

# Digital Story Telling: The Impact on Student Academic Achievement, Critical Thinking and Learning Motivation

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**Abstract:** Technology has become an integral part of our lives. It has spread its wings to almost all fields- business, marketing, banking, transport, etc. Education is not an exception. The last decade has witnessed the use of new technologies in educational system worldwide as digital cameras, personal computers, scanners, and easy-to-use software have become available to harness the digital world. From Kindergarten and elementary schools through high school and colleges and universities all are using technology for education purpose. The impact of new technologies in educational contexts has been mostly positive as new technologies have given the educators the opportunity to enhance their knowledge, skills and therefore enhance the standard of education. It has been found that student engagement, achievement and motivation are enhanced through integration of such technologies. It has become increasingly important to use innovative pedagogical models to engage learners. In an effort to blend technology with education digital storytelling is a way to generate interest, attention and motivation for the “digital generation” in today’s classroom. Digital Storytelling is one of the innovative pedagogical approaches that can engage students in deep and meaningful learning.

**Keywords:** Academic achievement, Critical thinking, Digital Story Telling.

## 1. Introduction

Story telling is the act of telling stories which are passed from one generation to another. It is traditional which dates back to ancient Greek period of evolving the act of writing on slates around 70 B.C. It is a natural method of human communication and is prevalent in all aspects of human social interaction. Stories are also used in education transcending racial, national, religious and regional barriers. With the evolution of formal education, storytelling emerged as a natural mode of thinking and education. Using stories in the classroom has been found to be an important tool for child development. Student’s imaginations get enriched and stimulated while listening to stories. Today, student learning is enhanced with technology. One of the approaches that will contribute to the integration of the teaching-learning process with technology is digital storytelling (Malita & Martin, 2010; Robin, 2009). Digital Storytelling is a modern expression of the ancient art of storytelling (Kajder, and Swenson, 2004). Digital stories use narrative and voice together, thereby giving deep dimension

and vivid colour to characters, situations, experiences and insights. It is a term used across disciplines, from education to entertainment and the definitions and descriptions vary just as widely. Digital storytelling has been defined by many proponents as a process of creating short stories that allow students and educators to enhance their information gathering and problem-solving skills, and to facilitate the ability to work in a collaborative team; a narrative told in digital format that shares a point of view, after the tellers’ point of view, a personalized multimedia tales told from the heart and “the practice of using computer-based tools to tell stories” (Robin, 2009). Digital storytelling as an approach has increased in the last two decades. It is used around the world (Yuksel, Robin and McNeil, 2011). Meadows believed that, the use of digital storytelling around the world is done to the relatively low cost of digital devices, the ease of learning to create digital stories, and the availability of many sites on the web where stories may be displayed and shared. Using digital storytelling in classroom teaching and learning has become a powerful and effective learning tool in developing academic achievement and critical thinking through merging the ancient art of telling stories with different digital tools. The process of creating digital story in the classroom provides exploratory hands-on-learning, collaborative social interaction, experiential learned activities and active role play that go beyond the traditional classroom setting.

### A. Digital storytelling

Digital storytelling as a concept was first introduced at the Centre for Digital Storytelling in California by Joe Lambert and Dana Atchley. Digital storytelling is the combination of storytelling and multimedia (e.g. images, audio, video, and web publishing) to enhance the spoken and written content and to present stories digitally not orally to others. Terms like digital documentaries, digital essays, computer-based narratives, interactive storytelling, and electronic memoirs are used interchangeably for digital storytelling. Digital Storytelling is one of the innovative pedagogical approaches that can engage students in deep and meaningful learning. Digital storytelling has been defined differently by different authors. According to Joe Lambert, digital storytelling is sharing one’s story through

multiple mediums of imagery, text, voice, sound, music, video and animation. According to Robin, Digital storytelling is the art of combining narrative with digital media, such as images, sound, and video to create a short story. Porter says that digital storytelling (DST) is the ancient art of oral storytelling and engaging a palette of technical tools to weave personal tales using images, graphics, music, and sound mixed together with the author's own story voice. Keeping these definitions of Digital storytelling in view we can say that it revolves around the idea of combining the art of telling stories with a variety of digital multimedia, such as images, audio, and video. Similar to traditional storytelling, digital stories spin around a selected theme and often contain a viewpoint. The stories are typically just a few minutes long and have a variety of uses, including the telling of personal tales, the recounting of historical events, or as a means to inform or instruct on a particular topic. From a classroom teaching perspective, digital storytelling serves as an accessible and productive tool in educational technology because it utilizes technology that is increasingly affordable and fairly easy to learn, and merges the technology with storytelling and story writing skills, these are skills that teachers teach as part of the regular curriculum. According to Dogan, B. & Robin, (2011) Digital storytelling plays a major role in the education of today's students because it "utilizes almost all of the skills students are expected to have in the 21st century". Digital storytelling encourages students to improvise learning skills (e.g. critical thinking, learning motivation, retention), literacies (e.g. technology, visual, digital, global, and informational) and academic abilities (comprehension, reflection, etc.). These skills leads to the development of various types of competencies including research-based competence; presentation, writing, technology, interview, assessment, and interpersonal skills; and organization and problem solving ability (Alcantud-Diaz, Ricart-Vaya & Gregori-Signes, 2014).

### B. Elements of digital storytelling

Seven elements of digital storytelling are to be found.

- Point of View
- A Dramatic Question
- Emotional Content
- The Gift of Your Voice
- The Power of Soundtrack
- Economy
- Pacing

*Point of view:* This refers to the author's perspective about the story. It should be personal and connected. One can clearly identify what message the author is trying to tell, what makes the story interesting, and why the author chose it. The author should always keep the audience in mind.

*A Dramatic Question:* It refers the question being answered by the end of the story so that the reader remains interested.

*Emotional Content:* It means that more serious issues can be spoken in a personal and powerful way. It can be a meaningful

story with full of emotions like story of death illness or some sort of a serious change in personal life of storyteller. Digital storytelling suggests that a story of friendship, peer pressure, or an important place or item can provide enough emotional content to students.

- *The Gift of your Voice:* It refers helping the audience understand the context of the story. It mostly concerns stories for children.
- *The Power of the Soundtrack:* It includes music and audio narration to support storyline. Economy: It means having enough content to tell the story without overloading the audience with too much information. The story should be short and the images should be able to tell the story.
- *Pacing:* It is related to economy, but specifically deals with how slowly or quickly the story progresses. A very important tool in digital storytelling that tells that story should be in a medium pace, not very fast and not very slow.

## 2. Types of digital storytelling and its use in classroom

There are various types of digital stories, but it is not possible to mention all of them here. However, the major types that can be categorized are as under:

- Personal Narratives
- Historical Documentaries
- Stories that Inform or Instruct

### A. Personal narratives

Perhaps the most popular type of digital story is one in which the author tells of personal experiences. These stories can revolve around significant events in life and can be emotionally charged and personally meaningful to both the author and the viewer. Many subcategories of personal digital stories have been described by Lambert (2003) and others and include stories that honor the memory of specific people and places, or deal with life's adventures, accomplishments, challenges, and recovery (Robin, 2018). This type of story has multiple benefits in an educational setting. First, other students who view the story learn about people from diverse backgrounds other than their own and they can gain an appreciation of the types of hardships faced by fellow classmates whose families have come from another country. A story such as this one can be used to facilitate discussions about current issues such as race, multiculturalism and the globalization that is taking place in today's world. In addition, a student who creates such a story can benefit from sharing that story with others and thereby use information as a way of eliminating some of the distance that foreign born students feel between themselves and their peers. A personal narrative like this one can also be a positive means for dealing with the some of the emotional family issues that were described in the story (Robin, 2011).

### B. Historical documentaries

Although many personal narratives can include historical

information, but a digital story can be created from historical, archive documents. For example, an audio recording of a Theodore Roosevelt speech can illustrate pictures of that period, and both can be found on the internet. An audio recording of US President Abraham Lincoln's Gettysburg Address is used to illustrate a famous American speech. A different type of story can be created by using digital media to recount events from history. In a classroom environment, students might use historical photographs, newspaper headlines, speeches, and other available materials to craft a story that adds depth and meaning to events from the past (Robin, 2011).

### C. *Stories that inform or instruct*

This type of stories relates to a particular field of study, such math, health education, and educational technology, and can be included in this type of digital story. The story should instruct the reader on how to perform particular action as well as informing about the concept. Teachers can use this type of digital story to present information to their students on subjects ranging from math and science, to art, technology, and medical education. For example, digital stories have been created that demonstrate how to construct and use a pinhole camera what can be done to increase someone's health during the aging process and how to help students understand principles of geometry through an examination of everyday objects. Although many personal narratives may include historical information as a backdrop to a digital story, digital stories may also be created by using combinations of these methods, such as autobiographical stories that use historical material as the backdrop of a personal narrative (Robin, 2008).

### 3. Digital storytelling and academic achievement

Academic achievement refers to the acquisition of particular grades on examination indicating candidate's ability, mastery of the content, skills in applying learned knowledge to particular situations. It is the result of education, through which the students, teachers and institutions achieve their goals simultaneously. Usually, the academic achievement is assessed through the periodic examination or by a continuous assessment, however, there is no specific best technique to measure the academic performance. Digital storytelling serves as a powerful educational tool to enhance students' academic achievement. It facilitates a constructive approach for achieving excellence in academics. As an educational tool it provides a vehicle for combining digital media with innovative teaching and learning practices. The method of digital storytelling can be integrated into any subject, depending on the creativity of the teacher. By acquiring the method of digital story telling students learn to understand and use visual, cinematographic and dramaturgic tools which are which are meant to emotionally manipulate recipients and make the storytelling as effective as possible. Thus, in order for innovative technology-supported instructional strategies to be

considered appropriate and permanent options for instructors, their influence on students' academic performance has been evaluated by different researchers. Researchers examined the effectiveness of DST in increasing students' academic achievement. In terms of language learning, researchers (Ellis, 1993; Gomez, Arai, & Lowe, 1995; Schank, 1990; Tsou, 2003) have demonstrated that, at an early stage of language acquisition, academic achievement correlates positively with the oral behaviors of repeating, chanting, and singing. In fact, telling and listening to stories shapes early learning and can even influence the nature of our intelligence (Schank, 1990; Tsou, 2003). In particular, the effectiveness of DST has been demonstrated for developing listening comprehension skills in elementary school English as a second language learners (Yang & Wu, 2012). Elif Aktaş & Serap Uzuner Yurt in their study entitled "Effects of Digital Story on Academic Achievement, Learning Motivation and Retention among University Students" revealed that digital storytelling has a positive effect on student achievement. Likewise, many studies in the literature demonstrate that digital storytelling improves academic achievement levels of students since it allows them to conduct research individually, participate actively in the learning process and learn through doing and experiences (Burmark, 2004; Barret, 2005; Robin, 2006; Jenkins & Lonsdale, 2007; Ohler, 2008; Figg & McCartney, 2010; Yang&Wu, 2012; Hung, Hwang & Huangi 2012; Yoon, 2013; Demire, 2013). Burmark (2004) also states that digital storytelling is an effective approach for students to obtain information, put forth new ideas and arrange the information and thus they can understand the subject better. In addition, Wang & Zhan (2010) found out that the students who had already practised digital storytelling work during lessons could remember the course content more easily and in a meaningful way and that they are able to use this knowledge more easily in the future. Digital storytelling allows pupils to share their stories outside of the traditional written form. According to Robin, (2011), it allows pupils to develop creative presentations utilizing a number of different skills, including writing, performance, and technological skills. In addition, digital storytelling provides an opportunity for collaboration and cooperation among teachers and librarians. Studies suggest that both digital storytelling and librarian-teacher collaboration has an impact on pupils' achievement (Abiola, L.L., 2014).

### A. *Digital storytelling and critical thinking*

Critical thinking is the ability to establish a judgement by analyzing the facts objectively. The American Psychological Association (APA) offers a general definition of critical thinking as "judging in a reflective way what to do or what to believe. Edward M. Glaser proposed that the ability to think critically involves three elements: i) An attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experience ii) Knowledge of the methods of logical inquiry and reasoning iii) Some skill in applying those methods. Educational programs

aimed at developing critical thinking in children and adult learners, individually or in group problem solving and decision making contexts, continue to address these same three central elements (Glaser, Edward M., 1941). Critical thinking is significant in academics due to being significant in learning. Critical thinking is significant in the learning process of internalization, in the construction of basic ideas, principles, and theories inherent in content. And critical thinking is significant in the learning process of application, whereby those ideas, principles, and theories are implemented effectively as they become relevant in learners' lives. Each discipline adapts its use of critical thinking concepts and principles. The core concepts are always there, but they are embedded in subject-specific content. For students to learn content, intellectual engagement is crucial. All students must do their own thinking, their own construction of knowledge. Good teachers recognize this and therefore focus on the questions, readings, activities that stimulate the mind to take ownership of key concepts and principles underlying the subject. Digital storytelling augments students' critical thinking, which scholars since Dewey have emphasized as a major goal for education. When students create their own digital stories, they gather evidence to support the plot, empathizing with similar difficulties which they may face in their daily life, and project these problems onto characters in the story. Sims (2004) suggests that the process of listening to and telling stories includes many critical elements, as storytellers must use critical thinking such as deductions and interpretations to persuade their audience. In creating their own digital stories, students ultimately make decisions and overcome the characters' problems by using a critical theorizing process and reflection skills (Benmayor, 2008; Maier & Fisher, 2006; Malita & Martin, 2010), suggesting that DST may be an effective instructional strategy for improving students' critical thinking (Yang & Wu, 2012). Digital storytelling can help students to improve their critical thinking, and can contribute to better social and psychological skills.

### *B. Digital storytelling and learning motivation*

Motivation can be conceived of as a cycle in which thoughts influence behaviors, drive performance affects thoughts, and the cycle is composed of many dimensions including attitudes, beliefs, intentions, effort, and withdrawal which can all affect the motivation that some individual experiences. Most psychological theories hold that motivations exist purely within the individual, but socio-cultural theories express motivation as an outcome of participation in actions and activities within the cultural context of social groups. Engaging and motivating students is always a key factor for successful learning. Research has shown that the application of technology improves student learning motivation and performance in technology-rich classrooms (Jonassen, 2000; Roblyer & Edwards, 2000), including those adopting ITII strategies. However, since students are very familiar with technology, is lecture-type ITII sufficient for activating their learning motivation? Recent research has emphasized that instructors

also need to design meaningful activities for enhancing students' interest and motivation in order to promote active learning (Chang, 2005; Pintrich & Schunk, 2002; Svinicki, 2004). Digital story telling usually provides students with authentic scenarios suited to their personal experiences, making the content seem important and valuable. After successfully completing challenging tasks, students who are actively involved in learning will gain confidence and motivation (Koohang et al., 2009; Neo & Neo, 2010). Thus, Digital storytelling stresses two motivational constructs: task value and self-efficacy for learning. Task value typically refers to students' judgments on the interest, usefulness, and importance of the course content (Pintrich, Smith, Garcia, & McKeachie, 1993), while self-efficacy refers to the judgment of one's capability to perform an academic task (Pintrich, 1999). Hence, the third goal of this study was to compare the effectiveness of lecture-type ITII and DST in fostering learning motivation (Yang & Wu, 2012). Elif Aktaş & Serap Uzun Yurt in their study entitled "Effects of Digital Story on Academic Achievement, Learning Motivation and Retention among University Students" revealed that digital storytelling has a positive effect on learning motivation. Enhancing student motivation in the classroom can be difficult for teachers however the need for motivation is key to engaging students. Using stories allows students to modify them with personal touches and take ownership and control of their learning thus make them more invested in their learning (Skinner & Belmont, 1993; Porter, 2005). Digital story telling brings to life the experiences of students. By giving those this voice teachers are able to see students increase their learning and creativity by actively engaging students in their stories. Students are able to visualize stories that are realistic and there for they can see the whole story clearly helping them to stay motivated to share it (Porter, 2005; Sadik, 2008; Xu et al., 2011). Students are able to develop projects, which show their individual creativity and innovation using the technology that motivates them instead of the traditional paper and pencil activities (Porter, 2005; Sadik, 2008; Kervin & Mantei, 2011). Digital storytelling in the classroom allows learning to become more student-centered, which in turn motivates students of various grade levels to demonstrate their knowledge in more creative ways (Robin, 2008; Lowenthal, 2008; Malin, 2010; Yang & Wu, 2012). As teachers motivate and engage students in the classroom using digital storytelling they must surrender a great deal of control to the student. While guidelines and expectations are still needed a student-centred atmosphere is motivating to today's students. Teachers need to be guides for students in the process and provide assistance with the creation of the final projects. This starts with the modelling of stories and teaching them in some cases how to use the tools, but ultimately students will create their projects and take ownership in their work. By allowing students to take this ownership they are more engaged in the process of the assignments they are given (Sadik, 2008; Sylvester & Greenidge, 2009). Teachers today need to move

forward with technology and use it to enhance their classrooms. Today's students are digital natives and teachers must use the technology that motivates them to "hook" these students to become excited about their learning (Clemens & Kreider, n.d.; Yang & Wu, 2012, Sylvester & Greenidge, 2009). When using multimedia tools, teachers are able to build 21 st century literacy skills that students will need to be successful as adults in society. (Sadik, 2008; Sylvester & Greenidge, 2009; Campbell, 2010) The enhancement of students' collaboration skills is also evident when using digital storytelling. The use of peer collaboration, teacher and student collaboration, and peer editing during project development and after allows students to analyze and develop better, more thoughtful stories. This collaboration leads to a classroom that functions more as a community of learners rather than individuals learning parallel to each other (Warren & Dondlinger, 2008; Sylvester & Greenidge, 2009; Xu et al, 2011, Yang & Wu, 2012). While building collaboration skills student effectively communicate with peers, teachers, the community, and the world; as social media and the Internet have stretched the audience that was once confined to the classroom community. This motivates students to create authentic stories with emotion and creativity. (Sylvester & Greenidge, 2009; Malin, 2010; Malita & Martin, 2010; Xu et al., 2011). As digital storytelling creates a more student-centered, collaborative and engaging learning environment, there is a positive the effect on students' motivating skills through the dramatization, creativity, and real world connections that are used to create these digital stories (Foelske, 2014).

#### 4. Conclusion

Digital story telling as an approach has increased in the last two decades. It is the intersection between the age-old art of storytelling and access to powerful technology that is easy to

learn and use. According to Robin, Digital storytelling is the art of combining narrative with digital media, such as images, sound, and video to create a short story. Digital Storytelling is one of the innovative pedagogical approaches that can engage students in deep and meaningful learning. Digital storytelling encourages students to improvise learning skills (e.g. critical thinking, learning motivation, retention), literacies (e.g. technology, visual, digital, global, and informational) and academic abilities (comprehension, reflection, etc.). These skills leads to the development of various types of competencies including research-based competence; presentation, writing, technology, interview, assessment, and interpersonal skills; and organisation and problem solving ability. It enhances student academic achievement, critical thinking and learning motivation.

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