

# Digital Stories to Enhance Cognitive Abilities among Learners

Jyothi Masuram<sup>1</sup> and Pushpa Nagini Sripada<sup>2</sup>

<sup>1</sup>Research Scholar, Sathyabama Institute of Science and Technology, jyothi.masuram@gmail.com

<sup>2</sup>Professor of English, Sathyabama Institute of Science and Technology  
pushpa.english@sathyabama.ac.in

**Abstract**—Digital stories are widely being used in the classroom as a part of teaching methodology among low proficient learners to improve language skills. This paper represents the findings of a project which projects digital stories as a pathway to improve cognitive skills among students with low level thinking. A digital story is a combination of a wide range of visuals such as pictures, videos, images with an audio which brings enthusiasm in students to gain the knowledge of language and other subjects. This project is a longitudinal study to investigate the association between digital storytelling and cognitive skills to understand the effects of digital storytelling on the brain development of learners. This research involved students with a variety of digital stories exposing with the help of technology and later on various cognitive tasks were conducted to test their brain development on students in Hyderabad on select students. It was found from observations and data collection through various tasks that the functioning of the brain of students boosts cognitive skills after being taught them with stories and students tend to be more creative and sharper. It has been found that digital storytelling brings creativity, improves critical thinking and builds self-confidence in students. It can help learners in learning the subject in depth and understand the concept and idea of the lesson and also helps to become good language communicators.

Hence the findings came up with the result that digital storytelling using multimedia has a positive impact on students and it is a good teaching approach to develop memory, visual skills, creativity and cognitive skills. It also exposed them with good vocabulary and development in their communication skills.

**Index Terms**— Digital Storytelling, Language Skills, Critical thinking, Cognitive Skills, Pictures.

## I. INTRODUCTION

In recent years the use of technology has increased worldwide with digital cameras, computers, laptops and software have become widely available to learners to harness the digital world in the education system. The impact of these new technologies in educational system has been accepted positively as they have given the learners, the opportunity to enhance their skills and knowledge in enhancing the standard of education. Researchers have found that learner's engagement and motivation are improved through introduction of such technologies. However, educators still face many challenges: one of these challenges is to bring student engagement in learning process to provide better educational outcomes.

All English teachers face a big problem while sustaining learners' interest all through the lessons. Teachers have to be creative in terms of the techniques they use to bring novelty in their teaching. One interesting way of maintaining learners' motivation and interest is by using stories in English. Stories are a popular medium, largely visual and have a great influence on young learners because they have a great impact on the learner firstly because they offer interesting themes and secondly they have a major input and in the end they are able to express what they want using what they were exposed to.

## II. DIGITAL STORIES THROUGH PICTURES

In the history of human development, storytelling is a powerful tool for sharing the moral values and exchange knowledge. Storytelling, in general, is a powerful pedagogical approach that can be used to enhance learning outcomes for general, scientific and technical education (Sharda [2007]). A digital story can be viewed as a merger between traditional storytelling and the use of multimedia technology (Normann [2011]). As the essential technology is being used in the classroom, storytelling has not been fully recognised as a powerful tool for developing students' language skills and achieving the present century outcomes. Digital storytelling is a useful tool that can be implemented into any classroom and used for any number of subjects and topics. As technology is becoming more and more prevalent in today's society, children are becoming familiar with it at a younger and younger age. Teachers may not know how to keep their generation of students interested in certain topics. Digital Stories through pictures is just one technological option for doing so. Students and teachers will both benefit from creating and using digital stories.

Digital storytelling is a modern way to share ideas, thoughts, and stories. It is a curriculum that uses technology with communication, literacy skills, and language arts. It includes the use of technological devices such as the computer and Internet to morphs words with narration. Digital stories can include mixtures of computer-based images, text, recorded audio narration, video clips and music. Educational stories tend to last between two and ten minutes. Most digital stories focus on one specific topic and should be told from the first person point-of-view. Digital stories can be implemented into a number of subject areas such as math, art, language arts, and music. Many educational institutions have already been exploring the application of digital storytelling for the past few years (Robin [2008]).

There are said to be seven elements of a digital story. These elements can be used as a guideline for a beginner of digital storyteller. The elements include the following: point of view, dramatic question, emotional content, gift of voice, power of the soundtrack, economy, and pacing. Point-of-view is the main point of the story and the author's perspective. The dramatic question refers to an engaging question that holds the viewer's attention until the question is answered at the end of the story. Emotional content refers to the more serious issues that connect the storyteller to the viewer. The gift of voice is the personalized touch to the story which helps viewers understands story content. The power of the soundtrack is the music that is added in order to create a more enticing story. The economy refers to minimizing information to maximize interest and the pacing refers to the slowness or quickness of the story's progression. It is a great alternative to traditional teaching strategies. Students will be excited to use technology. We can use digital storytelling to teach a variety of lessons that will get class involved. Digital storytelling can be utilized in any subject. Creating an interactive lesson or story that gets students involved will deter them from using a traditional text book that they may find boring.

There are three types of digital stories seen in the classroom:

The first type of digital storytelling, *personal narratives* are created using first-person narrative and tell a personal story or experience. Personal narratives are character stories (how we love, who we are inspired by, importance of finding meaning in our relationships), memorial stories (dealing with memories of those no longer with us), stories about events in our lives (travel adventures and accomplishments), stories about places in our lives (homes, towns, communities), stories about what we do (jobs and finding meaning in our work) and other personal stories (recovery, love, discovery). The second type of digital storytelling, examinations of historical themes and events, is based on material students explore and research themselves. This type of digital storytelling enhances research and organizational skills. The third type of digital storytelling, stories that inform or instruct, can be created to deliver instructional content on many different topics.

### *A. Classroom Uses*

Digital Storytelling helps build a **classroom community**. Students are able to share in a way that quickly instills a positive classroom environment and draws attention to student voices. When a student shared his or her story, they receive positive comments, then suggestions from the class, and finally have a chance to ask the audience any questions about their digital story. The storyteller just listens to the class feedback and does not defend or explain during this time. This approach can be used for all types of sharing, but found it particularly effective to help students see themselves as authors with a purpose. Digital stories allow students to prepare themselves and their writing for a bigger audience someday.

Teachers can utilize digital stories in the classroom by presenting classroom rules and expectations to students in the beginning of the school year so students are not just listening to teachers talk. Digital stories allow students to introduce themselves in the beginning of the year. Students would rather make a fun presentation about themselves than write a paper. Students are excited to use technology in their classroom and digital storytelling is a great opportunity to do so. In this way teaching becomes an **interactive approach** between a student and teacher rather than the traditional teacher centered classroom.

- By expressing their own experiences, students can create their own personal stories. Digital storytelling also has many benefits for improving children's skills.
- Digital stories will serve as a lesson hook. It will also serve as a way to integrate multimedia technology into the classroom. Students may be able to understand content better when it is expressed in a technological way which tends to be more exciting and engaging. Also, digital stories can spark classroom discussions.

Creating digital stories will benefit students. Students may potentially acquire several skills while working with this type of technology. They may develop research skills, writing skills, organization skills, technology skills, presentation skills (public speaking skills), interview skills, interpersonal skills, problem-solving skills, and assessment skills.

### *B. Mistakes when teaching through Digital Stories*

- Many teachers do not have experience with the technology used for teaching digital storytelling. Teachers may need to attend workshops and specialized training may be required before digital storytelling can be used.
- It may be difficult to set up a time limit for the entire class to finish their projects. Some students may grasp the idea and run with it while other students will take a longer time getting used to the technology and the idea of not using pencil and paper to write stories. Teachers should be flexible in these instances and open to project extensions.
- Just like with other usages of technology, using digital storytelling can have technical problems. Technology used to create digital stories is expensive. Some schools may not have the means to provide such technology to every classroom.

### *C. Significance of the study*

Since the main objective of this research is to find out the benefits of digital storytelling on student brain development but also will prove as a powerful tool which will lead to keep engaged learners with teachers. This study focuses on how to introduce digital storytelling in the classroom, explaining teacher responsibilities and student activities this research gives a clear picture of how to integrate digital storytelling into schools. Also, it is expected that the outcomes of this study will form new environment in the classroom. It explored the use of digital storytelling in the primary curriculum. Students and teachers had the opportunity to engage in innovative learning experiences with the use digital storytelling in selected classrooms. The findings of this research project aimed to help teachers to tap into the power of digital storytelling and enhanced in more engagement of students in learning process.

### *D. Research Method*

This research aims to discover the development of students' cognitive outcomes through digital stories using pictures. It also articulates how digital storytelling is effective for students in their education and brain development. Therefore, the aim of this research is to bring up a teaching method of gaining knowledge through digital storytelling, the results of this study aim to help teachers and learners expose to the power of digital storytelling and involve in more engaged in teaching and learning process. The students are from a low socio- economic background and selected using simple random sampling technique taken as control group and experimental group . The data collected was to assess the language skills and cognitive ability of the

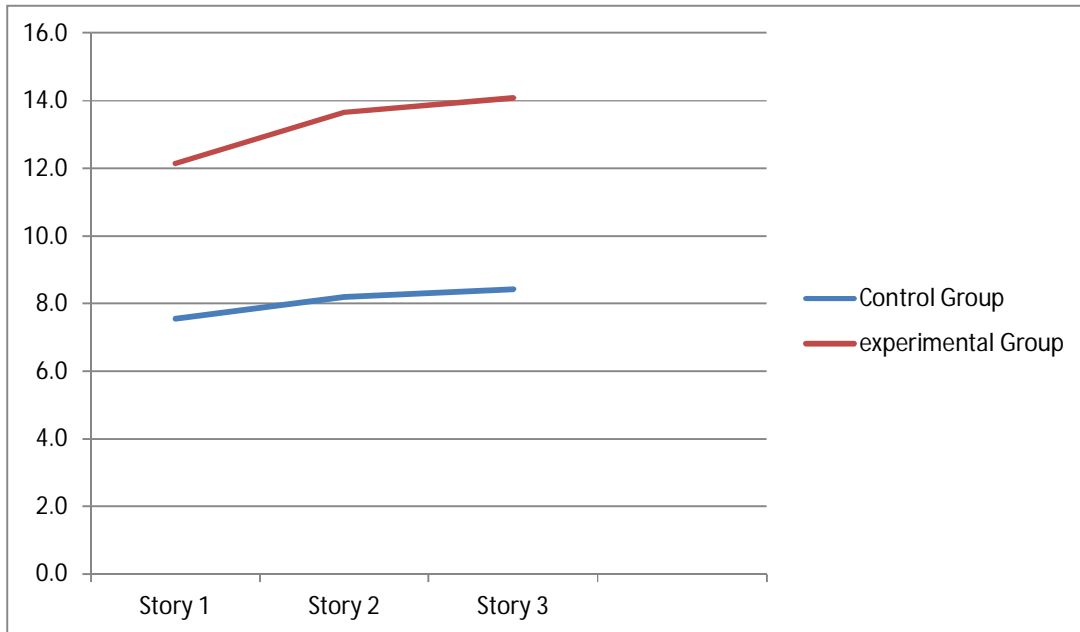
students. In this study, digital stories were introduced to students as learning media using technology such as digital picture series images. The video contains many topics depicting the life of people namely moral values, sharing knowledge, emotional themes, and stories with fun.

They were exposed to picture series images of stories on regular intervals for one year of duration as regular classes in the classroom with listening to narrator narration of every story. Interviews and observation were used to collect qualitative data. Data collection and data analysis of the feedback provided by students and teachers thoroughly assessed to evaluate the advantages of digital storytelling. To achieve a complete picture of these phenomena, both quantitative data and qualitative data has been collected. The timed interval observation sheet is divided into a variety of components, each variable observed in the classroom is analysed for the percentage of time each variable. Classroom observations, teacher interviews, questionnaires were also collected. Cognitive tests such as reasoning ability wer conducted at the end of the research.

### III. RESULTS

The findings of teacher interviews explores that digital storytelling is an effective tool to help students improve their language skills, technical skills and digital literacy. Students have the opportunity to opt for the skill they are interested in and want to work on and improve their brain development. This may include individual skills, such as spelling and reading, also interpersonal skills such as teamwork, or collaborating, interacting and engaging more with students and teachers. It was also found that in every class engaged in digital storytelling, one student acted like a tutor. This student not only worked on the project, but also helped peers in terms of understanding the stories. Hence, students are empowered to use their skills, and improve them.

Comparison and overall performance of average scores of both Control and Experimental groups testing on their vocabulary, comprehension, grammar and cognitive abilities.



It was also observed from the study that the benefits of digital stories are

1. Enabling the teacher by making the learning process more meaningful.
2. Encouraging them to develop creative thinking.
3. Cultivating speaking and critical thinking skills.
4. The students were able to performing well in the cognitive tasks.

Language skills such as parts of speech, vocabulary, comprehension, picture-elicitation, act of story retelling were drastically improved.

#### IV. CONCLUSION

Every year students are becoming more and more technologically savvy, sometimes leaving teachers behind in the dust. It is vital that teachers find ways to teach students which are excited and engaging in order to enhance learning. Students that may not be interested in English or writing may take an interest in telling a story technologically. Some students are able to be much more creative when they can use a computer and other technological resources. There are many more advantages of digital storytelling than disadvantages. Advantages such as literary advancement, increase of creativity, community-building, and skills trump disadvantages such as teacher training necessary to work with this technology. Teachers are always receiving new training to acquire skills necessary to make their classroom more suitable for upcoming generations of students. Digital storytelling training would not any more complex than any other technology training. If digital storytelling is attributing to student success and creativity, it should be implemented into school curriculums.

The advantages of using stories in class are great in number. They can be used for vocabulary topics, for example parts of the body, names of the flowers, and also help learners to concentrate and develop their memory and vocabulary from early stages. They also help them to develop their listening and speaking skills. Stories represent an important part in learning English, though it can be seen as a less significant thing, working with stories can massively improve and enhance the students' vocabulary, imagination, fluency and way of talking and speaking about different things. Storytelling is an important listening activity; it helps to build student's listening skills. Teaching writing through stories is to help students realize what they know about writing, so that the teacher can help them more effectively with their writing and help them gain a clearer picture about what they are going to write next

This study is aimed at making digital stories with the help of pictures are to be a great tool for teaching in developing student's language skills and also boosts cognitive skills, helps in the brain development. Teaching the language through digital stories allow them to use different strategies from different language methods. This combination has a tremendous impact on learners because learning becomes fun, motivating, memorable, innovative, interactive, engaging and lasting. It benefits students in appeals to personal interests, encourages talking about the story with the reader, facilitates time for talking about new or interesting words in the story, relates to familiar experiences, suggests trying out new experience, corresponds with the level of understanding and span of attention.

#### REFERENCES

- [1] Clarke, Robert and Adam, Andrea. (2010). Digital storytelling in Australia. *Arts and Humanities in Higher Education* 11. 1-2, 157-176.
- [2] Bull, G. and Kajder, S. (2005). Digital storytelling in the language arts classroom. *Learning and Leading with Technology* 32. 4, 46-49.
- [3] Alexander, Bryan. (2011). *The New Digital Storytelling: Creating Narratives with New Media*. Santa Barbara, CA: ABC-CLIO, LLC.
- [4] Robin, B. R. (2008). Digital storytelling: a powerful technology tool for the 21st century classroom. *Theory into Practice* 47. 3
- [5] Mellon, C. A. (1999). Digital Storytelling: Effective Learning through the Internet. *Educational Technology* 39.2, 46-50
- [6] Robin BR: Digital storytelling: a powerful technology tool for the 21st century classroom. *Theory Into Pract* 2008, 47(3):220–228. 10.1080/00405840802153916
- [7] Sadik A: Digital storytelling: a meaningful technology-integrated approach for engaged student learning. *Educ Technol Res Dev* 2008,56(4):487–506. 10.1007/s11423-008-9091-8
- [8] Sharda N: Movement oriented design: a new paradigm for multimedia design. *Int J Lateral Comput* 2005, 1(1):7–14.
- [9] Sharda N: Applying movement oriented design to create educational stories. *Int J Learn* 2007, 13(12):177–184.