

Digital Storytelling: A Technology Integrated Approach for Engaged Learning of Learners

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Abstract

This study investigates the effectiveness of Digital Storytelling (DS) as a technology-integrated approach for engaging learners. Conducted in public elementary schools within Malasiqui District II, Pangasinan, during the 2024–2025 school year, the research employed a descriptive survey method involving 344 teachers and 27 school administrators. Findings revealed that teachers frequently utilized DS as an instructional tool, perceiving it to have a high positive effect on student engagement, motivation, and the development of 21st-century skills such as critical thinking and cultural understanding. Statistical analysis (t-test) indicated no significant difference between

teacher and administrator perceptions of DS effectiveness, suggesting a consensus on its value. However, teachers identified significant challenges, including managing lengthy narratives and ensuring students focus on core concepts over extraneous details. Based on these results, the study proposes a comprehensive action plan to enhance the implementation of DS through targeted training and refined pedagogical strategies. The research concludes that DS is a highly effective and motivational tool for engaged learning, advocating for its sustained integration to meet contemporary educational demands.

Keywords: *Digital Storytelling, technology integration, engaged learning, 21st-century skills, learner motivation*

INTRODUCTION

The number of technological devices that can be used to manipulate information and improve student education is increasing every day. Teachers and students have commonly used technological tools for educational purposes, such as Microsoft PowerPoint and Word for their papers and presentations (Sadik, 2008). Today, however, these available tools extend far beyond Word and PowerPoint where both teachers and students are able to use advanced technology such as Multimedia Builder, Hyper studio, Movie Maker and iMovie. These programs allow teachers to crop, edit, and create a useful movie as well as provide a good constructive tool through which to teach students cooperation, production and project management in order to integrate technology in education. Within the last 10 years, digital cameras, editing software, authoring tools and electronic media – outlets have encouraged teachers to utilize many more approaches and technological tools to help students construct their own knowledge and ideas, and to present and share them more effectively (McLellan, 2006). One form of multimedia that is becoming more popular in education is digital storytelling, because educators realize the possibilities for this tool in the classroom. Robin (2005) indicated that one of the most powerful tools in multimedia is digital storytelling. Digital

storytelling, like traditional storytelling, revolves around a chosen theme. Students conduct some research, write a script, and develop an interesting story. However, there is significant difference between digital storytelling and traditional storytelling. Digital storytelling is supported by a variety of digital multimedia. Digital stories bring together a mixture of graphics, text, recorded audio narration, video and music to present information on a specific topic through the use of technology.

In 1990, Joe Lambert developed digital storytelling in the visual world as the cofounder of the Center for digital storytelling (CDS). Since then, Lambert and the CDS have worked to provide training and assistance to people interested in creating and sharing their personal narratives (Robin, 2008). Moreover, today, the CDS is working to develop and disseminate the Seven Elements of digital storytelling, which aids teachers in creating digital stories with their students (Robin, 2008).

Many teachers apply digital storytelling in their classroom because the CDS helps them overcome some of the obstacles to using technology in their classrooms. Digital storytelling is an especially good technology tool because it has features that cannot be found in other technological tools. For instance, this tool combines researching, creating, analyzing, and combining visual images with written text, which is considered a positive style in teaching. Robin (2005) argued that integrating visual images with written text both enhances and accelerates student comprehension. In addition, digital storytelling has a variety of applications in the classroom, including personal telling stories, narrating past events, or being used as a means to teach on a particular topic (Jakes, 2006). Technology of this kind can be an effective instructional tool for teachers.

Digital Storytelling as an Effective Instructional Tool for Teachers

Digital storytelling can help teachers save time and effort. Some studies argue that teachers who use digital storytelling more effectively encourage their students to engage in discussion, participation and make content more comprehensible. As Robin (2008) suggested, "Teacher created digital stories may also be used to enhance current lessons within a larger unit, as a way to facilitate discussion about the topics presented in a story and as a way to make abstract or conceptual content more understandable". Moreover, digital storytelling provides teachers a unique way to present new material without taking a long time to help students understand the difficult information. Many researchers found that use of digital storytelling in teaching helps students retain new information as well as aids in the comprehension of difficult material (Robin, 2008). Therefore, digital storytelling can be a bridge between existing knowledge and new material (McLellan, 2006).

Additionally, digital storytelling provides teachers with a powerful collaboration tool that can be used in their classrooms. This tool can be used to encourage teachers to prepare their own stories for their students and connect with peers in other schools to build their own collaborative leaning spaces. Teachers can create digital storytelling from the content or have their students do it to demonstrate their understanding of the content. The greatest benefit in the classroom may be found when students are asked to create their own digital stories, either individually, or as members of a small group (Sadik, 2008). All these factors show the importance of using digital storytelling to help teachers improve instruction and promote student learning.

Digital Storytelling as an Effective Tool for Students

Digital storytelling can provide many significant benefits to students who have the opportunity to learn how to create their own digital stories. Students may be given assignments in which they are asked to

research a topic, look for pictures, record their voice and then choose a particular point of view, as described in the seven elements of digital storytelling. This process helps to enhance student's knowledge and academic skills. Robin (2008) argues that educators should use digital storytelling to support students' learning by encouraging them to organize and express their ideas and knowledge in an individual and meaningful way. In this manner, students can work together to prepare their digital stories to help them develop communication skills as well as foster collaboration by working in groups. According to Robin (2005), "students who participate in the creation of digital stories may develop enhanced communications skills by learning to organize their ideas, ask question, express opinions, and construct narratives".

In addition, using digital storytelling in the classroom is a powerful instructional technique providing an exceptional learning experience for students. When digital stories are shared on the Web, students have the opportunity to view the work of others. They learn cultural differences, and gain experience with the process of peer review to expand their own knowledge. Jakes (2006) confirmed digital storytelling helps students explore the meaning of their own experience, give value to it, and communicate the experienced on multiple levels to others. Sadik (2008) indicated that including storytelling in the social studies curriculum develops students' understanding of democratic ideals, other cultures and citizenship; improves their communication skills; motivates them to connect the past and the present; and shared experiences.

Although using stories to develop literacy is one of the oldest styles of education, digital storytelling allows the development of the different types of literacy that students will need in the 21st century. Digital storytelling expands to improve various literacy skills for the 21st century such as: information, visual, technology, and media. In fact, students need to research, discuss and analyze various issues and use computers and other technology to create the digital stories. Robin (2005) indicated that students who create digital stories improve different technological skills by using software that combines a variety of multimedia tools including working with text, still images, audio, web publishing, scanners, digital still cameras, video cameras and working with music and sound effects. These multiple skills are aligned with the age of technology as 21st century such as: information, visual, technology, and media. In fact, students need to research, discuss and analyze various issues and use computers and other technology to digital stories. Robin (2005) indicated that students who create digital stories improve different technological skills by using software that combines a variety of multimedia tools including working with text, still images, audio, web publishing, scanners, digital still cameras, video cameras and working with music and sound effects. These multiple skills are aligned with the age of technology as 21st century literacy (Muller, Eklund, & Sharma, 2006). These challenges help to increase students' motivation to learn and increase their desire to complete their digital storytelling successfully.

Involving students in this type of activity, based upon the use of multimedia, can enhance student's motivation to improve their learning and performance. Because motivation is a critical ingredient for learning, teachers should use a variety of methods in their instruction to promote motivation. Research studies demonstrate the benefits of multimedia in general, and digital storytelling helps to increase students' motivation to engage in class activities. Therefore, teachers should learn effective ways to motivate their students to become more engaged in learning new content with the help of multimedia technologies. (Muller et al., 2006).

Multimedia is a powerful and beneficial tool in teaching students, and educators should endeavor to find multiple ways to integrate in into their classroom and assignments. More specifically, the technology tool of digital storytelling is especially effective in developing academic skills and motivation in students. This medium incorporates higher order thinking skills into projects because the student must research the questions, evaluate information and create something. At the same time, it enables teachers to increase understanding of new material, and enhance students' motivation while working collaboratively in the classroom. Therefore, digital storytelling provides a real way to help teachers and students learn how to

effectively apply technology both in and out of the classroom. Research must continue to investigate how digital storytelling can help students develop the skills necessary for the future and prepare them to be successful. Finally, digital storytelling can be an effective tool to inform and enlighten new generation of students and educators for years to come (Robin, 2005).

Meaningful Technology Integration and Learning

Meaningful technology integration is defined as curricula utilizing authentic tasks that intentionally and actively help learners to construct their own meanings from thinking about experiences and allows for more interdisciplinary project-based instruction (Jonassen et al. 2019). Integration is defined not by the amount or type of technology used, but by how and why it is used (Earle 2012).

Meaningful integration of technology is achieved when students are able to select technology tools to help them obtain information in a timely manner, analyze and synthesize the information and present it professionally (Harris 2015). However, harnessing the power of the integration of technology requires not only a new or advanced technology, but also a systematic way of utilizing the technology to improve student learning (Schofield 1995).

Research indicates that in order to achieve meaningful technology integration, learning must be designed from a constructivist approach that encourages students to learn in a social context and help them to develop an ability to readily create new knowledge, solve new problems and employ creativity and critical thinking (Griest 1996; Hoffman 1997; Mergendollar 1997; Richards 1998). Spivey (1997) indicated that constructivist view students as constructive agents and view knowledge as built instead of being passively received by students, whose ways of knowing and understanding influence what is known and understood.

In addition, the interaction between students, the flow of ideas and thinking aloud encourage students to foster active learning, in which users discover and address gaps in their understanding when explaining concepts to others (Kafai et al. 1997; Tyner 1998).

Constructivist strategies include collaborative and cooperative learning methods, engaging in critical and reflective thinking and evaluation through electronic portfolios (Nanjappa and Grant 2003). Jonassen and Carr (2000) believe that in order to help students to construct their knowledge, they should be actively involved in learning with the help of ICT tools. In addition, Wheatley (1991) argued that because a student will construct his/her own meaning based on his/her interpretation, technology can become a vital educational tool depending on the way it is used in learning. Strommen and Lincoln (1992) believe that it is not which technology is used, but how the technology is used which is relevant to a constructivist classroom.

For example, the initial computer's role in education has been largely viewed through Computer Assisted Instruction (CAI), which is generally used for low-end tasks or providing a richer and more exciting learning environment, such as drill and practice (Office of Technology Assessment 1995; Duffy and Cunningham 1996; Roe et al. 1998). However, teachers can use computers, as tools for accessing information, interpreting and organizing their personal knowledge and producing and representing what they know to others, so as to engage student more, resulting in more meaningful and transferable knowledge (Jonassen et al. 1993).

Lim and Tay (2003) classified ICT tools used in the classroom to improve student learning into four types: (1)informative tools; (2) situating tools; (3) communicative tools; and (4) constructive tools. Informative tools are applications that store and provide vast amounts of information in various formats

(e.g., database, encyclopedias and web resources). Situating tools are systems that situate students in an environment where they may experience the context (e.g., simulations and games). Communicative tools are systems that facilitate communication between the student and others (e.g., e-mail and discussion boards).

Constructivist tools are general-purpose ICT tools that can be used for manipulating information, constructing student's own knowledge or to produce a certain tangible product for a given instructional purpose. PowerPoint and Word, for example, are found to be the most frequently used constructive tools by students for their presentations and special curriculum-based projects (Lim and Tay 2003). Multimedia authoring and presenting tools, in particular, like PowerPoint, Illustrator, MultiMedia Builder, HyperStudio, MovieMaker and iMovies have proved to be good constructivist tools to learn through production, collaboration and project management.

Digital Storytelling and the Curriculum

Storytelling is the original form of teaching (Pedersen 1995). It is a simple but powerful method to help students to make sense of the complex and unordered world of experience by crafting story lines (Bruner 1990; Gils 2005). Although storytelling is not new, the idea of digital storytelling is new (Meadows 2003).

Within the last 10 years, digital cameras, editing software, authoring tools and electronic media outlets have encouraged teachers to present and share their own knowledge and ideas more effectively (Standley 2003). One of these powerful approaches to multimedia production is digital storytelling.

Meadows (2003) believes that digital storytelling is the social practice of telling stories that makes use of low-cost digital cameras, non-linear authoring tools and computers to create short multimedia stories. The Digital Storytelling Association (2002) describes Digital Storytelling as:

[a] modern expression of the ancient art of storytelling. Throughout history, storytelling has been used to share knowledge, wisdom, and values. Stories have taken many different forms. Stories have been adapted to each successive medium that has emerged, from the circle of the campfire to the silver screen, and now the computer screen.

Robin and Pierson (2005) believe that digital storytelling has captured the imagination of both students and teacher and the act of crafting meaningful stories has elevated the experience for students and teachers. Compared to conventional storytelling, digital storytelling audiences are viewed not only as listeners but also as learners who can interact and shape the story (Dorner et al. 2002).

Lynch and Fleming (2017) indicate that:

[The] flexible and dynamic nature of digital storytelling, which encapsulates aural, visual and sensory elements, utilizes the multimedia of cognitive processes that underpin learning—from verbal linguistic to spatial, musical, interpersonal, intrapersonal, naturalist and bodily-kinaesthetic.

Barrett (2016) found that digital storytelling facilitates the convergence of four student-centered learning strategies: student engagement, reflection for deep learning, project-based learning, and the effective integration of technology into instruction.

Robin (2015) argued that educators at all levels and in most subjects can use digital storytelling in many ways to support students' learning by encouraging them to organize and express their ideas and knowledge in an individual and meaningful way.

Jonassen and Hernandez-Serrano (2012) suggested three ways to support learning using stories. First, they can be used as exemplars of concepts or principles being taught by direct instruction. Second, they can be used as problem cases to be solved by students. Third, stories can be used as advice for students, for helping them learn to solve problems.

Gils (2015) suggested many advantages of using digital storytelling in education: (1) to provide more variation than traditional methods in current practice; (2) to personalize learning experience; (3) to make explanation or the practicing of certain topics more compelling; (4) to create real life situations in an easy and cheaper way; and (5) to improve the involvement of students in the process of learning.

In addition, Combs and Beach (2017) indicated that including storytelling in the social studies curriculum develops students understanding of democratic ideals,, cultural diversity and participatory citizenship, improves their communication skills, motivates them to learn about the past and present, and creates a class bond through shared experiences.

While digital storytelling is most often associated with the arts and humanities, research indicates that it can also be an effective strategy for learning in mathematics and science. In mathematics education, Jonassen (2013) believes that story problems are the most common form of problem solving in education. "Students being solving story problems in early elementary school and do not escape until graduate school or beyond. He argued that story problems are found in simple combine problems (e.g. Tom has three apples. Mary gave Tom 3 more apples. How many apples does Tom have in the end?) and complex problems in advanced mathematics and physics.

Schiro (2004), for example, used digital storytelling to teach students algorithms and problem solving through several stages of learning in order to help them develop mathematical skills. He argued that digital stories, with other materials like worksheets, not only present mathematical skills that students need to learn but also situate the mathematics in a context that is interesting, engaging and relevant.

Papadimitriou (2003) suggested that digital storytelling can be used to teach computer science and programming to a wider and more diverse audience. He indicated that digital storytelling can be used, for example, to share with students Al Khwarizmi's discovery of arithmetic algorithms notes on how to calculate the Bernoulli numbers without human head and hand to bring the beauty power and coolness of the message with more clarity and less pain.

Description of digital storytelling classes

Within the last few years, a variety of non-linear applications have become available that can be used in the creation of classroom digital stories. One of these applications is Microsoft Photo Story 3 for Windows. Photo Story is available for free and helps students create video stories from their photos, captured using a digital camera or downloaded from the Web. In a few simple steps, students can import and edit their photos one at a time, insert titles, record narration, add background music, specify locations for zooming and panning and add visual and transition effects.

Students can talk about a photo for as long or as little as they like. When they are done, they click the mouse button to go to the next photo. The authoring task is done when they complete the last photo. Students can then save their stories in WMV (Windows Media Video) format and use any program that plays WMV files, such as Windows Media Player, to playback their stories.

Since a vital requirement for a successful digital storytelling authoring tool is that it takes students' skills into account, the initial feedback from the orientation and workshop revealed that teachers and students liked Photo Story and found it interesting and easy to use to tell the story of their photos. Although

these features were made available by using commercially available software, such as Adobe Premier, these authoring environments are very costly and too complex for students.

To demonstrate the impact of digital storytelling in student learning, teachers are encouraged to help their students to conduct their digital stories in regular classroom settings at the computer lab. Although the physical placement of computers in a lab is in rows and does not encourage interaction among students, the advantage to the computer lab is that it offers a reduced student-to-computer ratio. Since creating a digital story requires skills and concepts that teachers need to teach, teacher introduced their students to the digital storytelling concept, equipment and software resources required to develop digital stories. Teachers showed the students how to use the digital camera, the scanner or Google Images to get pictures and import them to Photo Story with text and audio. In addition, sample digital stories were completed by the teachers to provide first and experience in exactly what the students would be expected to complete. Robin's (2005) four-step approach to creating and integrating digital stories into learning was introduced to help groups create, review and evaluate their stories.

First, teachers began by dividing their students into small groups and have each group brainstorm the story topic they would like to do based on the school curriculum. Each group of students began by selecting a topic, event, concept, theory or problem from the book that was the most exciting or most important in shaping a story and writing down a summary of the topic. Second, each group was asked to bring pictures using the digital camera or from the Web.

Third, students were encouraged to develop scripts by sketching storyboards, writing descriptions and arranging them to show the story sequence. Groups were advised to cooperate in all aspects of the design process, assign a job for each member in the group (e.g., photographer, technical assistance, developer, etc.) and review and discuss their stories and offer comments to improve the quality of the content and design. Collaboration among groups were scheduled to meet with her teacher or the researcher so they could receive personalized feedback regarding their projects.

Students were allowed three days to complete each of the activities. When the stories were completed, teachers attached a computer to a LCD projector so groups could present, discuss and reflect on the stories. A compilation CD of the digital stories was burned for each class to be shared with other classrooms and members of the school community so they could learn the project and provide feedback on the stories.

In terms of the technical design of the stories, overall, the stories produced by the students demonstrated that they made use of the technical features of PhotoStory creatively, in order to enhance the presentation of their stories. The results showed that pans and zooms were mostly smooth, but may be inappropriate or distracting, and used too frequently. Titles and credits were well chosen and presented, legible and drew the viewer's attention. The biggest challenge for students was the timing or tight integration between the audio and image tracks. In a significant number of stories it was found that sound is cut-off, unclear, inappropriate to the content or inconsistent with titles and transition effects.

How effective is the digital storytelling approach for supporting teachers to effectively integrate technology into learning?

Classroom integration of digital storytelling was observed to provide a picture of the actual implementation practices used by teachers and students, contribute to the validity of the data collection and provide additional perspectives to the research. The observation tool focused on variables such as teacher and student roles, the nature of student work and the level of student engagement.

Observation of teacher and student roles in the eight classes indicated that although teachers spent a lot of time using grouping in flexible ways to take advantage of computer availability and meet the

objectives of storytelling integration, a minority of students (20%) worked in groups most of time. Those students took greater responsibility for their group projects and did collaborate effectively with their peers. However, the majority of students (75%) and some organizational and management difficulties in working together as a small learning community to plan, organize and develop their stories.

Although students worked without direct teacher assistance and the role of the teacher was that of a facilitator and consultant to students, it was clear that a significant number of groups (40%) asked their teachers to provide them with ideas for their stories and more instructions for locating images and resources to help them in creating their stories.

In addition, it was observed that teachers were not technically proficient in the use of PhotoStory and other multimedia editing packages, and could not explain all the technical and organizational procedures to use computer and other peripherals to produce digital stories. On many occasions, teachers asked their students to contact the computer teacher for technical assistance.

Across all the observations, it was clear Photo Story has made it easy for students to become involved and active participants in their own learning process. All of the students found the software easy to use and liked to use it in other subjects, if it was made available.

Although students had no a prior knowledge in multimedia authoring and authoring tools, students who had adequate technical skills did more collaboration and communication, carried out more work and many of them utilized multimedia helper applications (for photo and audio editing) and digital resources directly (such as the Web and audio and photo libraries) to develop their projects rather than analogue resources, (such as books and photos). However, it was also observed that many students were able to develop their technical skills through their planning activities and the translate of their ideas and resources to the digital format.

In addition, it was noticed that student motivation and engagement in story development projects based on the subject matter increased and student ICT skills became more developed. Subjects, such as science and history, are likely to have a convincing effect on student activity and engagement in developing their stories. These subjects were higher-level and cognitively challenging to engage students in learning and encouraged them to search for information, images and audio clips for their digital stories. However, the majority of students engaged in relatively long-term activities (2-5 days) and over 80% of groups completed their stories over the course of one week.

Despite the time spent on class management, advising students and helping them to cope with the new approach, most class time was spent on relevant and productive activities by teachers and students. Students did well in their projects, which was demonstrated by the stories presented at the end of the implementation period and they were satisfied with their ability to tell the story of their photos and watch them. These results are consistent with high marks for their stories as assessed using the digital story evaluation rubric.

What are the teachers' concerns and views regarding the implementation and integration of digital storytelling into learning?

The interviews were all recorded and transcribed. A process of coding was used to interpret and reduce the responses. This was undertaken through the use of a spreadsheet using a two-stage process. First, each separate point made was highlighted, and second, a summary comment was generated to capture the point made. These comments were then reduced further to give rise to a coding framework of three themes. These themes were (a) teachers' concerns regarding the implementation of digital storytelling into learning, (b) the effectiveness of digital storytelling in student learning, and (c) advantages and limitations of digital storytelling integration.

In terms of teachers' concerns regarding the implementation of digital storytelling, teachers stressed the challenge of time as a big issue that should be considered in technology integration plans. They believed that the storytelling approach requires a considerable time by teachers to plan and prepare lessons. They agreed that even students spent a long time learning how to use the software appropriately, find appropriate resources to put them in the Photo Story and benefit from the production process on achievement.

Regarding the effectiveness of digital storytelling, interview data suggested that digital storytelling enriched the classroom learning environment, the curriculum, and student learning experiences by providing an open-ended, creative and motivating productive tool in the classroom. In addition, teachers perceived students to be motivated and excited to use the computer, digital camera, the Internet and Photo Story to develop their stories, particularly in connection with real world problems.

However, the interviewer noticed that many teachers were worried about the quality of student work or the direct relationship between the ideas behind student – produced stories and the objectives of the subject matter. The interviewer found that teachers focused on specific lesson objectives, not whole class instruction. In other words, teachers did not emphasize a short-term effect of digital storytelling in student academic performance, which is based usually on their grades in exams.

At the same time, teachers believed that the digital storytelling projects could increase students' understanding of curricular content and improve their technical, collaboration and communication skills as they engage in long-term storytelling projects. Many teachers observed that students helped each other out as they learned to develop their story or solve a problem for their story and were more willing to work together on their projects. Overall, there were no weaknesses noted by teachers in digital storytelling as a technology-oriented approach and five out of eight teachers were willing to transform their pedagogy and curriculum to include digital storytelling.

Lastly, data gathered from teachers revealed that teachers and students faced many technical and computer difficulties and need more technical assistance to use technology in the classrooms. In addition, teachers indicated that the lack of equipment (such as computers, digital cameras, scanners) and limited access to the Internet discourage teachers and students from successfully using the technology.

Observations and interviews revealed many aspects of the classroom environment and activities that best facilitate digital storytelling integration and support engaged learning. The findings revealed that students enjoyed the use of digital cameras, search Web resources, authoring by Photo Story and playing with other non-linear editing tools to create short stories about what they really think and later to watch them. Students demonstrated a pride in the digital stories they were accomplishing and dedicated more time to the tasks required to bring images, audio and text into a storyboard and how to sequence and link them according to their stories.

However, the findings suggest that there is a need to encourage teachers to provide students with more long-term and problem-solving opportunities to spend sufficient time working and thinking together and build their own learning communities to create and present their digital stories. Jonassen (2003) concluded that the key process to most story problem instruction is worked examples of problem solutions in multiple forms. The worked examples of problems must emphasize each of the processes for parsing the verbal problem representation and categorizing the problem type using the conceptual model.

In addition, traditional assessment methods, which may not reflect what students learn with technology, should be replaced by appropriate assessment strategies which help teachers to look for evidence of deeper understanding. One possible solution, for example, is to use digital storytelling as an e-portfolio gives more opportunities for learners to collect, organize, reflect and communicate evidence of their learning with others, which is an essential component of classroom work and can raise standards of achievement more effectively than any other strategy. This use, furthermore, can strongly influence student

cognitive development and accomplish the long-term goals of technology integration into learning (Jonassen et al. 1999; Gils 2005).

In addition, research is needed to discover obstacle which prevent such reflection in informal learning communities and how these obstacles might be more easily overcome in many subject matters, like mathematics and science, through digital storytelling. Although many teachers believe that technology integration is more trouble and a difficult and time-consuming endeavor, it does result in improved learning and teaching. For example, teachers can look at digital storytelling as a new way to humanize the teaching and learning of science and bring the beauty and power of mathematics to learners.

In addition, the professional development of teachers should provide continuous opportunities for teachers to align technology with the curriculum and collaborate and learn from peers who integrate technology into the teaching of other subjects. Consistent with the integrated curriculum approach, the professional development of teachers can benefit from digital storytelling to help teachers to make the connection between the subject they teach and other subjects to provide a more meaningful context for learning. Moreover, digital storytelling can be used to encourage teachers themselves to prepare their own stories about their classrooms and students and connect with peers in other schools to build their own collaborative learning spaces.

The emergence of technology brings new dimensions to language learning as it offers learners new avenues to explore target language in its functional use (Lee, 2014). Integration of salient new technologies is also one of the underlying pedagogical principles in the primary school syllabus in Malaysian education (Ministry of Education, 2013). Recently, academicians have advocated the use of technology in teaching and learning strategies through digital storytelling. Digital storytelling incorporates technology which consists of various multimedia modes such as graphics, audio, texts, videos and animations meanwhile traditional oral storytelling is an ancient art of telling stories that has been passed down from generation to generation and it precedes modern technology and historical record-keeping (Maddin, 2012). This paper presents an analysis that aims to create awareness among the teachers about the differences between the two types of storytelling and provide a review on the potentials of using digital storytelling in teaching and learning.

Storytelling is an oral tale that was passed on by word of mouth from generation to generation. Dujmovic (2006) explains that storytelling is the art of narrating a tale from memory rather than by reading. It is very different activity to story reading due to the breadth of opportunities present in storytelling that it engages the audiences or listeners and make them participants rather than passive hearers (Daniel, 2007). Likewise, Hsu (2010) defines storytelling as “the use of voice, facial expressions, gestures, eye contact and interaction to connect a tale with listeners”. Therefore, storytelling is a two-way interaction between the storyteller and the listeners or audience where the storyteller needs to use the crafts of storytelling in order to get the feedback from the audience.

Storytelling remains in a constant process of variation, depending on the memory, talent, or purpose of the storytellers (Anderson, 2002). The storyteller might modify the story based on this choice of setting and detail, and the rapport between him and the audience (Dujmovic, 2006). The building materials used by the storytellers are words, sounds, and language patterns while the tools are the voiced projection, facial expression, and hand gestures, and the product is the shared human experience creation. Thus, storytelling is largely about bringing characters to life, so the storytellers and the audience can experience the emotions and thoughts of these characters. Using features such as diction, voice projection, intonation, gesture, facial expressions and so on are an excellent way to bring characters to life. Therefore, teachers are encouraged to use storytelling as a teaching and learning strategy in the classroom to engage their students.

Differences between Oral Storytelling and Digital Storytelling

Oral storytelling is a powerful tool for teaching and learning as it engages the students' mental imagery and imagination of the story. According to Dujmuvic (2006), oral storytelling enables the students to connect the story to their own lives so that they understand human behavior. By listening to the story, the students not only learn the language skills in vocabulary and reading comprehensions, but they also learn to understand the universal truth of human relationship and dealing with others. However, with the technological affordances of today's world, digital storytelling is suggested as one possibility that places technology as meaningful tool for teaching and learning (Harriman, 2011). This section will discuss the differences between oral storytelling and digital storytelling in teaching and learning in four aspects: (1) the use of technology, (2) the role of storyteller, (3) the approach of process and product, and (4) the engagement of audience.

Firstly, digital storytelling differs from conventional oral storytelling in an important way: the use of technology. Both the oral and digital storytellers deliver their story orally to the audience but they use different means to deliver it. McLellan (2006) defines digital storytelling as "the art and craft of exploring different media and software applications to communicate stories in new and powerful ways using digital media" while Robin (2011) simply defines digital storytelling as the practice of using computer-based tools to tell stories. Therefore, digital storytelling is different from oral storytelling in that it uses technological tools to enhance the storytelling.

Secondly, the roles played by the two storytellers are different. A traditional storyteller only tells story orally to communicate and share information. It is delivered orally so that the information can be shared immediately to the audience without writing down the notes. Whereas, a digital storyteller has an additional role of an author and it has proved to be a practical and simply way to promote authorship (Harriman, 2011). He needs to do research on a related topic before drafting and writing the story. Then, he spends some time in writing the story and uses the technological tools to insert images and music to make the story interesting. Though it takes a longer time for a digital storyteller to prepare for his presentation compared to a traditional storyteller, he becomes more creative during the designing process when he selects a topic, conducts the research, writes a script, and develops the story.

Besides, oral storytelling is process-based while digital storytelling is process and product-based. The oral storytellers modify the content of the story every time it is told, emphasizing various aspects depending on the audience or, indeed, the mood of the storyteller. He may add or delete the details during storytelling. Such an organic approach is also available to the digital storyteller and his audience. But digital storytelling can be available as a product. Once the story is committed to a digital format and shared in the digital area, it becomes static as a product. Though the content is fixed, the digital storyteller can modify it by pausing the digital story. The story can be stored and retrieved and the digital storyteller can access the content anytime.

Another difference between oral storytelling and digital storytelling is the engagement of the audience hears the story and needs to imagine the story mentally to understand the story. This might pose a huge cognitive challenge to them (Sundmark, cited in Wallin, 2015) hence making them passive listeners. However, in digital storytelling, the audience can watch the visuals and hear the music or soundtrack to help them understand the story in a vivid way. Rule (2010) suggests that digital storytelling is powerful as it integrates images, music, narrative and voice which bring life to characters, situations, experiences, and new understanding. Like the oral storyteller, the digital storytelling is powerful as it integrates images, music, narrative and voice which bring life to characters, situations, experiences, and new understanding. Like the oral storyteller, the digital storyteller uses crafts of storytelling such as voice projection, facial



expressions and so on to tell the story when he is speaking directly to the audience. He also uses digital media such as images and sounds to help his audience understand his story. Atta-Alla (2012) claims that when storytelling is more engaging and becoming contextualized, consequently it raises the audience's interest in listening to stories. As the audience could listen to the digital storyteller and watch the visuals, they understand the story easily, so they are more active and engaged during the face-to-face interaction. Therefore, the digital storyteller can get the audience to be more actively involved compared to the oral storyteller.

Digital Storytelling: A Powerful Technology Tool for the 21st Century Classroom

In March of 2007, the U.S. Department of Education reported to Congress the findings of a major study that focused on the impact of computer software on academic achievement by elementary, middle, and high school students in Reading and Mathematics (U.S. Department of Education, 2007). The report concluded that "Test scores were not significantly higher in classrooms using the reading and mathematics software products than those in control classrooms", and there were "no significant differences in student achievement between the classrooms that used the technology products and classrooms that did not". These results appeared on the front page of major newspapers, this was just another one of the many indicators that our students are falling behind and the huge public investment to put computers in schools has been a waste of time and money.

However, numerous educators, researchers, and technology advocates would respectfully disagree with both the findings of the report and the way that the study was conducted to begin with. In an article ("ED study slams software efficacy," 2007, May) in eSchool News, several well-known technology advocates responded to the report to Congress. Keith Krueger, chief executive officer of the Consortium for School Networking, stated, "This study failed to address several key pieces that other research and educators strongly agree are critical to the success of any efforts to transform teaching and learning". Mary Ann Wolf, executive directors of the State Educational Technology Directors Association, added, "Strong leadership is needed to encourage the correct use of technology, provide support throughout, and systemically integrate the use of technology is much, much more than putting a piece of software into a classroom". As the study purports, it addressed a very narrow piece of educational technology; but more important, the study did not include critical components known to be essential for the successful integration of technology – or any other reform efforts in transforming education.

How and Why Students and Teachers are Engaged by New Technologies

As the debate over the effectiveness of computer technologies in schools' rages on, young people continue to use emerging technologies in their personal lives, even if a large number of educators have not yet found ways to meaningfully integrate them in the classroom. Ask just about any young person about the technologies that they regularly use and you will find that they are not just limited to the widely publicized Web sites such as MySpace and YouTube. The list also includes blogs, wikipedias, podcasts, and social bookmarking tools. Some, if not most, of these resources are unfamiliar to teachers (and parents), but today's students are using them at an every increasing pace and in ways that are helping to define a new generation of not just information – gathering, but information – creating as well.

What makes these tools so compelling is the nature of what has come to be known as user contributed content, social media, and Web 2.0. Roush (2006) wrote that these technologies are part of a transformation from "one-to-many communication on the Web" to "many-to-many communication, and that traffic and conversation naturally cluster around content, such as videos, photos, blog posts, and bookmarks". Borland (2007) explained this technological evolution in the following way:

Web 1.0 refers to the first generation of the commercial Internet, dominated by content that was only marginally interactive. Web 2.0, characterized by features such as tagging, social networks, and user-

created taxonomies of content called folksonomies, added a new layer of interactivity, represented by sites such as Flickr, Del.icio.us, and Wikipedia.

What further distinguishes these emerging technologies from earlier one is that they are being customized and personalized in dynamic, and often unpredictable, ways by their users, and this personalization is having a profound impact on how people, especially young people, are conducting business, findings entertainment, and participating in social relationships. However, when it comes to using these technologies in the classroom, many teachers till do not have a good grasp of how to use them in their teaching. Judge, Puckett, and Cabuk (2004) sum up the situation this way:

Teacher familiarity, confidence, and skill in choosing software and integrating technology into the curriculum are dependent on teacher training and time for self-directed exploration and learning. Due to the relative newness of computer technology, many teachers have not received adequate training to select appropriate technologies and lack support to use them.

The Emergence of Digital Storytelling

Digital storytelling is a technology application that is well-positioned to take advantage of user-contributed content and to help teachers overcome some of the obstacles to productively using technology in their classrooms. At its core, digital storytelling allows computer users to become creative storytellers through the traditional processes of selecting a topic, conducting some research, writing a script, and developing an interesting story. This material is then combined with various types of multimedia, including computer-based graphics, recorded, audio, computer-generated text, video clips, and music so that it can be played on a computer, uploaded on a web site, or burned on a DVD.

Despite the current emphasis on multimedia technology, digital storytelling is not a new idea. Joe Lambert and the late Dana Atchley helped create the digital storytelling movement in the late 1980s as cofounders of the Center for Digital Storytelling (CDS), a nonprofit, community arts organization in Berkeley, California. Since the early 1990s, the CDS has provided training and assistance to people interested in creating and sharing their personal narratives (Center for Digital Storytelling, 2005). The CDS is also known for developing and disseminating the Seven Elements of Digital Storytelling which are often cited as a useful starting point to being working with digital stories.

In the early days of digital storytelling, Lambert was impressed by how easily average people were able to “capture their story in a really powerful way in a relatively short amount of time for a relatively small amount of money” (Tucker, 2006). Fast forward to today and one can see that what is new is that the tools needed for digital storytelling – computers, scanners, digital cameras, and high-quality digital audio capture devices – have become increasing more affordable and accessible. Add to this mix a series of powerful, yet inexpensive software programs that allow even novice computer users to become digital media producers and editors on a scale that was hardly imagined when Atchley and Lambert were first beginning their work. We are currently witnessing dramatic growth in the educational use of digital storytelling, as a convergence of affordable technologies interacts with a contemporary agenda for today’s classroom.

The combination of powerful, yet affordable, technology hardware and software meshes perfectly with the needs of many of today’s classrooms, where the focus in on providing students with the skills they will need to “thrive in increasingly media-varied environments”. (Riesland, 2005).

As an instructional tool, teacher have the option of showing previously-created digital stories to their students to introduce content and capture students attention when presenting new ideas. Researchers such as Burmark (2004) have found that integrating visual images with written text both enhances and accelerates student comprehension, and digital storytelling is an especially good technology tool for

collecting, creating, analyzing, and combining visual images with written text. Teachers who are able to create their own digital stories may find that they can be particularly helpful not only in engaging students in the content but also in facilitating discussion about the topics presented in a story and helping make abstract or conceptual content more understandable. A multimedia-rich digital story can serve as an anticipatory set or hook to capture the Robin digital storytelling.

Table 1
The Seven Elements of Digital Storytelling

Current for Digital Storytelling's Seven Elements of Digital Storytelling	
1. Point of view	What is the main point of the story and what is the perspective of the author?
2. A dramatic question	A key question that keeps the viewer's attention and will be answered by the end of the story.
3. Emotional content	Serious issues that come alive in a personal and powerful way and connects the story to the audience.
4. The gift of your voice	A way to personalize the story to help the audience understand the context.
5. The power of the soundtrack	Music or other sounds that support and embellish the storyline.
6. Economy	Using just enough content to tell the story without overloading the viewer.
7. Pacing	The rhythm of the story and how slowly or quickly it progresses.

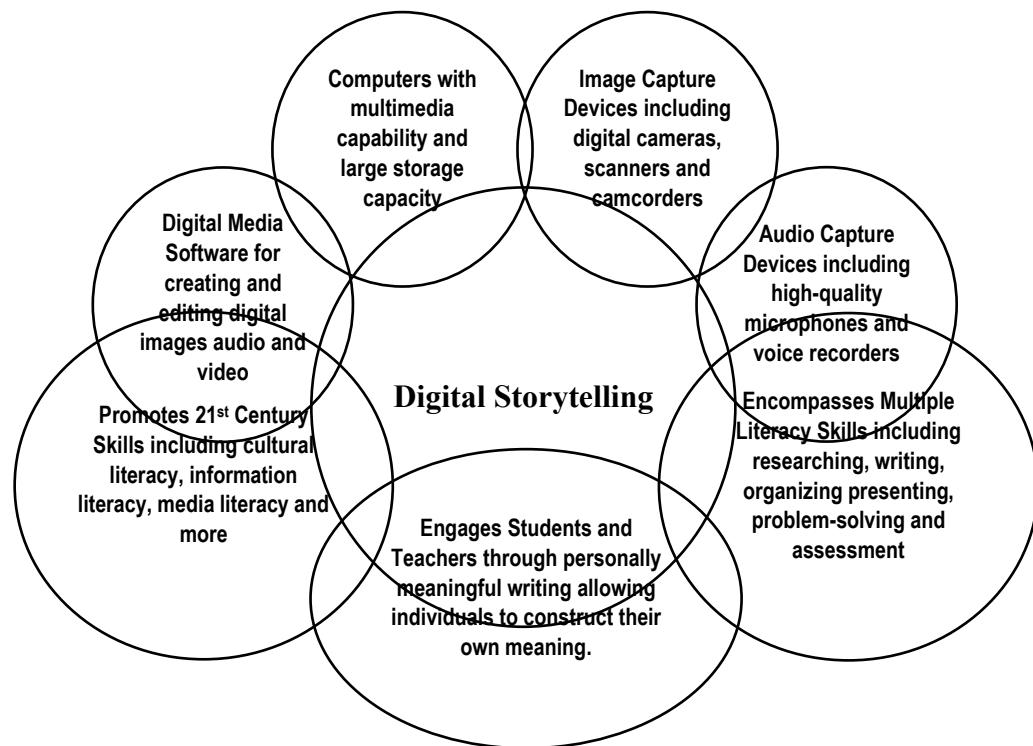


Figure 1. The convergence of digital storytelling in education

- Digital literacy – the ability to communicate with an ever-expanding community to discuss issues, gather information, and seek help;
- Global literacy – the capacity to read, interpret, respond, and contextualize message from a global perspective
- Technology literacy – the ability to use computers and other technology to improve learning, productivity, and performance

- Visual literacy – the ability to understand, produce, and communicate through visual images;
- Information literacy – the ability to find, evaluate, and synthesize information.

Digital storytelling can be a potent learning experience that encompass much of what society hopes that students will know and be able to perform in the 21st century (Jakes & Brennan, 2005). The push for students to gain 21st century literacy skills by using the latest technology to communicate effectively is facilitated by students actively participating in the creation process of digital storytelling (Jakes & Brennan, 2005). As they do so, students develop enhanced communication skills as they learn to conduct research on a topic, ask questions, organize their ideas, express opinions, and construct meaningful narratives. Students who participate in the full digital storytelling experience may also benefit from learning to critique their own work, as well as the work of others, facilitating social learning and emotional intelligence (Robin, 2008).

To practitioners of digital storytelling outside of education, this technology is most often used to create personal narratives that document important events in one's life. However, digital storytelling can also be a powerful tool in the classroom when used to produce historical documentaries, as well as instructional presentations that inform viewers about a particular concepts or practice (Robin, 2008).

At the University of Houston. The Educational Uses of Digital Storytelling Web site has been established to provide information and examples of how this technology is being used by students and teachers in K-12 and higher education classrooms. The Web site, located at <http://www.coe.uh.edu/digitalstorytelling/>, also sorts example digital stories into the following three major categories: personal or narrative stories, stories that inform or instruct, and stories that re-tell historical events.

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.

The Need for a Better Theoretical Framework

Given what is known about how digital storytelling can be used in the classroom to engage and motivate both students and teachers, people must ask themselves if the U.S. Department of Education 2007 report to Congress that found "no significant differences in student achievement between the classrooms that used the technology products and classrooms that did not" might have shown vastly different outcomes

if the technology use was different. It is worth asking what the findings might have been if digital storytelling had been used by teacher and students in the classrooms that were the focus of the research study instead of the mostly drill and practice reading and mathematics software that was used.

Part of the problem in this complex set of issues is that there is not yet a consensus in the field of instructional technology that serious educators and researchers agree upon with which to conduct productive and meaningful investigation. However, it is clear to many that content integration, supported by powerful computer technologies, is needed, and the impact that computer technology can have on students is much more meaningful when it involves an impact on higher order thinking skills, not just test scores.

In an editorial that discusses the effectiveness of technology use in schools, editors of five educational technology journals who are members of the National Technology Leadership Coalition (Schrum et al., 2007) wrote “that different technologies do have unique pedagogical affordances and that the effects of these affordances can only be understood in the context of a specific content area (and related learning outcomes) and a specific pedagogy.

Theoretical Framework

Technological Pedagogical Content Knowledge (TPCK): A Theory for Integrating Technology in the 21st Century Classroom.

Pierson (2001), Mishra and Koehler (2006, 2007), and others have advocated that the use of a conceptually-based theoretical framework can improve how teachers are trained, how they teach when they arrive in the classroom, and even what research questions researchers explore in this area. The term technological pedagogical content knowledge (TPCK) is gaining a great deal of attention in the field of technology and teacher education as it focuses on the relationship between knowledge about content, pedagogy, and technology. TPCK can be traced back to the earlier work of Shulman (1986) who instructed the idea of pedagogical content knowledge, or PCK, and Pierson's investigation of the relationship between teaching abilities and what she labeled technology-use abilities. Pierson's framework utilized composite categories of teaching ability and technology-use, which helped lead to much deeper investigation of how technology is used by teachers, both during their preservice training and once they are practicing classroom teachers.

But it was Shulman's (1986) suggestion that content knowledge and knowledge of pedagogy no longer needed to be considered as separate, independent entities that changed much of the thinking about teacher educational. Both Pierson's (2001) and Shulman's work has now evolved to an overlapping framework that highlights the interactions and connections between content (the subject being taught), pedagogy (the teaching process being used), and technology, whether it is pencils and blackboards or computers and other sophisticated digital devices.

Mishra and Koehler (2006) have written extensively about how TPCK can be used in the classroom and described its various components as follows:

TPCK is the basis of good teaching with technology and requires an understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students' prior knowledge and theories of epistemology; and knowledge of how technologies can be used to build on existing knowledge and to develop new epistemologies or strengthen old ones.

A graphical representation of how TPCK's components fit together is shown in Figure 2. Mishra and Koehler (2006) underscored that this framework is just a beginning and, like all frameworks, it is not perfect and needs additional testing, use, and modification. But as they noted, "no single framework can provide all the answers. The TPCK framework is no exception. However, we do believe that any framework, however impoverished, is better than no framework at all".

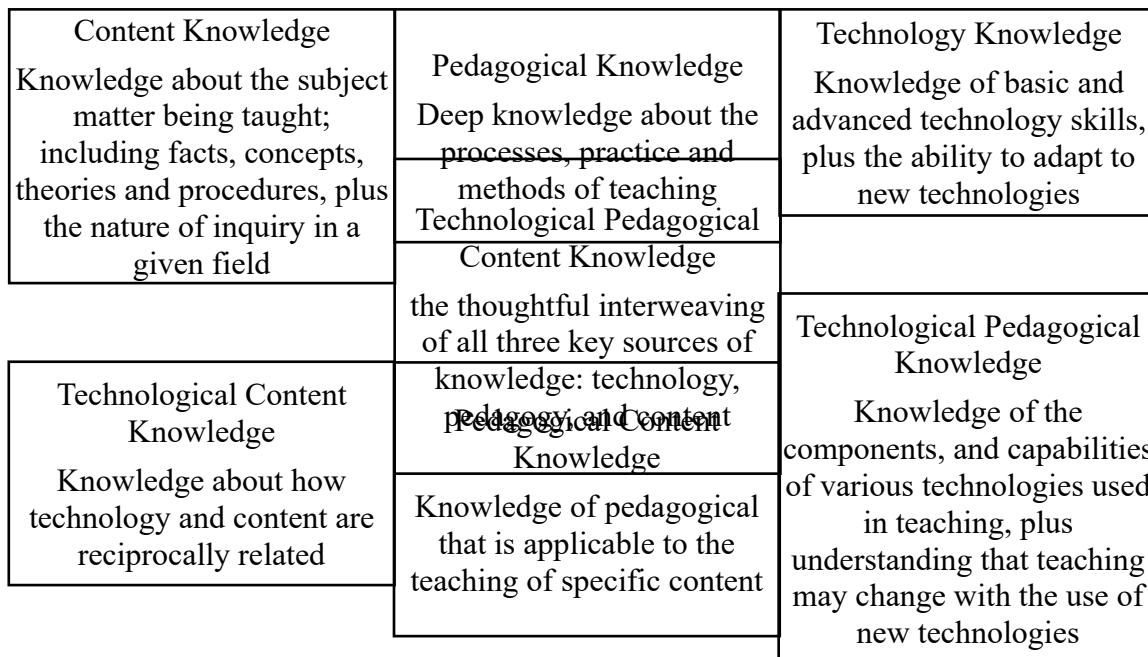


Figure 2. Interactions of TPCK as described by Mishra and Koehler (2006)

It is also important to consider how educators might conduct future research studies that can demonstrate the benefits of multimedia in general and digital storytelling in particular, and reduce the controversy generated by findings such as those from the 2007 U.S. Department of Education study discussed earlier. Most serious educators and policy makers would agree that motivation is a critical ingredient for learning, and research studies that demonstrate increases in motivation by students that participate in digital storytelling and similar technologies should be designed and conducted. It is also important that teachers learn effective ways to motivate their students to become more engaged in learning new content with the help of multimedia technologies. Muller, Eklund, and Sharma (2006) acknowledge that motivation can be "difficult to define, measure and control"; however, they believe that "studies must seek to identify the methods employed in various media that can demonstrably and repeatedly enhance motivation". Perhaps by combining the convergence of digital storytelling in education as earlier described with the theoretical framework of TPCK, researchers will arrive at a deeper understanding of the different and more powerful roles that digital media can play in both teaching and learning.

Digital Storytelling

Digital stories are short multimedia tales that engender emotional and learning (Salpeter, 2005). In a broad sense, a digital story consists in a series of still images or short videos that are combined with a narrated soundtrack to tell a story (Bull & Kadje 2004); they can be used to inform, to instruct, to motivate, to demonstrate or communicate a personal narrative (Robin, 2008). A variety of subjects can be used in

digital stories: in fact, as stated in The Educational Uses of Digital Storytelling (2008, online) “the topics that are used in Digital Storytelling range from personal tales to the recounting of historical events, from exploring life in one’s own community to the search for life in other corners of the universe, and literally, everything in between”.

A Framework TPACK

Koehler and Mishra (2008), consider that the well succeeded integration of technologies in the classroom context demands from the teacher a set of competences at three levels: scientific / contents, pedagogic and technologic.

For that purpose the authors developed a theoretical model which they named TPCK or TPACK and that, in the opinion of innumerable more current authors, should function as a referential for those who develop training courses for teachers, in particular at the continuous training level, for an effective professional development of teachers. Such as the authors, we considered that the professional development of teachers at the ITC competences domain is common to all other curricular areas, but should show concern with the specificity of each group or disciplinary area, contemplating its singularity. That is, it is not about giving teachers a standardized technological training and focusing on the tools domain/knowledge in itself, but on a modular training put in context and linked to what is the teacher’s pedagogic activity and to the age level of the students with who he works with (Costa et al., 2008).

The TPACK model considers that a complete and advantageous integration of technologies in the teachers practices depends on the relation of balance that the teacher is able to establish between the scientific knowledge and the domain of contents in that, more or less, specific area of training (c), the pedagogic knowledge (P) at the level of a competence anchored in learning theories and in techniques and didactic-pedagogic methodologies and the technological knowledge (T) he possesses, that is, its domain concerning the tools and other, increasingly available, technological artifacts which he uses.

Method

The descriptive survey (Babbie, 1997) we present in this paper was developed in the second semester of school year 2008 – 2009 and enrolled a group of 22 teachers who attended a program on Digital Images in Education (DIE) as part of a post-graduate program in Educational Technology. DIE is a 3 hours/weeks face to face program that aims to improve teachers’ visual literacy preparing them to create and use digital images in the curriculum. During eight weeks, teachers: a) studied theoretical issues concerning the production, transmission, and perception of verbo-iconic messages; b) created an individual Fotolog with original photos manipulated using PhotoShop Software; c) used Movie Maker software to produce a visual track; d) recorded podcast episodes using Audacity software to create an audio track mixing voice and background sound. The final task involved the creation, in small groups, of an original Digital Story on a chosen topic of K-12 curriculum to be presented and discussed in the classroom for final assessment.

In order to evaluate the importance of the Digital Storytelling learning experience, a final electronic questionnaire was sent via email to all course participants. It consisted of a mix of closed and open-ended questions evaluating five dimensions:

In order to evaluate the importance of the Digital Storytelling learning experienced, a final electronic questionnaire was sent via email to all course participants. It considered of a mix of closed and open-ended questions evaluating five dimensions:

1. Personal data (dichotomy/multimedia choice): gender, age, time in the profession, teaching area.
2. Acknowledgement and previous experienced on DS (dichotomy Y/N)

3. The potentials of DS for teaching and learning (Open-ended)
4. The impact of DS in the training program (dichotomy; open-ended)
5. DS and the development of the 21st century skills (Likert Scale, 4 points, Very Important, Important, Some Importance, Not Important)

Quantitative data were analyzed using SPSS 13.0 software. Open ended questions were analyzed using categorical content analysis techniques (Bardin, 2004).

17 participants fulfilled the final online questionnaire. 58.8% were male and 41.2% were female. As to age, the average age was 34, the youngest participant had 25 years old and the eldest 52. Except for 3 that were not teaching at the moment, all worked at local schools (grade 5th to 12th), and teach different curricular areas from Mathematics to Science, Foreign Languages, Music Education and Arts. The concept of Digital Storytelling was new for most participants (65%); however, 3 respondents said they had created a personal DS to present to family and friends (1), to create video-clips for cultural events (1), and to create an educational resources for a Science class on the topic Healthy Food.

Results

Digital storytelling in teaching and learning

In order to infer the potentials of DS for teaching and learning, teachers were asked to write a comment on a Bernard Robin (2008) quotations: "Digital Storytelling is a technological that is well-positioned to take advantage of user-contributed content and to help teaches overcome some of the obstacles to productively using technology in the classroom". Do you agree with the statement (or not)? Justify your answer presenting all arguments you consider relevant".

Exploratory content analysis techniques were applied to extract meaning from written answers given by teachers (Bardin, 2004). A set of ten categories emerged from data, and were organized around two types of arguments: advantages of using DS (8 categories) and disadvantages (2 categories). The eight advantages that emerged from data supporting the importance of DS for teaching and learning are, in decreasing number of quotations given by teachers:

1. New methodologies in the classroom;
2. New competencies;
3. More interest in the learning process;
4. DS enhance the integration of ICT into the curriculum;
5. More motivation;
6. More creativity;
7. Images facilitate understanding of complex contents;
8. DS promote communication

As to disadvantages two categories were driven from written answers:

1. The need for more teacher educational and training;
2. It takes time for students to create DS.

This paper deals with the educational uses of digital storytelling and presents an overview of how digital storytelling has and continues to be used to support teaching and learning. The first section begins with a definition of what digital storytelling is and how it differs from other types of videos found online. The next section focuses on how digital storytelling is being used to support teaching and learning in education, as well as in other areas such as museums, community organizations and healthcare institutions.

Next, guidelines are presented that novice digital storytelling can follow if they wish to use the technology practice. The paper concludes with a description of additional resources that are available for those who want to learn more about digital storytelling.

What is Digital Storytelling?

Digital storytelling combines the art of telling stories with a mixture of digital media, including text, pictures, recorded audio narration, music and video. These multimedia elements are blended together using computer software, to tell a story that usually revolves around a specific theme or topic and often contains a particular point of view. Most digital stories are relatively, short with a length of between 2 and 10 minutes, and are saved in a digital format that can be viewed on a computer or other device capable of playing video files. In addition, digital stories are typically uploaded to the internet where they may be viewed through any popular web browser. There are many different types of digital stories, but the author has proposed classifying the major types into the following three categories: 1) personal narratives – stories that contain accounts of significant incidents in one's life; 2) historical documentaries – stories that examine dramatic events that help us understand the past, and 3) stories that inform or instruct the viewer on a particular concept or practice (Robin, 2006).

Digital storytelling has steadily grown in popularity and is currently being practiced in a myriad of locations, including schools, libraries, community centers, museums, medical and nursing schools, businesses and more. In educational settings, teachers and students from kindergarten through graduate school are creating digital stories on every topic imaginable, from art to zoology, and numerous content areas in between. Digital storytelling has also become a worldwide phenomenon, with practitioners from across the globe creating digital stories to integrate technology into the classroom, support language learning, facilitate discussion, increase social presence, and more (Co-authors & Author, 2011).

How Digital Storytelling Supports Students Learning

Digital storytelling can be a powerful educational tool for students at all ages and grade levels who are tasked with creating their own stories. This use of digital storytelling capitalizes on the creative talents of students as they begin to research and tell stories of their own, learn to use the library and the internet to research rich, deep content while analyzing and synthesizing a wide range of information and opinions. In addition, students who participate in the creation of digital stories develop enhanced communication skills by learning to organize their ideas, ask questions, express opinions, and construct narratives. Students who have the opportunity to share their work with their peers may also gain valuable experience in critiquing their own and other students' work, which can promote gains in emotional intelligence, collaboration and social learning.

Digital Storytelling as an Instructional Tool in Early Childhood Education

In addition to asking students to watch digital stories created by others, digital storytelling can also be used to empower younger students when they use computer technology and multimedia resources to create their own stories that demonstrate their knowledge and understanding of educational themes and concepts. Young people today are becoming more technologically savvy and they are increasingly engaged by activities that take place on a computer screen. Even very young students respond to and are motivated by creating computer-based materials, such as digital stories, that allow them to demonstrate their knowledge of the topics they are exploring in the classroom. One of the most important aspects of digital storytelling is that it can help make learning more relevant for students. Digital storytelling can encourage creativity as well as give students a voice as they use their stories to share their ideas and feelings with others.

A particular strength of the digital storytelling process is that it can be used to facilitate writing through scripts and storyboards to promote student engagement and reflection. Shelby-Caffey, Ubeda, and Jenkins (2014) describe a digital storytelling project that was used to teach fifth-grade students about literary elements and literacy and the story writing process. These younger students first participated in a shared reading of a novel and then used the digital storytelling process to create a movie based on that novel. One of the researchers who facilitated the project described the results this way.

Conceptual Framework of the Study

Teachers who believe in using technology can be an effective factor in education for the new generation, making educational goals easier to achieve in the twenty first (21st) century. Actually, teachers studied and implemented into classrooms for a positive effect of the technology. They integrate multimedia tools in teaching the learners different skills including synthesizing, analyzing, evaluating and presenting information when learners use technology, they learn to convert data into information and transform them into knowledge. Using multimedia tools gives the learners the opportunity to participate and interact in the classroom. Consequently, the trend of integrating technology in education has become more widespread in most schools' todays. Digital storytelling is one of the multimedia tools that can support teaching and learning as well as learners' motivation. This research explores how digital storytelling can be an effective tool for both teachers and learners in order to support learning and skills.

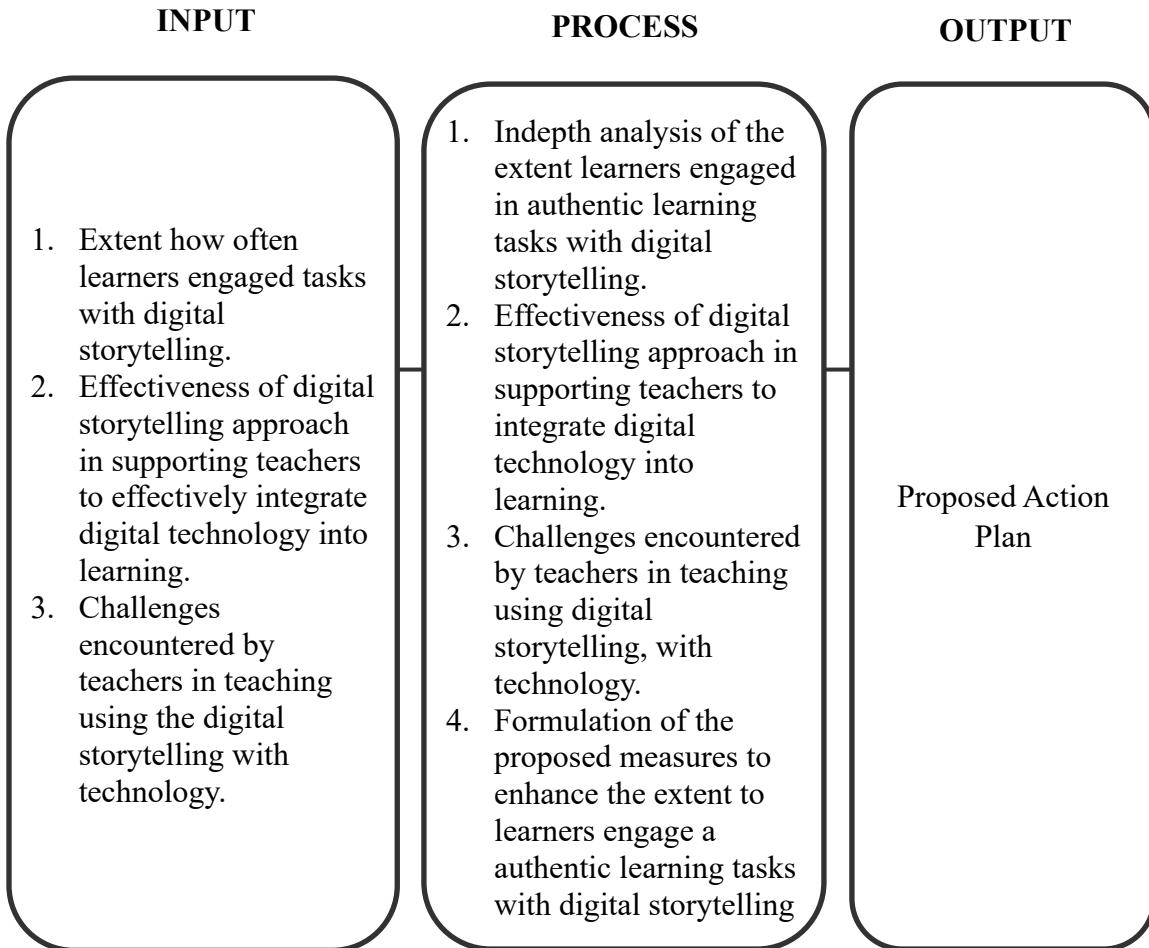
Paradigm of the Study

The study will use the (IPO) input-process-output approach flow of the problem variables.

The input includes the extent can learners be engaged in authentic learning tasks with the digital storytelling, how effective is a digital storytelling approach in supporting teachers to effectively integrate digital technology into learning, significant difference between the perceptions of the teachers and school administrators on how effective is a digital storytelling approach in supporting teacher to effectively integrate digital technology in learning and the challenges encountered by the teacher in teaching using digital storytelling with technology.

The process is consisted of the in-depth analysis of the extent can learners be engaged in authentic learning task with the digital storytelling; how effective is a digital story telling approach in supporting teachers to effectively integrate digital technology into learning significant different between the perceptions of the teachers and school administrators on how effective is a digital storytelling approach is supporting teachers to effectively integrate digital technology into learning and challenges encountered by the teachers in teaching using digital storytelling with technology, and the formulation of the proposed measures to enhance the use of digital storytelling with technology.

The output is to proposed action plan as the measures to enhance the use of digital storytelling.



Statement of the Problem

This study determines the extent of storytelling with a meaningful technology integrate approach for engaged students learning during the school year 2023 – 2024.

Specifically, it seeks answers to the following questions.

1. How often does the teacher utilize digital storytelling approach in teaching?
2. How effective is a digital storytelling approach in supporting teachers to effectively integrate digital technology into learning as perceived by the teachers and their school administrators?
3. Is there a significant difference between the perception of the teachers and school administrators on how effective is a digital storytelling approach in supporting teachers to effectively integrate digital technology into learning?
4. What are the encountered by the teachers in teaching using digital storytelling with technology?
5. What measures can be proposed to enhance the use of digital storytelling as an integrated approach to engage students learning?

Scope and Delimitation

This study deals on the digitalization of storytelling: A Technology Integrated approach for Engaged Learners Learning during the school year 2024 – 2025.

The variables will be focused on the extent can learners be engaged in authentic learning tasks with digital storytelling, how effective is a digital storytelling approach, and the challenges encountered by the teachers in teaching using digital storytelling with technology.

It will be conducted in Malasiqui District II among the Grade 2 learners from the 28 Schools Division of Pangasinan I.

METHODS

Research Design

The descriptive research design will be used in this study. It is used to establish the prevailing, status or conditions which will call for the analysis of differences without variable manipulation. Hence the descriptive method is appropriate for the study.

This study will be focused on determining the extent of digital storytelling with a meaningful technology integrated approach to engaged student learning during the school year 2024 – 2025.

Locale and Population of the Study

This study will be conducted in public elementary schools in Malasiqui I Division of Pangasinan I with respondents consists of 344 teachers and 27 school administrators covering twenty seven (27) public elementary schools.

Table 2
Number of Respondents Per School

Schools	Number of Teacher	Number of School Administrators
District 1A		
1. Juan L. Siapno Elementary School	20	1
2. Lucao Elementary School	21	1
3. Malued Elementary School	30	1
4. West Central Elementary School II	31	1
5. West Central Elementary School I	32	1
District 2A		
6. East Central Integrated School	28	1
7. Bacayao Sur Elementary School	14	1
8. Pascuala G. Villamil Elementary School	10	1
9. Pogo-Lasip Elementary School	14	1
10. Lasip Grande Elementary School	13	1
District 2B		
11. Mangin-Tebeng Elementary School	12	1
12. Tambac Elementary School	13	1

13. Tebeng Elementary School	10	1
14. Caranglaan Elementary School	15	1
District 3A		
15. BLISS Elementary School	8	1
16. Bonuan Boquig Elementary School	14	1
17. Leon-Francisco Maramba Elementary School	11	1
18. Federico N. Ceralde Integrated School	10	1
District 3B		
19. Sabangan Elementary School	8	1
20. Gen. Gregorio del Pilar Elementary School	10	1
21. North Central Elementay School	20	1
District 3C		
22. Mamalingling Elementary School	11	1
23. Bolosan Elementary School	15	1
24. Salisay Elementary School	10	1
25. Victoria Q. Zarate Elementary School	9	1
District 4A		
26. Lomboy Elementary School	15	1
27. Suit Elementary School	8	1
28. Pugaro Integrated School	8	1
29. Pantal Elementary School	11	1
30. Salapingao Elementary School	8	1
District 4B		
31. Juan P. Guadiz Elementary School	9	1
32. T. Ayson-Rosario Elementary School	8	1
33. Calmay Elementary School	9	1
34. Carael Elementary School	9	1
Total	474	34

Data Gathering Instrument

This study will use the questionnaire as the data gathering instrument. It is consisted of Part I on the extent of effects of digital storytelling. A technology integrated approach for engaged learning learners. Part II on the challenges or problems encountered by teachers in using digital storytelling: A Technology Integrated Approach for Engaged Learning of Learners Development Association for Educational Communication and Technology (2008).

The questionnaire will be adopted from Education Technology Research Development Association for Educational Communication and Technology.

Data Gathering Procedures

The researcher will seek permission from the Schools Division Superintendent, Pangasinan I to administer the questionnaire. When permission will be granted the researcher also will ask permission from the 27 school heads in the different elementary schools in Malasiqui I, Division of Pangasinan I. the set of the questionnaire will be personally floated by the researcher so that will be able to collect 100 percent of the questionnaire. After the retrieval of the instrument the data will be tallied and organized into tables for analysis and interpretation.

Statistical Treatment of Data

Problem 1. Frequency of utilization of digital storytelling with technology as an integrated approach in teaching.

Legend:

Likert	Scale Limit	Descriptive Equivalent
4	(3.41 – 4.20)	Always
3	(2.61 – 3.40)	Often
2	(1.81 – 2.60)	Sometimes
1	(1.00 – 1.80)	Never

Formula:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{SD\bar{x}}$$

where:

\bar{X}_1 = First Mean

\bar{X}_2 = Second Mean

$SD\bar{x}$ = Standard error of difference between the two means

Problem number 2 on determining the extent of effects can learners be engaged in authentic learning tasks with digital storytelling.

Likert	Scale Limit	Descriptive Equivalent
3	(2.34 – 3.00)	High Effect (HE)
2	(1.67 – 2.33)	Moderate Effect (ME)
1	(1.00 – 1.66)	Low Effect (LE)

Problem number 3 on determining the significant differences between the perceptions of the teachers and their school administrators in the extent of effects of digital storytelling approach to effectively integrate digital technology teaching learning. T-test will used.

Problem number 4 on the degree of challenges / problem encountered by teachers is using digital storytelling approach and how serious they are.

Likert	Scale Limit	Descriptive Equivalent
3	(2.34 – 3.00)	Very Serious (VS)
2	(1.67 – 2.33)	Moderately Serious (MS)
1	(1.00 – 1.66)	Least Serious (LS)

RESULTS AND DISCUSSION

This chapter presents the discussion of the data on the digital storytelling. A meaningful technology integrated approach for engaged pupils learning. It involves on the indication of effects of digital storytelling challenges/problems encountered by the teachers, and how often do teachers utilize the digital storytelling as an integrated approach to engage learning of learners.

How often does the teacher utilize digital storytelling approach in teaching.

Table 2 deals on the frequency of utilization of digital storytelling as an approach in teaching by the teacher as perceived by themselves and their school administrators.

Table 2 revealed four (4) indicators which were often utilized by the teacher such as using digital storytelling in the classroom as a powerful instructional technique (2.6), improving learners different technological skill using software with text, images, audio, and wave scanners (2.81), increasing learners motivation to learn (2.81); and developing effectively the academic skills and motivation of learners (2.61).

Table 2

Frequency of Utilization of Digital Storytelling as an Approach in Teaching by the teacher as perceived by themselves and their school administrators

	Teachers		School Administrators		Overall AWM	
	AW M	DE	AWM	DE	AW M	DE
1. Using digital storytelling in the classroom as a powerful instructional techniques.	2.61	O	2.60	S	2.61	O
2. Learning cultural differences and gain experiences as the process of peer review to expand own knowledge.	2.55	S	2.60	S	2.52	S
3. Exploring the meaning of the students experiences and give value to them.	2.51	S	2.53	S	2.52	S
4. Improving learners communication skills to connect the past, present, and future.	2.60	S	2.59	S	2.60	S
5. Improving learners different technological skill using software with text, images, audio and web scanners.	2.81	O	2.80	O	2.81	O
6. Increasing learners motivation to learn	2.80	O	2.81	O	2.81	O
7. Enhancing learner's motivation to learn and increase / improve their learning performance.	2.60	S	2.59	S	2.60	S
8. Using variety of digital technology methods in their instruction / teaching.	2.55	S	2.50	S	2.53	S
9. Developing effectively the academic skills and motivation of learners	2.60	S	2.61	O	2.61	O
10. Providing real way to help learners to learn and effectively apply technology in	2.55	S	2.56	S	2.56	S

both in and out of the classroom.						
Overall Average Weighted Mean	2.62	O	2.62	O	2.62	O

The findings implied that the teachers manifested their love and idea for the significance of using digital storytelling approach or strategy in engaging learners to learn as they strive to developing certain skills on the lesson being discussed.

Considering the other indicators on the frequency of utilization of digital storytelling in learning, there were six (6) which were sometimes used in teaching to engage learners in learning. They were as follows, learning cultural differences and gain experiences as the process of peer review to expand own knowledge (2.58); exploring the meaning of learners experiences and give value to them (2.52); improving learners communication skills to connect the past, present, and future (2.60), enhancing learner's motivation to learn and increase/improve their learning performance (2.60); use variety of digital technology method in their instruction/ teaching (2.53), and finally providing real way to help learners to learn effectively apply technology in both in and out of the classroom (2.56).

The findings implied that the teachers still not so much convince of the effectiveness of digital storytelling in engaging the learners to learn and develop their skills acquired in the lesson. It implied further that there might be other reasons why they sometimes used the digital storytelling as an approach to engage learners in learning like the availability of the materials when needed and the knowledge and skills of the teachers in the digital materials.

As a whole, the data revealed the fact that the teaching often used the digital storytelling as an approach to engage learners to learn and develop skills proven by the overall average weighted mean of (2.62). It meant that the teachers showed their appreciation as they were convinced the significance of using digital storytelling as an approach to engage learners to learn with technology in the classroom.

Effects of Digital Storytelling in Engaging Learners Learning

Table 3 deals on the indication of effects of digital storytelling as an approach for engaged learners learning as perceived by the teachers themselves and their school administrators.

Table 3

Frequency of Utilization of Digital Storytelling as an Approach in Teaching by the teacher as perceived by themselves and their school administrators

A. Indication of Effects of Digital Storytelling	Teachers		School Administrators		Overall AWM	
	AW M	DE	AWM	DE	AW M	DE
1. Provide context and often present real problem.	2.34	HE	2.36	HE	2.35	HE
2. Evoke emotions which make learning more effective.	2.35	HE	2.35	HE	2.35	HE
3. Arouse curiosity and interest capturing students attention and engage them in the educational process.	2.40	HE	2.39	HE	2.40	HE

4. Creates mantel images which simulate imagination and shape of the brain development.	2.38	HE	2.37	HE	2.38	HE
5. Increase concentration and improve reading, verbal, and listening skills.	2.30	ME	2.31	ME	2.31	M E
6. Improve understanding of the cause and effect and the relationship between them which facilitate understanding of the plot, and enhances the ability to predict the following event.	2.35	HE	2.36	HE	2.36	HE
7. Boost the critical thinking and listening comprehension skills.	2.34	HE	2.34	HE	2.34	HE
8. Form a structure and create a flow of information building relationship between the events and increase their significance, makes the material easier to researcher and recall.	2.30	ME	2.30	ME	2.30	M E
9. Make learning easier and more relaxing by presenting the information in a safe context, and in a well-known form.	2.35	HE	2.36	HE	2.36	HE
10. Develop understanding and respect for other cultures, promote the acceptance and tolerance of cultural, religious, and political difference.	2.35	HE	2.40	HE	2.38	HE
Total Average Weighted Mean	2.35	HE	2.31	HE	2.35	HE

The data showed overwhelmingly 8 indicators as described as high effect such as: provide context and often present real problem (2.35); evoke emotion which makes learning more effective (2.35), arouse curiosity and interest capturing learner's attention and engage them in the educational process (2.40), creates mantel images which stimulates imagination and shape of the brain development (2.38), improve understanding of the cause and effect and the relationship between them which facilitate understanding of the plot and enhances the ability to predict the following event (2.36); make learning easier and more relaxing by presenting information in a safe context, and in a well-known form (2.36), and finally develop understanding and respect for other cultures, promote the acceptance and tolerance of cultural, religions and political differences (2.38). The findings implied that the teachers realized and believed the high value and effect of the used of digital storytelling in engaging learners to learn more, and enjoy more the assimilation of ideas and meaning of the lesson being discussed.

As a whole it showed that the teachers had realized the significant effect of using digital story telling as a meaningful technology integrated approach for engaging learners' learning. This was proven by the overall total average weighted mean of 2.35.

Summary of the Digital Storytelling a Meaningful Technology Integrated Approach for Engaged Learners Learning

Table 4 deals on the summary of the digital storytelling a technology integrated approach for Engaged Learner's Learning

Table 4

Summary of the Digital Storytelling A Technology Integrated Approach

Areas	Teachers		School Administrators		Overall AWM	
	AW M	DE	AWM	DE	AW M	DE
1. Frequency of Utilization of Storytelling Approach in Teaching	2.60	O	2.60	O	2.60	O
2. Effectiveness of the digital storytelling approach	2.35	HE	2.35	HE	2.35	HE

Table 4 revealed that the teachers often used the digital storytelling a meaningful technology approach for engaged learners learning proven by the average weighted mean of 2.60. It implied that they found it interesting and more participation of learners was observed.

On the other hand the teachers found it more beneficial and effective approach in engaging learners learning. It implied that the utilization of the digital technology could bring excitement for learners to learn important skills.

Significant Difference Between the Perception of the Teachers and their School Administrators on How Effective the Digital Storytelling Approach for Engaged Learners in Learning.

Table 5 deals on the comparison between the perceptions of teachers and their School Administrators on Digital Storytelling an Approach for Engage Learners Learning.

Table 5

Significant Difference Between the Perception of Teachers and School Administrators on Digital Storytelling Approach

Effects of Digital Storytelling	Teachers		School Administrators	
	AW M	DE	AWM	DE
1. Provide context and often present real problem.	2.34	HE	2.36	HE
2. Evoke emotions which make learning more effective.	2.35	HE	2.35	HE
3. Arouse curiosity and interest capturing students attention and engage them in the educational process.	2.40	HE	2.39	HE
4. Creates mantel images which simulate imagination and shape of the brain development.	2.38	HE	2.2.39	HE
5. Increase concentration and improve reading, verbal, and listening skills.	2.30	ME	2.31	ME
6. Improve understanding of the cause and effect and the relationship between them which facilitate understanding of the plot, and enhances the ability to predict the following event.	2.35	HE	2.36	HE
7. Boost the critical thinking and listening comprehension skills.	2.34	HE	2.34	HE

8. Form a structure and create a flow of information building relationship between the events and increase their significance, makes the material easier to researcher and recall.	2.30	ME	2.30	ME
9. Make learning easier and more relaxing by presenting the information in a safe context, and in a well-known form.	2.35	HE	2.36	HE
10. Develop understanding and respect for other cultures, promote the acceptance and tolerance of cultural, religious, and political difference.	2.35	HE	2.40	HE

The computed t-value: 1.52

Alpha: 5%

Critical Value: 2.228

Decision: Accept the null hypothesis “There is no significant difference between the perception of teachers and their school administrators on how effective is a digital storytelling approach in supporting teachers to effectively integrate digital technology into learning”.

Data in table 5 showed the computed t-value of 1.52 is lower than the critical value of 2.228. This implies that the null hypothesis is accepted. It means that there is no significant difference between the perceptions of the teachers and their school administrators on how effective is the digital storytelling approach in supporting teachers to effectively integrate digital technology into learning. The perception of the teachers and their school administrators does not contradict with each other.

Problems Encountered by Teachers

Table 6 deals on the challenges / problems encountered by the teachers in using digital storytelling as an approach for engaged learners learning as perceived by the teachers themselves.

Table 6

Problem Encountered by Teachers In Using Digital Storytelling

Challenge / Problems Encountered by Teachers	Teachers		Rank
	AWM	DE	
1. It is easier to confuse the motifs if you use the narrative.	2.25	MS	4
2. The learners may associate the problems with a wrong solution if the stories are not told right away.	2.53	VS	3
3. It is not always possible to tell stories in a convincing and supply story about the topic.	2.23	MS	5
4. The stories are long, concrete and not linked to each other.	2.63	VS	1
5. Too many elements of the story, and learners may get caught up with details instead of focusing on the main message.	2.54	VS	2
Total Average Weighted Mean	2.43	VS	

Table 6 revealed that most of the problems were very serious and ranked accordingly such as the



stories are long and linked to each other (2.63) ranked one; rank two is too many elements of the story and learners may get caught up with details instead of focusing on the main message (2.54) followed by ranked three which was on learners may associate the problems with a wrong solutions if they stories are told right away (2.53).

The findings implied that the teachers had the difficulty of emphasizing the main point of the story and the perceptive of the author. Sometimes there were serious issues that come alive in a personal and powerful way and connect the story to the audience. In a nutshell the teacher and the learners failed to apply and consider the seven elements of digital storytelling such as point of view, dramatic question, emotional content, the gift of your voice, the power of the sound tract, economy and pacing. There contribute to the problem of using the digital story telling as an approach to let learners engage in learning.

Looking at the data further, it could be under scored that two of the problems were considered by the teachers as moderately serious such as it is easier to confuse the motifs to tell stories in a convincing manner and supply about the topic (2.23).

The findings implied that the teachers was did not find it so much different or a problem if she used the narrative and did not find it possible to tell the stories in an interesting and convincing manner as she supplies the topic with stories.

As a whole, the table revealed the fact of experiencing the difficulty of using digital storytelling with technology integrated approach for engaged learner's learning. The teacher needs to experience how to use the seven elements of digital storytelling to achieve the high effect of digital storytelling and to have a good result of teaching the lesson.

Proposed Measures to Improve/Enhance the Utilization of Digital Storytelling

Introduction

Using digital storytelling can be more profitable in teaching skills with the support of the variety of digital media such as mixture of graphics; text recorded audio narration, video and music to present information on a specific topic through the use of technology. (Joe Lambert (2016). It could be assisted with the knowledge of the seven (7) elements of digital storytelling. It could assist teachers in creating digital stories with their learners.

Many teachers apply digital storytelling in the classroom because it helps them overcome some obstacle to using technology in their classroom. It is a specially good technology tool because it has feature that can not be found in other technological tools. It combines researching, creating, analyzing, and combining visual images with written text which is a positive style in teaching (Robin 2005). In addition digital storytelling has a variety of application in the classroom including personal stories, narrating past events or being used as a means to teach on a particular topic.

The proposed measures in the form of action plan has the following parts.

1. Topics of Concern
2. Goals and Objectives
3. Strategies / Activities
4. Time Frame
5. Success Indicator

The actual contents of the proposed action plan can be found in the succeeding parts.

Proposed Action Plan

Topics/Areas of Concern	Goals and Objectives	Strategies / Activities	Time Frame	People Involved	Success Indicator
A. Utilization of digital storytelling. 1. Gain experiences to expand own knowledge 2. Meaning of learners experience and give values to them. 3. Communication to connect the past, present, future. 4. Learn and increase learning	Gain experiences in the utilization of digital storytelling to expand their own knowledge. Give meaning of their experiences and give value to them.	Lecture Discussion Group session Presentation of report using digital materials Discussion Lecture	Class hours Weekly As scheduled Unit evaluation Class hour Monthly	Teachers Learners Lecturer Learners Teachers Guests	90% of the learners should have used digital storytelling to expand their own knowledge and meaning of their experience and communicate ideas to connect the

<p>5. Help learners to learn inside/outside of the classroom</p>	<p>Communicate using digital storytelling to connect the past, present and future.</p> <p>Increase their own level of learning performance.</p>	<p>Research output</p>			<p>past, present and future.</p>
<p>B. Effects of Digital Storytelling</p> <ol style="list-style-type: none"> 1. Develop respect and cultures of other people. 2. Stimulate imagination and shape of the brain development. 3. Arouse curiosity and interest of the learners. 4. Present information in a safe context and in a well-known form. 	<p>Acquire and develop respect and cultures of other people through digital story telling.</p> <p>Stimulate imagination and shape the intelligence</p> <p>Arouse curiosity and interest of the learners</p> <p>Present information in a safe context and in a well known form.</p>	<p>Group work</p> <p>Reporting</p> <p>Sharing of ideas</p> <p>Lecture</p> <p>Discussion</p> <p>Group work presentation</p>	<p>Class hours</p> <p>As scheduled</p> <p>Class period</p> <p>As scheduled</p> <p>Class hour</p> <p>Class hour</p>	<p>Teachers</p> <p>Learners</p> <p>Guest lecturers</p> <p>Teachers</p> <p>Learners</p> <p>Teachers</p> <p>Learners</p>	<p>90% of the learners shall have enjoyed the effects of digital storytelling and gain experience to develop their imagination and arouse their curiosity.</p>
<p>C. Problems Encountered</p> <ol style="list-style-type: none"> 1. Associate the problems with a wrong solution if the stories are not told right away. 2. Stories are long and not linked with each other. 3. Too many elements of the story. 	<p>To associate the problem with wrong solution if the stories are not told right away.</p> <p>To treat the long and not linked with each other.</p> <p>Identify the elements of the story.</p>	<p>Reading session</p> <p>Tell stories</p> <p>Lecture</p> <p>Group work</p> <p>Sharing of work</p> <p>Sample digital storytelling and try to</p>	<p>Class hour</p> <p>As scheduled</p> <p>Class hours</p> <p>Class hours</p> <p>Class hours</p>	<p>Teachers</p> <p>Learners</p> <p>Guest lecturer</p> <p>Teacher</p> <p>Learners</p> <p>Teacher</p> <p>Learners</p>	<p>90% of the learners and teaches shall have availed of the importance of using digital mate rich to enjoy the benefits of the same to learn how to comment stories which are needed to understand</p>

		identify the elements of the story.			the elements of the story.
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Findings

The following were the findings after the analysis of the data.

1. Teachers often used the digital storytelling as an approach to engage learners to learn proven by the overall weighted mean of 2.62.
2. The teachers found the utilization of the digital storytelling as highly effective proven by the overall total average weighted mean of 2.35.
3. There were no significant difference between the perception of the teachers and their school administrators on how effective the digital storytelling into learning.
4. The problem encountered by the teachers were very serious proven by the total average weighted mean of 2.43.
5. The action plan can be developed improve or enhance the utilization of digital storytelling as integrated approach to engage the learners learning.

Conclusions

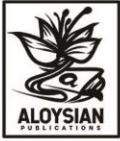
The findings were the conclusions based from the findings of the data.

1. Teachers found the digital storytelling as an integrated approach to learning more interesting effective.
2. Teachers were inspired to constantly use the digital storytelling which was found to be effective in teaching-learning process.
3. The teachers perception on the use of digital storytelling approach to learning did not contradict with each other.
4. The problem encountered by the teachers in using digital storytelling contributed to the side effect of performance of the learners.
5. The formulated action plan can be proposed to improve the utilization of the digital storytelling to engage the learners learning.

Recommendations

The following are recommended action based from the findings and conclusions.

1. Teachers should often promote the utilization of the digital storytelling as an integrated approach to engage learners learning.
2. Teachers should avail of the training on the use of the digital storytelling to strengthen and discover more the in-depth importance of the modern gadgets for learning and acquisition of important skills.
3. The teachers and school administrators should collaborate together to promote the utilization of the



digital storytelling.

4. The teachers should design important activities which are digitally motivated and inspired for minimizing the problem the problem encountered in using digital storytelling.
5. The promotion of the use of the proposed action plan is highly recommended to attain better learning and make learning more interesting.

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