Goldilocks and the Three Bears* on the IW. As they began opening blank pages on the IW, they commented, “cool”, “wow” and other similar exclamations. This pair of students started off-task when they double-clicked on the wrong children’s literature title in the SMART Notebook software (they clicked on *Little Red Riding Hood* which was directly above *Goldilocks and the Three Bears* in the Nursery Rhymes section of the Language Arts folder). This pair began to randomly insert images, backgrounds, and clip art from *Little Red Riding Hood* onto the blank IW screen. Thomas and Pete laughed often. Thomas said to Pete, “but we don’t know how to delete it” before Pete responded back to Thomas “how do we get it back to *Goldilocks and the Three Bears*?”. Pete and Thomas collaborated and problem-solved to double-click on the title in the Language Arts folder. They began re-telling *Goldilocks and the Three Bears* in the same way they started with *Little Red Riding Hood* previously. They giggled and communicated about what they needed to do, but also continued to express their frustration regarding their inability to use the IW independently. After 20 min of working on this task, Pete said “I think we’re done” and Thomas agreed. The other two pairs of students were observed using the IW with similar issues even though one pair was much more successful in completing the assignment.

Transcript recordings of each pair of students’ voices during their retelling of *Goldilocks and the Three Bears* and creation of digital storyboard frames document each pairs’ digital storytelling experience. Digital copies of each pairs’ visual representations of the story were saved on the computer. Both the transcripts and the digital representations were qualitatively analyzed to identify common themes emerging from the digital storytelling process for this sample of first-grade students. Some transcript segments of their voices during their digital storytelling experience sound like “let’s put Papa Bear’s bed here,” “wait, let’s go back up,” and “if you put up the door to the Three Bears home, we can put a chair on it.”

Qualitative analysis of the themes identifies cooperation, engagement/interaction, turn-taking, helpful instruction/communication, showing pride, and enjoyment. These students’ voices imply a sense of social connectedness among the pairs of students as they engage with each other during the digital storytelling process. Offering technological tools for storytelling in an early childhood classroom illustrates the embeddedness of 21st-century skills in digital storytelling experiences. These pairs of students experienced the need to critically think, problem-solve, be creative and

collaborative while socially engaging in constructing a re-telling of a story.

Both digital and traditional storytelling seemed to provide students with practice of the 21st-century skills of collaboration, problem-solving, critical thinking, and creativity. Both traditional and digital storytelling focus on social interaction. Both types of storytelling seem to be similar literacy tools which have the power to engage early childhood students in constructing their knowledge of academic standards from real-world experiences.

## Implications for Classroom Teachers

Traditional and digital storytelling reinforces the five literary elements of a story and offers an opportunity to delve deeper into additional story elements embedded in books. The strong social connections created through storytelling allow students to relate stories to their personal experiences and make connections to academic content. For example, students can learn to read and write about butterfly life cycles from *The Very Hungry Caterpillar*, why you should be kind to others from *The Lion & The Mouse*, and the concept of cooperation from *The Little Red Hen*. Observations of early childhood classrooms demonstrate the ease in which storytelling can morph from only using traditional storytelling in literacy centers to the use of both traditional and digital storytelling as effective instructional methods. Cole (1989) shares a reason to include storytelling in classrooms is to broaden ideas and personal feelings by letting students engage in real-world experiences. Ahn and Filipenko (2007) state, “In telling, listening to, and reading stories, children transform experiences into original compositions by combining reality and fantasy. Personal storytelling serves as a resource for young children as they come to express and understand who they are” (p 280).

A limitation associated with traditional storytelling is the perspective of early childhood students to crave digital tools so much that they perceive other types of activities as boring. It is vital that early childhood teachers find interactive and engaging traditional storytelling activities to use in their classrooms. Another limitation of traditional storytelling is the amount of time and labor required for teachers to prepare materials for one lesson or multiple literacy center activities for use on only 1 day in an early childhood classroom.

A limitation of digital storytelling in early childhood classrooms is the age of students and their ability to learn how to use technological tools independently. Another limitation of digital storytelling is the cost associated with purchasing technological tools, the challenges related to training teachers to use new tools, and the variability of



**Table 3** Resources for teachers: print books, digital books, storytelling websites

Website URL's	Description of websites
<b>Print books</b>	
<a href="http://www.icdlbooks.org">http://www.icdlbooks.org</a>	Instructional Children's Digital Library which identifies culturally sensitive children's literature
<a href="http://www.readingrockets.org/books/booksbytheme">http://www.readingrockets.org/books/booksbytheme</a>	Themed lists of books
<a href="http://www.scholastic.com/kids/stacks/books/?lnkid=stacks/nav/b_and_a/main">http://www.scholastic.com/kids/stacks/books/?lnkid=stacks/nav/b_and_a/main</a>	Annotated book lists by genre
<a href="http://gws.ala.org/category/literature-amp-languages/authors-illustrators">http://gws.ala.org/category/literature-amp-languages/authors-illustrators</a>	List compiled from the American Library Association of websites of authors and illustrators
<a href="http://www.ala.org/alsc/awardsgrants/notalists/ncb">http://www.ala.org/alsc/awardsgrants/notalists/ncb</a>	Association for Library Service to Children's list of the best children's books
<a href="http://www.ala.org/alsc/booklists">http://www.ala.org/alsc/booklists</a>	
<a href="https://www.nyp1.org/childrens100">https://www.nyp1.org/childrens100</a>	New York Public Library list of the best 100 children's books
<a href="http://www.cbcbooks.org/reading-lists/">http://www.cbcbooks.org/reading-lists/</a>	Children's Book Council list of books for children
<a href="https://ccbc.education.wisc.edu/books/detailListBooks.asp?idBookLists=42">https://ccbc.education.wisc.edu/books/detailListBooks.asp?idBookLists=42</a>	List of multicultural children's books and links to multicultural resources for specific cultures
<a href="https://ccbc.education.wisc.edu/links/links.asp?idLinksCategory=4">https://ccbc.education.wisc.edu/links/links.asp?idLinksCategory=4</a>	
<a href="http://www.rif.org/books-activities/booklist/">http://www.rif.org/books-activities/booklist/</a>	Reading is Fundamental list of children's books including multicultural books
<b>Digital books</b>	
<a href="http://www.storylineonline.net/a-to-z-book-directory/?sort=titleb">http://www.storylineonline.net/a-to-z-book-directory/?sort=titleb</a>	Screen Actors Guild-American Federation of Television and Radio Artists
<a href="https://www.getepic.com/">https://www.getepic.com/</a>	Subscription service for families, free to educators. Access to over 15,000 books for kids 12 and under
<a href="http://www.magickeys.com">http://www.magickeys.com</a>	Free online books
<a href="http://www.starfall.com/">http://www.starfall.com/</a>	Starfall teaches reading through phonics instruction and offers books to read
<a href="http://www.bing.com/videos/search?q=books&amp;go=Search&amp;q=bs&amp;form=QBVLPG">http://www.bing.com/videos/search?q=books&amp;go=Search&amp;q=bs&amp;form=QBVLPG</a>	Videos of books being read
<a href="http://www.funbrain.com/brain/ReadingBrain/ReadingBrain.html">http://www.funbrain.com/brain/ReadingBrain/ReadingBrain.html</a>	An online site for educational games with online books available
<a href="https://www.readinga-z.com/">https://www.readinga-z.com/</a>	
<a href="http://www.pbskids.org">http://www.pbskids.org</a>	Subscription service for teaching reading and books online
<a href="http://readingeggs.com/">http://readingeggs.com/</a>	Ebooks and games based on PBS characters
<a href="https://www.youtube.com/results?search_query=book+read+aloud">https://www.youtube.com/results?search_query=book+read+aloud</a>	Teaching reading skills with books to read online
<a href="https://www.youtube.com/results?search_query=stories+for+kids">https://www.youtube.com/results?search_query=stories+for+kids</a>	YouTube videos of books
<b>Storytelling</b>	
<a href="http://www.storytelling.org/">http://www.storytelling.org/</a>	Illinois storytelling site sharing storytellers, emerging and professional to connect generations through story
<a href="http://eldrbarry.net/rabb/rvn/rvn.htm">http://eldrbarry.net/rabb/rvn/rvn.htm</a>	Stories about Pacific Northwest Native American tales which include ravens
<a href="http://www.eldrbarry.net/roos/books/amer.htm">http://www.eldrbarry.net/roos/books/amer.htm</a>	Tall tales, legends and other American folklore
<a href="http://www.Storycorps.org">http://www.Storycorps.org</a>	This site is an American oral history site created by National Public Radio
<a href="https://themoth.org/">https://themoth.org/</a>	True stories recorded live and shared as remembered by the storytellers on topics related to life which may not be appropriate for younger students
<a href="http://storyarts.org/library/aesops/index.html">http://storyarts.org/library/aesops/index.html</a>	Fables shared using ABC order
<a href="http://digitalstorytelling.coe.uh.edu/">http://digitalstorytelling.coe.uh.edu/</a>	Examples of digital stories to use in classrooms

access to the Internet and computers in early childhood classrooms.

One solution for offering digital storytelling experiences in more early childhood classrooms is to broaden the use of older forms of technology such as typewriters,

tape recorders, cameras, video cameras, Walkmans, and iPods. Around the globe, early childhood classrooms must resolve issues of access in case schools are the only means for learners to experience technology (National Association for the Education of Young Children 2012). The inclusion

of technology, when available, provides a social method for students to explore storytelling in a natural manner for 21st-century learners. Storytelling is an everyday occurrence on Facebook, Snapchat, Twitter, and other social media sites so including digital storytelling in an early childhood classroom engages students socially and academically.

Many books have withstood the test of time as favorites for storytelling. Each year, newly published children's literature adds to the list of favorites. Many print books are available as online constructions of traditional children's literature offering a wide variety of quality print and digital books for storytelling. Table 3 offers resources for teachers, both print and digital books, and storytelling websites to use in their classrooms.

### Table 3 Resources for Teachers

This list of resources was created to encourage teachers to embracing both traditional and digital storytelling in their classroom.

Yolen (2000) shares a fear of losing storytelling in our world today. However, the sense of magic embraced by students and teachers through the connectedness during storytelling makes it an enduring instructional practice for the 21st-century. Storytelling provides a starting point, or an extension, for teachers to engage students in making connections between pedagogical and real-world experiences. Teachers continue to pass on the magic of storytelling by implementing traditional and digital storytelling activities in their classrooms as a means to merge pedagogy seamlessly with academic content while supporting students in the 21st-century.

## References

- Ahn, J., & Filipenko, M. (2007). Narrative, imaginary play, art, and self: Intersecting worlds. *Early Childhood Education Journal*, 34(4), 279–289. doi:10.1007/s10643-006-0137-4.
- Brown, J., Bryan, J., & Brown, T. (2005). Twenty-first century literacy and technology in K-8 classrooms. *Innovate*, 1(3). Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.186.5118>.
- Campbell, T., & Hlusek, M. (2015). Storytelling for fluency and flair: A performance-based approach. *The Reading Teacher*, 68(2), 157–161. doi:10.1002/trtr.1384.
- Cole, R. (1989). *The call of stories: Teaching and the moral imagination*. Boston, MA: Houghton Mifflin Company.
- Czarnecki, K. (2009). How digital storytelling builds twenty-first century skills. *Library Technology Reports*, 45(7), 15–19.
- Educause Learning Initiative. (2007). *7 things you should know about digital storytelling*. Retrieved from <http://net.educause.edu/it/library/pdf/EI.17.021.pdf>.
- Ford, C. M. (2009). *Oklahoma's early childhood national board certified teachers' views of no child left behind, the national board for professional teaching standards, and story within the curriculum*. (Doctoral dissertation). Retrieved from <https://shareok.org/handle/11244/7399>.
- Frazel, M. (2010). *Digital storytelling guide for educators*. Washington, DC: International Society for Technology in Education.
- Gallas, K. (2003). *Imagination and literacy: A teacher's search for the heart of learning*. New York, NY: Teachers College Press.
- Haugland, S. W. (2005). Selecting or upgrading software and web sites in the classroom. *Early Childhood Education Journal*, 32(5), 329. doi:10.1007/s10643-005-4401-9.
- Isbell, R., Sobol, J., Lindauer, L., & Lowrance, A. (2004). The effects of storytelling and story reading on the oral language complexity and story comprehension of young children. *Early Childhood Education Journal*, 32(3), 157–163. doi:10.1023/B:ECEJ.0000048967.94189.a3.
- Jalongo, M. R., Dragich, D., Conrad, N. K., & Zhang, A. (2002). Using wordless picture Books to support emergent literacy. *Early Childhood Education Journal*, 29(3), 167–177.
- Johnson, P. (2009). The 21st century skills movement. *Educational Leadership*, 67(1), 11.
- Karakoyun, F., & Kuzu, A. (2016). The investigation of preservice teachers' and primary school students' views about online digital storytelling. *European Journal of Contemporary Education*, 15(1), 51–64. doi:10.13187/ejced.2016.15.51.
- Leu, D. J., Jr., Castek, J., & Henry, L. A. (2004). The lessons that children teach us: Integrating children's literature and the new literacies of the Internet. *The Reading Teacher*, 57(5), 496–503.
- Lisenbee, P. S. (2009). *Influences on young children's behavior, engagement level and representation during storytelling using an interactive whiteboard*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database (UMI No. 3,358,965).
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054.
- National Association for the Education of Young Children. (2012). *Position statement: Technology and interactive media as tools in early childhood* (A Joint Position Statement Issued by the National Association for the Education of Young Children and the Fred Rogers Center for Early Learning and Children's Media at Saint Vincent College). Washington, DC.
- National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). Common core state standards for english language arts and literacy in history/social studies, science, and technical subjects. Retrieved from <http://www.corestandards.org/ELA-Literacy/>.
- North Central Regional Education Laboratory & Metiri Group. (2003). *enGauge twenty-first century skills: Literacy in the digital age*. Naperville, IL: NCREL & Metiri Group.
- Ohler, J. (2005). The world of digital storytelling. *Educational Leadership*, 63(4), 44–47.
- Ohler, J. (2008). *Digital storytelling in the classroom: New Media pathways to literacy, learning and creativity*. Thousand Oaks, CA: Corwin Press, A Sage Publications Company.
- Pacific Policy Research Center. (2010). *Twenty-first century skills for students and teachers*. Honolulu: Kamehameha Schools, Research & Evaluation.
- Paley, V. (2001). *The girl with the brown crayon*. Cambridge, MA: Harvard University Press.
- Partnership for Twenty-First Century Skills. (2015). *P21 framework definitions*. Retrieved from [http://www.p21.org/storage/documents/docs/P21\\_Framework\\_Definitions\\_New\\_Logo\\_2015.pdf](http://www.p21.org/storage/documents/docs/P21_Framework_Definitions_New_Logo_2015.pdf).
- Porter, B. (2004). *DigiTales: The art of telling digital stories*. Sedalia, CO: Bernajean Porter Consulting.
- Robin, B. R. (2008). Digital storytelling: A powerful technology tool for the twenty-first century classroom. *Theory Into Practice*, 47(3), 220–228. doi:10.1080/00405840802153916.

- Rule, L. (2010). Digital storytelling: Never has storytelling been so easy or so powerful. *Knowledge Quest*, 38(4), 56–57.
- Schatt, D., & Ryan, P. (April, 2015). *Classroom connections: Start storytelling*. Retrieved from <http://www.booklistonline.com/Classroom-Connections-Start-Storytelling-Donna-Schatt/pid=7378021>.
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological pedagogical content knowledge (TPACK): The development and validation of an assessment instrument for preservice teachers. *Journal of Research on Technology in Education*, 42(2), 123–149.
- Schrock, K. (2013). *Digital storytelling and the common core state standards*. Discovery Educator Network. Retrieved from <http://blog.discoveryeducation.com/blog/2013/01/01/digitalstorytelling/>.
- Schrock, K. (2017). *Guide to everything: Digital storytelling website, telling the story: Lessons learned from the outside world: Examples and ideas*. Retrieved from <http://www.schrockguide.net/digital-storytelling.html#bizdst>.
- Skouge, J. R., Rao, K., & Boisvert, P. C. (2007). Promoting early literacy for diverse learners using audio and video technology. *Early Childhood Education Journal*, 35(1), 5–11. doi:10.1007/s10643-007-0170-y.
- Solvie, P. A. (2004). The digital whiteboard: A tool in early literacy instruction. *The Reading Teacher (Teaching Tips department)*, 57(5), 484–487.
- Stewart, K., & Gachago, D. (2016). Being human today: A digital storytelling pedagogy for transcontinental border crossing. *British Journal of Educational Technology*, 47(3), 528–542. doi:10.1111/bet.12450.
- Swiniarski, L. B. (2012). Building a global bookshelf: In recognition of the united nations literacy decade 2003–2012. *Early Childhood Education Journal*, 40, 1–3. doi:10.1007/s10643-011-0485-6.
- University of Houston. (2011). *The educational uses of digital storytelling*. Retrieved from <http://digitalstorytelling.coe.uh.edu/page.cfm?id=27&cid=27>.
- Wright, C., Bacigalupa, C., Black, T., & Burton, M. (2008). Windows into children's thinking: A guide to storytelling and dramatization. *Early Childhood Education Journal*, 35, 363–369. doi:10.1007/s10643-007-0189-0.
- Yolen, J. (2000). *Touch magic: Fantasy, faerie and folklore in the literature of childhood*. Little Rock, AR: August House Publishers, Inc.
- Zeece, P. D. (1997). Bringing books to life: Literature-based storytelling. *Early Childhood Education Journal*, 25, 39–43.

## Literature cited

- Ayelsworth, J. (2003). *Goldilocks and the three bears*. New York, NY: Scholastic Press.
- Brown, M. (1997). *Stone soup*. New York, NY: Aladdin Press.
- Carle, E. (1987). *The very hungry caterpillar*. New York, NY: Philomel Books.
- Evans, J. (1982). *The little red hen*. Allen TX: Developmental Learning Materials.
- Martin, B. (1983). *Brown bear, brown bear, what do you see?* New York, NY: Henry Holt & Company.
- Numeroff, L. (1985). *If you give a mouse a cookie*. New York, NY: Harper Collins Publishing.
- O'Connor, J. (2005). *Fancy nancy*. New York, NY: Harper Collins Publishing.
- Pinkney, J. (2009). *The lion & the mouse*. New York, NY: Little Brown Books.
- Schmidt, K. (1985). *The gingerbread man*. New York, NY: Scholastic Press.
- Sendak, M. (1984). *Where the wild things are*. New York, NY: Harper Collins Publishing.
- Seuss, T. G. (1957). *The cat in the hat*. New York, NY: Random House.
- Shannon, D. (1998). *No, David*. New York, NY: Blue Sky Press.
- Shannon, D. (2004). *A bad case of stripes*. New York, NY: Scholastic Press.
- Van Allsburg, C. (1986). *The polar express*. Boston, MA: Houghton Mifflin Company.
- Wiesner, D. (2001). *The three little pigs*. New York, NY: Clarion Books.

