Future of Education with Technology

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Abstract: **Students in today's classrooms have grown up using an array of technology tools and applications. For educators in the information age, technological literacy is critical. The potential of digital storytelling as an instructional tool for teachers and students has yet to be fully realized.Addressing both the cognitive and affective domains, digital stories are personal narratives supported by images, video, voiceover, soundtrack, and effects. This article explicates some of the pedagogical benefits of digital storytelling in the classroom. Additionally, the paper discusses how digital storytelling can be used to address areas of focus identified by two standards-setting agencies that influence educational policy.**

Key words: **digital storytelling, technology, K-12 education, teachers, pre-service teachers**
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INTRODUCTION

Students in the digital age are accustomed to creating, consuming, and sharing information using a variety of technologies. From Web 2.0 to mobile devices, they embrace cutting edge technology and often mold applications to meet their own purposes. As one author noted, students today "don't think twice about generating original electronic content and sharing it online" [1]. Savvy teachers will find ways to pair students' inherent interest in social exchange with curriculum standards and performance indicators. Stories fulfill many purposes. "The oral tradition of knowledge transfer and exchange has served as the basis for education since humans began teaching one another, and digital stories build on this model by incorporating rich, dynamic media" [1]. Digital storytelling is an effective instructional tool that utilizes a user-friendly technology that is both flexible and adaptable. Simply defined, digital stories are narratives, typically personal, that incorporate images, voiceovers, and soundtracks [2]. A "typical" digital storytelling project begins with a discussion of the elements of stories with a focus on point of view, the dramatic question, word economy, and rich language. The story writing session includes time for developing the story, giving and getting feedback, drafting a final version, scripting and storyboarding. Students then record the voiceover, collect images, and select the soundtrack. A nuts and bolts session on the software gives students the technological information to create their own digital story. The culminating activity is the sharing of students' digital stories. Because students are writing and creating for an audience other than the teacher, the final product reflects more polished, intentional writing. Though this description of the digital storytelling process implies a linear progression, the process is actually recursive, with students returning to various steps as they refine and redefine their stories. Teaching writing is not only an expectation of teachers, it is also a practice that is encouraged across the curriculum. Thus, digital storytelling is applicable across both levels of schooling and across content areas. The be incorporated into digital stories and students are limited only by their imaginations and their willingness to experiment [1]. Clearly digital stories have many advantageous qualities for the classroom. They also have the added benefit of fulfilling standards identified by education-related institutions that influence policy: The Partnership for 21st Century Skills (P21) and the National Council for Teachers Education (NCTE).

THE PARTNERSHIP FOR 21ST CENTURY SKILLS

The Partnership for 21st Century Skills (P12) is an advocacy group that champions 21st century readiness so that students will be prepared to compete in the global economy. The stated purpose of P12 is to "help the U.S. education system keep up by fusing the three Rs (reading, writing, and arithmetic) and four Cs" [3]. The four Cs refer specifically to critical thinking and problem solving, communication, collaboration, and creativity and innovation. The expectation is that students will gain a deep understanding of high level content and its interconnectedness with 21st century themes (i.e., global awareness; financial, economic, business, and entrepreneurial literacy; civic literacy; and health literacy). In addition to thinking skills, and a deep understanding of a subject, there are also several essential life and career skills that will be needed by students. These include flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and

accountability, and leadership and responsibility [3]. The Partnership has also identified support systems that must be in place to ensure that students master 21stcentury skills. This support system includes 21st century:

1. **Standards,**
2. **Assessments ,**
3. **Curriculum and Instruction,**
4. **Professional Development, and**
5. **Learning Environments**.

All of these support systems have direct implications for digital storytelling in the classroom.

1. Digital storytelling engages students with authentic data and tools to solve meaningful problems. As a result, students develop deep, rather than surface, understandings within a discipline. (Standards)

2. Digital stories can serve as a multi-dimensional assessment tool as they provide teachers with a method for evaluating content mastery; learning and innovation skills (e.g., critical thinking, problem solving); information, media, and technology skills (e.g., information literacy); and life and career skills (e.g., flexibility, initiative, responsibility) simultaneously. (Assessments)

3. Digital stories support innovative teaching and learning methods that integrate technology, problem-based learning, and higher order thinking skills. Digital storytelling also encourages the integration of community resources and extends learning beyond the classroom into the community. (Curriculum and Instruction)

4. To prepare 21st century learners, teachers will have to carefully evaluate the impact of their teaching methods in the classroom and determine which learning environments best promote 21st century skills. As a result of this analysis, it is likely that certain practices may be replaced or de-emphasized in order to achieve a better balance between direct teaching approaches and project-oriented methods. The incorporation of digital storytelling into the classroom can help achieve this balance and can also better address the needs of diverse learners by providing them with alternate forums to demonstrate progress. (Professional Development)

5. Through digital storytelling, students learn in relevant, real world, 21st century contexts that afford them the opportunity to engage in both individual and group-based projects. (Learning Environment)

NATIONAL COUNCIL FOR TEACHER EDUCATION

The National Council for Teacher Education (NCTE), the accrediting agency for teacher preparation programs in the India, has alsoarticulated the importance of ensuring that future educators are proficient in meeting the needs of 21stcentury learners. The NCTE mission statement asserts, "Today's society needs a workforce that can apply knowledge, reason analytically, and solve problems. At the same time, American society is becoming more diverse, with students in classrooms drawn from many cultures and ethnic groups. Preparing teachers to teach all students to meet society's demands for high process and production of digital stories address many elements of student learning and can easily be adapted across subject matter. The purposes of digital stories include, but are not limited to, "instructional, persuasive, historical, or reflective" [1].

As is the case with many student assignments, the final product can vary tremendously. Numerous resources canperformance has created a new agenda for educators and policymakers" [4]. Of particular importance is NCATE Standard 4, whichstates, "The unit designs, implements, and evaluates curriculum and provides experiences for candidates to acquire and demonstrate the knowledge, skills, and professional dispositions necessary to help all students learn. Assessments indicate that candidates can demonstrate and apply proficiencies related to diversity. Experiences provided for candidates include working with diverse populations, including higher education and P–12 school faculty, candidates, and students in P–12 schools" [4]. NCTE Standard 4 encompasses the design, implementation, and evaluation of curriculum. In many regards, this standard is the heart of 21st century teaching. Specifically the standard mandates proficiencies related to student diversity:

1. Candidates understand diversity, including English Language Learners (ELL) and students with learning exceptionalities.
2. Candidates develop and teach lessons that incorporate diversity.
3. Candidates demonstrate sensitivity to cultural and gender differences.
4. Candidates incorporate multiple perspectives in their instruction.
5. Candidates develop classroom school climates that value diversity.
6. Candidates understand teaching and learning styles and can adapt instruction.

7. Candidates demonstrate dispositions valuing fairness and learning by all.

Similar to the support systems articulated by The Partnership for 21st Century Skills, these proficiencies have connections to digital storytelling.

1. Every student has a story to tell. When students speak and write from their own experience, student voice is encouraged. Positive identities are fostered when students' experiences are honored. (ELLS and Exceptional Learners).

2. As students share their stories, diversity is incorporated into the lesson in an authentic and genuine way. Responsive teachers capitalize on the cultural and linguistic strengths students bring to the classroom. The Center for Digital Storytelling, a pioneer in the digital storytelling genre, notes that "sharing and bearing witness to stories can lead to learning, action, and positive change"

3. A critical component of digital storytelling is the story circle where participants share their initial ideas for a story with their fellow students. The teacher establishes the norms for participation in the story circle. These norms include making nonjudgmental comments and suggestions. Students are encouraged to develop skills in group dynamics and become astute in considering the perspectives of others. (Sensitivity to Culture and Gender Differences)

4. By its very nature digital storytelling incorporates perspectives that are relevant to students' lives and backgrounds. Teachers demonstrate respect by validating the experiences that students share in their stories. Students also learn new ways to hone their expressive skills and develop their fluency. (Multiple Perspectives)

5. Digital stories build classroom community through the collaborative nature of the process. Additionally, students learn new information about their fellow classmates, which may lead to increased regard, sensitivity, and respect. (Classroom Climate).

6. The act of creating a digital story allows students to convey their stories both within and outside of their preferred learning style. Kinesthetic, auditory, and visual senses are utilized throughout the process. Different intelligence preferences may also be employed, allowing students to work in their favored mode of intelligence.

Many students have strengths that are often overlooked in traditional classrooms. As Robert Sternberg explains, "By becoming aware of those strengths and incorporating them into instruction, educators can boost student achievement" [5]. (Learning Styles)

7. When students engage in the process of digital storytelling, they are able to explore the thoughts and ideas about which they are most passionate. Frequently teachers are unable to incorporate students' interests because of the constraints imposed by curriculum pacing guides. Students also have a degree of choice and autonomy, and teachers can encourage curiosity, enthusiasm, and inquiry in the classroom. Under these conditions, learning is much more likely to occur. (Fairness and Learning by All)

OTHER BENEFITS

The potential benefits of digital storytelling on student learning are numerous. Several key areas of studentgrowth and development can be addressed through theimplementation of digital storytelling in the classroom. High Level ThinkingPaper-pencil tasks are frequently used to assess students' knowledge and comprehension of the content, which are low level thought processes. Digital storytelling can deepen and extend student understanding in a content area by requiring engagement at higher cognitive levels. In addition, the relevancy of subject matter is enhanced, inter- and intra-disciplinary connections forged, and essential concepts of a discipline more readily retained when students engage in digital storytelling.

Process Skills

A multitude of process skills are also developed during the development of digital stories. These include, but are not limited to, skills in oral and written communication; creativity; critical thinking; and research. The organizational skills of planning, record keeping, and time management are also enhanced through the creation of digital stories. Also, when working with others, those aspects of group dynamics such as teamwork, decision making, communication, and consensus building can be further developed.

Continuous Learning Even after a digital story has been created, a grade assigned, and a new topic introduced, students can continue to reflect and act on the ideas generated from the digital storytelling process. Teachers should encourage students to continue to explore

alternatives and refine their solutions, as this is the essence of inquiry [6].

Metacognitive Skills

Perhaps one of the most beneficial aspects of digital storytelling is the mental processes that are developed while students are engaged in the activity of production. Through each stage of the process students are planning, reflecting, and monitoring their progress toward established goals. Students need to be encouraged to think about the mental processes they are using as they work through the steps of a problem and how these steps and their sequence might be altered to improve performance.

Thinking Interdependently

Interaction with others can greatly enhance a learning experience. Whether a student is working independently or in a group, the activity of bouncing ideas off others can help refine and shape one's thoughts. Though digital stories are personal narratives, they should also be a social event in the classroom. Even if students are each working on their own projects, teachers still can encourage students to elicit suggested strategies and feedback from their peers along the way.

CONCLUSION

One of the biggest constraints on many teachers' willingness to employ digital storytelling in the classroom is time. In an era of high-stakes testing and accountability, many teachers feel pressure to "cover" as much content as possible in order to prepare students for standardized tests. This concern is a valid one. Digital storytelling can be time intensive, and many teachers are uncertain about how to effectively incorporate such experiences for students into the existing school schedule. The challenge is to demonstrate how digital stories are an essential part of the curriculum rather than a superfluous one. One way to convince stakeholders of the efficacy of digital storytelling is demonstrating how this instructional methodology meets a variety of

standards. It has been asserted that there are connections between digital storytelling and the support systems that need to be in place according to The Partnership for 21st century

Skills These support systems are essential for students who will compete in a global economy. Technological literacy has already become an expectation. Digital stories can also be a critical component of the professional and pedagogical foundation necessary for prospective

teachers who must use and manage appropriate technological tools and processes. Teacher preparation programs that train pre-service educators to

provide engaging lessons that result in measurable student learning should realize that digital storytelling addresses key NCTE standards. Having prospective teachers complete their own digital story and then plan and deliver a unit using this instructional methodology will demonstrate their proficiency in NCTE Standard 4. More importantly these novice teachers will be able to transfer this skill when they have their own classrooms. It is also important to note that the knowledge and skills cultivated through the creation of a digital story align with many other state and national competency goals across disciplines. The development of a digital story requires learners to engage with content and concepts at a higher level through analysis, synthesis, and evaluation. Digital stories are a 21st century assignment and should be utilized to prepare future-ready students and teachers.

REFERENCES

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