DIGITAL STORYTELLING AS AN INSTRUCTIONAL MEDIA TOOL WITHIN THE ELEMENTARY SCHOOL EDUCATION: A SYSTEMATIC REVIEW

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Abstract--- Although Digital Storytelling (DST) was definitely a popular educational media tool in training from the 1990s, there is a lack of evaluation of DST effectiveness in elementary schools' training. For this reason, a systematic approach in reviewing existing literature has been used. Research articles were searched in electronic databases applying "digital storytelling" as a keyword and in the aspect of the "elementary school education." The systematic review listed 24 publications that meet the requirements above. Our analysis shows that the adoption of DST in the Asian and European countries has increased over the years. Upon content analysis, it was found that studies about DST in classrooms started in 2008, with the number of studies growing yearly and the highest number of studies conducted in Asian countries. The experiments had been mainly carried out in language guidance, accompanied by science learning. As a result, observational research is required to track the effect of DST studies and information on DST in the elementary school classroom. It's extremely hoped the paper would find that DST is able to offer a strong learning experience covering a lot of what society expects will be noted and able to do within the 21st century.

Keywords--- ICT, Instructional Media, Digital Storytelling, Education

I   Introduction

In this century, education and learning take place using the latest notions and techniques, for example, computers, the Internet, multimedia, audio, video, and animation (Ohler, 2008). Today, Internet access can be reached from everywhere, including cell phones, through technological development and Internet resources. As people begin to have access to the Internet independent of time and space, Internet usage is growing (Karakoyun & Kozu, 2016) and people are obtaining information everywhere and anywhere. The advancement in ICT leads to knowledge appearing in various formats, namely audio, video, animation, and mixture. This, in turn, contributes to the improvements in the world of education and training. Incorporating digital storytelling (DST) in the learning of different subjects, according to several research works, has created learning prospects in many fields, namely facilitating the learners in enhancing study capacities, organizational abilities, and interest for the subject (Salpeter, 2005). DST is also found to be an effective tool to help students better understand, and gather,

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develop, evaluate, and integrate visual pictures with written text (Burmark, 2004), help struggling learners to see and visually communicate text (Hafner & Miller, 2011).

In Malaysia, several studies on DST have shown that DST has succeeded in enhancing learning. Norhayati and Siew (2004) pointed out that students were capable of defining moral values better in moral education-related subjects and were drawn to this form of learning. Krish, Hussin, and Sivapuniam (2011) reported that researches on the reception of Malaysian students in technological advances have been largely encouraging.

DST differs from conventional storytelling because it ensures interaction and enables people to form their tales, not only by playing the role of viewers but also by using data and communication technology to tell stories. DST focuses on the incorporation of storytelling with multimedia for certain purposes in literature, for example, text, photographs, audio, music, and video. DST is widely used in various disciplines, including education, medicine, communication, tourism, and sociology. DST is used for many reasons, for example, to tell people about significant events in life, to examine historical events to understand their background, and to provide educational information (Donner, 2002). Digital stories are short videos created through the integration of image, video, context, and are an audible or written narration via certain simple hardware and authentic software (Wang & Zhan, 2010). DST produces meaningful stories representing the imagination of individuals (Robin & Pierson, 2005). Info-based, instructive, and personal stories can be targeted towards digital stories (Robin, 2008). Digital stories can vary from personal or educational stories to accounts of historical incidents and various fields, from social science to technology. Education innovations have gradually materialized in the education and learning world; therefore, as many academicians, scholars, and educators have stated, digital stories have, become common in the school environment and different study areas (Banaszewski, 2005).

DST is an effective teaching and learning technique or method to build communities, to connect, to reflect on their experience, and to promote teaching (Robin, 2008). DST has made a significant contribution to the development of students through various skills, including literacy, critical reading, troubleshooting, critical thinking, and communication. Teachers can use their own stories in schools to bring teaching into action or require students to create digital stories to make abstract topics more comprehensible in conceptual content, encourage discussions of topics, or enhance current classrooms (Chang, 2017). Therefore, DST can be seen as a tool for teachers and learners to adopt new technology and acquire new skills in literacy. Jacobsen, Clifford, and Friesen (2002) maintained that teachers who have regularly been challenged to apply ICT devices are often new to those tools and have less technical expertise than the students.

In Malaysian classrooms, the ICT program in the region of internet learning and teaching has risen recently. Kumar et al. (2008) found a moderate connection between Actual Computer Usage (ACU) and secondary technical acceptance; nevertheless, the researchers found the attitude and perceived helpfulness and usability concepts (among other things) demonstrated significant positive relationships with AUC. This indicates that the use of technology was generally positive, although its real use was only mild. The failure of the teachers to introduce more technology into their teaching tend to answer the question of why the use of DST was moderate (Singh, T.K., & Muniandi, K. (2012)

This research seeks to display the present problem of DST in chief education by systematically reviewing the literature on DST and also the context of primary school. It is, therefore, intended to define DST in the education

field and the research methods that were used to incorporate DST based on various criteria. To the very best of the authors' expertise, there have been no previous systematic ratings on this subject.

II METHODS

A systematic review of the literature by experts was carried out on 15 December 2019 to define DST as an Instructional Media (IM) tools within the elementary school education. Peer-reviewed literature was scoured for studies of DST in the classroom content from two research databases (SCOPUS and WEB OF SCIENCE). The search terms were (Digital* OR media*) AND (storytelling*) AND (classroom*). Two researchers independently searched and deleted duplicate articles. The same researchers performed a title and abstract screening evaluation of the materials. Other publications were thoroughly read and analyzed based on the requirements for inclusion. The researchers summarized the included studies separately on samples, study design, data collection methods, and the interpretation of findings. A reviewer divided every article into two categories, namely research papers and systematic reviews of past studies. To identify relevant sources, a systematic review of previous studies was also included for a full-text analysis; however, the current systematic review does not include these reviews.

In this systematic review, the DST concept focuses primarily on the classroom setting. The included studies were qualitatively synthesized throughout the studies with a brief analysis of specific subjects.

III RESULTS

A peer-reviewed literature search resulted in 95 articles, five of which were duplicates and removed from the list. Forty-two papers were omitted from the analysis after the review of the titles and abstracts, and the remaining 48 articles were included for a full-length evaluation. Finally, from the 48 articles, only 24 articles qualified for the analysis, while 24 articles were omitted. Among the 24 excluded articles, two conference papers (Aronson et al., 2016; Treadwell et al., 2011;), three educational reviews (Kane et al., 2002; Takacs et al., 2015; Greene et al., 2018), 16 types of research did not present any relevant data for the current systematic review (Beucher & Seglem, 2019; Benick, 2012; Gon et al., 2017; Miyaji, 2018; Matias & Grosland, 2016; McGovern, 2019; Price et al., 2015; Rahim, 2012; Kordaki & Psomos, 2014; Kobayashi, 2012; Nam, 2017; Roberst, 2019; Starcic et al., 2017; Esteban Nunez & Gomez Rios, 2019; Diaz, 2016; Mojgan & Mosayeb, 2018;), and one study did not provide first instance data (Saubern et al., 2019).

The 24 included studies are summarised in Table 1. The included studies were published on 2018, with three studies each conducted in Indonesia (Nurul, 2017; Suhartoo et al., 2018; Dewi et al., 2018), Taiwan (Yang et al., 2012; Chian et al. 2016), the USA (Zaidi et al., 2017; Robin, 2018), followed by two studies in Iran (Moigan et al., 2018; Bashirnezhad & Yousefi, 2017), Portugal (Morais et al., 2019a; Morais et al., 2019b), one study in Turkey (Ozen et al., 2019), Italy (Di Bals et al., 2010), Greece (Rammos & Bratitsis, 2018), Austria (Alexander, 2018), Saudi Arabia (Eissa, 2019), Pakistan (Elahi et al., 2015), Malaysia (Thang et al., 2015), the UK (Wright et al., 2019), Australia (Smeda et al., 2014), Egypt (Sadik, 2008), and Korea (Nam, 2017).

All but seven of the included studies focused on DST effectiveness in the primary school classroom. The 7 articles are DST for nursing classes (Price et al., 2015), storytelling and also mothering (McGovern, 2019), an

evaluation of autobiographical resources in written manifestation (Robert, 2019), 4 research centered on the traditional technique of storytelling minus the utilization of technologies (Rios and Nunez, 2019; Gon, 2017; Kirsch, 2016; Piipponen, & Karlsson, 2019).

IV DISCUSSION

Peer-reviewed literature documenting DST as a digital classroom aid was systematically examined for the first time to determine the efficacy of increasing the subject skills of primary students. We reviewed 24 research articles and evaluated the patterns and outcomes of the DST analysis in this systematically analyzed literature on DST. Our review shows a continuing dependence on DST. Indonesia has the most studies in our analysis of this topic. DST participants vary among the primary, secondary, and higher education institutions. When the articles were analyzed, it was determined that the original contexts of those articles were English language teaching (N= 14), followed by Chemistry and Science (4), Mandarin (1), Turkish (1), Math (1), Computing (1) History (1) and General study (1).

Our search identified one peer-reviewed article that matched our topic, authored by (Dewi, N. R., Savitri, E. N., Taufiq, M., & Khusniati, M., 2018). This research was conducted for eight weeks in a primary school in Bandung, Indonesia, as an additional school project. The students' language skills ranged from basic to intermediate. Before this project was initiated, the students were asked whether they were ready to join the project voluntarily and whether they had access to their mobile phone and a reliable Internet connection. The study included an English teacher to assist the researchers in helping the students to focus on their DST project. As Reinders (2011) stated, students, can develop their linguistic skills and create digital biographical narratives about the life of outstanding personalities through story writing and digital storytelling. When writing scripts, the students were more optimistic about writing longer stories, as their peers and teachers gave constructive feedback. The students could also develop their pronunciation and intonation in storytelling by rehearsing their narrative several times.

No	Author	Country	Type of paper	Subject	DST enhanced student learning	DST increased classroom participation	Summary
1	Yang et al. (2012)	Taiwan	Research	English	Yes	Yes	The performance of DST partakers was substantially better compared to lecture-type ITII partakers in the aspects of English accomplishment, critical thinking, and learning purpose. The DST's vital learning great was highlighted in the job interview results because the teacher and learners indicated DST enhanced elements, such as learner's comprehension of subject content, willingness to enjoy,

							and capability to think critically, that's vital in preparing learners for dynamic modifications to come down with 21st century.
2.	Alexander (2018)	Austria	Research	English	Yes	Yes	2 classes of co creativity, namely engaged control and action, were shown by learners in the electronic story writing stage. Learners alter various methods of engagement and immersive intensities of committed work by offering, acquiring, sharing, or restricting control in the tasks of digital story-writing. Learners experienced co-creative flow as shared pleasure and excitement, which materialized via full immersion in the functions of the digital story-producing stage, where control and rationality were not present.
3.	Chao-Fernandez et al. (2017)	-	Conference	Music	Yes	Yes	The application of online DST resulted in an increased level of musical appreciation in the whole group, specifically among the learners who were the centre of the research, who became more incorporated into the class and whose self-esteem improved significantly.
4.	Eissa, H. M. S. (2019)	Saudi Arabia	Research	English	Yes	Yes	The students of the chosen tertiary institutions faced hardship in speaking English, discovered that using DST as a pedagogy assist the learners in building their speaking abilities. These results help Saudi Arabia's EFL instructors in establishing a favourable environment in and out of their lessons, that will encourage the students to converse in English efficiently.
5.	Suhartono et al. (2018)	Indonesia	Research	English	Yes	Yes	In order to explain the progression as well as quality of DST press improvement with a paired storytelling mastering standard to improve the speech skills of second grade pupils of Annur Surabaya Islamic Elementary School.
6.	Setyarini et	-	Conference	English	Yes	Yes	Higher-Order Thinking was endorsed to educate

	al. (2019)						teenagers English in all learning sessions via different approaches, namely questioning, brainstorming, role-playing, mind-mapping, discussing, and forming new thoughts written in storytelling. As learners could convey their ideas critically safely, they found this learning framework fun and enticing. The learners can associate their previous knowledge and experience too.
7.	Mojgan et al. (2018)	Iran	Research	English	Yes	Yes	Findings demonstrated that role-playing application in storytelling lessons had a substantial impact on young Iranian EFL students' story writing over the approach of reading stories aloud. Moreover, the results indicated applying role-playing in storytelling lessons improved students' comprehension of the story writing style and forms of the focused language.
8.	Elahi et al. (2015)	Pakistan	Research	English	Yes	Yes	Pakistan's educational policy recognized the significance of information technology in learning and teaching practice. This research illustrates the efficiency of DST against the conventional and learners' digital learning process at elementary schools. Qualitative research approaches such as interviews with teachers and youngsters and classroom observation were used in this research. The outcome of the study indicates DST can be applied effectively as a significant strategy with this group.
9.	Chiang et al. (2016)	Taiwan	Research	English	Yes	Yes	DST improved students' imaginative thinking extremely. Students' reactions on the use of English readers and DST instruction had been encouraging.
10.	Nurul (2017)	Indonesia	Research	English	Yes	Yes	Speaking is a crucial proficiency that must be exercised in the classroom. This result suggests that teaching skills via reading and storytelling approach can

						enhance the speech capability of the learners.
11.	Morais et al. (2019)	Portuguese	Research	Science	Yes	Yes	The interaction between the older learners and also the pre-schoolers was discovered to be advantageous for the 2 groups, as this task encourages knowledge gain. From the queries they presented, the informal interactions, and their drawings, the younger learners were observed to understand the theories, like the discussions, and be interested in pursuing science in the "storytelling moment" and first-hand tasks with the pre-schoolers. This research demonstrated that the application of stories and first-hand tasks is a constructive approach in encouraging youngsters to study chemistry.
12.	Blas et al. (2010)	Italy	Research	English	Yes	Yes	Some distinct elements and advantages associated with the application of DST are investigated in this study, concentrating on two particular problems: a) How digital storytelling can become "collective," that is, including the entire class, instead of individuals or small crowds; b) How digital storytelling can be incorporated into regular syllabus tasks at school, creating significant learning advantages.
13.	Dewi et al. (2018)	Indonesia	Research	Science	Yes	Yes	Science DST could enhance learners' cognitive skills. The N-gain calculation values are 0.48 and 0.42 for experimental class one and class two, respectively. The enhancement of learners' cognitive abilities on both levels was moderate. Tremendous progress was evidenced by the new classes in the conventional completeness of learners' cognitive abilities.
14.	Thang et al. (2015)	Malaysia	Research	Mandarin	Yes	Yes	Examinations demonstrated that DST that merges storytelling with various digital audio, video, multimedia pictures effectively improves

						language learning in multiple contexts. DST is observed to inspire learners while enhancing their interaction, social, and technology abilities. The establishment of DST improves teachers' and learners' experiences in different ways. Even with weak points, the Mandarin mentor was eager to continue using it in the classes of his.
15.	Wright et al. (2019)	United Kingdom	Research	English	Yes	Yes	Results indicate using storytelling consistently in classes would be useful for primary school teachers to build youngsters' spoken language, helping them to understand the stories. Enhanced spoken language abilities can result in the kids often participating in class discussions, providing more extended responses to teachers' queries, feeling a better delight in and commitment to language and literature, that could lessen extensive issues related to language challenges, for example, classroom disturbance and behavioural troubles.
16.	Smeda et al. (2014)	Australia	Research	English	Yes	Yes	This study indicates that DST can aid learners with special needs, such as ESL and VCAL learners. Furthermore, DST is able to help learners in raising the confidence of theirs and provides to better social and mental abilities.
17.	Sadik, (2008)	Egypt	Research	English, Science, Math & Social	Yes	Yes	Teachers could be motivated to apply DST in preparing stories about their classes and learners and relate to colleagues from different schools to develop their own cooperative learning spaces.
18.	Zaidi et al. (2017)	USA	Research	Computing	Yes	Yes	Findings provide a proof which offers a string of courses encompassing Scratch by a variety of learners with ample female role models (four females as well as male student) who might change the mindset of children on computing.
19.	Nam (2017)	Korea	Research	Chemistry	Yes	Yes	DST impacts learner accomplishment, social existence, attitude in online cooperative learning

							conditions.
20.	Ozen Et al (2019)	Turkey	Research	Turkish Language	Yes	Yes	The majority of the learners desired to have digital production tasks in Turkish subjects, and that they prefer to prepare their stories using computers rather than writing in conventional methods.
21.	Morais Et al. (2019)	Portuguese	Research	Chemistry	Yes	Yes	This constant research focuses on the need to improve the storytelling and additionally exercises to impart chemistry to a crowd attending not just the cognitive skills of theirs, social representations, and also context; but in addition to the own specificity of this particular science.
22.	Rammos & Bratitsis, (2018)	Greece	Research	History	Yes	Yes	The growth of the differentiated teaching model on the chapter of sixth class History, which includes the design and production of a learning game using ICT through peer teaching educational material.
23.	Robin, (2008)	USA	Research	General Topic	Yes	Yes	This paper explains the technological pedagogical content knowledge (TPCK) framework and discusses how the framework can be applied with DST.
24.	Bashirnezhad & Yousefi, (2017)	Iran	Research	English	Yes	Yes	The research focused on storytelling listening effect on Iranian intermediate EFL learners' pronunciation. The study revealed that the planned DST curriculum was efficient as it increased the student's enthusiasm to improve their pronunciation.

There are two limitations in this study. First, we only concentrated on and reviewed the 24 high-quality studies in our systematic review because of the limited time and resources. Second, we wanted to include an overview of the functions of the teacher. Such knowledge is, however, sometimes incomplete and, therefore, inadequate for a meaningful analysis. Additional empirical research may also include the role of the instructor in DST for further comprehension.

V CONCLUSION

Overall, this study described the broad trends in the usage of DST in classrooms. This research was limited to 24 reviews that were obtained from electronic databases through a survey conducted with keywords "digital

storytelling." It is, therefore, possible to achieve broader results, taking into account the research expected to be undertaken in the future, by conducting inquiries in various contexts with different key terms in multiple databases and by reviewing published studies to establish an improved framework for future studies.

REFERENCES

1. Al-Khateeb Ahmed, A. (2019). Socially orientated digital storytelling among Saudi EFL learners: An analysis of its impact and content. Interactive Technology and Smart Education, 16(2), 130-142. DOI: 10.1108/ITSE-11-2018-0098

2. Aronson, K.M., Stefanile, C., Matera, C., Nerini, A., Grisolaghi, J., Romani, G., Massai, F., Antonelli, P., Ferraresi, L. and Brown, R. (2016), Telling tales in school: extended contact interventions in the classroom. J Appl Soc Psychol. 46: 229-241. DOI:10.1111/jasp.12358

3. Banaszewksi, T. (2005). Digital Storytelling: Supporting Digital Literacy In Grades 4 – 12 (Thesis, Georgia Institute of Technology).

4. Barrett, H. (2006). Researching and Evaluating Digital Storytelling as a Deep Learning Tool. Paper presented at the Society for Information Technology & Teacher Education International Conference 2006, Orlando, Florida, USA. https://www.learntechlib.org/p/22117

5. Bashirnezhad, H., & Yousefi, A. (2017). Digital Storytelling Listening Influence On Iranian Intermediate Efl Learners' Pronunciation. Digital Education Review. Conference Proceeding.

6. Beucher, B. & Seglem, R. (2019). Black Male Students Negotiate Ways of Knowing Themselves During Digital Storytelling. Learning Landscapes, 12(1), 47-62. https://doi.org/10.36510/learnland.v12i1.978

7. Benick, G. (2012). Digital Storytelling and Diasporic Identities in Higher Education. Collected Essays on Learning and Teaching, 5. p147-152

8. Blas, N. D., Paolini, P., & Sabiescu, A. (2010). Collective digital storytelling at school as a whole-class interaction. Paper presented at the Proceedings of the 9th International Conference on Interaction Design and Children, Barcelona, Spain.

9. Burmark, L. (2004). Visual Presentations that Prompt, Flash & Transform. Media and Methods, 40 (6), 4 – 5.

10. Chang, W. N. (2017) The effects of digital storytelling on student achievement, social presence, and attitude in online collaborative learning environments, Interactive Learning Environments, 25(3), 412-427

11. Chao-Fernandez, R., Román-García, S., & Chao-Fernandez, A. (2017). Online Interactive Storytelling as a Strategy for Learning Music and for Integrating Pupils with Hearing Disorders into Early Childhood Education (ECE). Procedia - Social and Behavioral Sciences, 237, 17-22. DOI: https://doi.org/10.1016/j.sbspro.2017.02.005

12. Chia-Wen, T., Pei-Di, S., & Rong-An, L. (2015). Exploring the Effects of Student-Centered Project-Based Learning with Initiation on Students' Computing Skills: A Quasi-Experimental Study of Digital Storytelling. International Journal of Information and Communication Technology Education

(IJICTE), 11(1), 27-43. DOI: 10.4018/ijicte.2015010102

13. Chiang, F., Chiu, C., & Su, Z. (2016, 12-13 Nov. 2016). Using digital storytelling to enhance elementary school students' creative thinking. Paper presented at the 2016 International Conference on Advanced Materials for Science and Engineering (ICAMSE).

14. Dewi, N. R., Savitri, E. N., Taufiq, M., & Khusniati, M. (2018). Using digital science storytelling to increase students' cognitive ability. Journal of Physics: Conference Series, 1006, 012020. DOI: 10.1088/1742-6596/1006/1/012020

15. Díaz, M.A. (2016). Digital Storytelling with Pre-service Teachers. Raising Awareness for Refugees Through ICTs in ESL Primary Classes. Digital Education Review.30. http://greav.ub.edu/der/

16. Dörner, R., Grimm, P., & Abawi, D. F. (2002). Synergies between interactive training simulations and digital storytelling: a component-based framework. Computers & Graphics, 26(1), 45-55.

17. Eissa, H. M. S., 2019). Pedagogic Effectiveness of Digital Storytelling in Improving Speaking Skills of Saudi EFL learners. Arab World English Journal, 10 (1) 127-138.
    DOI: https://dx.doi.org/10.24093/awej/vol10no1.12

18. Elahi, A. N., Mahmood, Z., Shazadi, M., & Jamshed, S. (2015, 12-13 Dec. 2015). Digital storytelling: A powerful educational tool for primary school students. Paper presented at the 2015 International Conference on Information and Communication Technologies (ICICT).

19. ESTEBAN NÚÑEZ, M. T., & GÓMEZ RÍOS, A. V. (2019). Storytelling as a Didactic Proposal to Approach Culture Topics in a Fifth Graders' Classroom. Cuadernos de Lingüística Hispánica, 169-187.

20. Garrety, C. M. Digital storytelling: an emerging tool for student and teacher learning" (2008). Retrospective Theses and Dissertations. 15781. https://lib.dr.iastate.edu/rtd/15781

21. Gon, #xe7, Alves, L. L., Voos, M. C., Almeida, M. H. M. d., Caromano, F., . . . Aparecida, t. (2017). Massage and Storytelling Reduce Aggression and Improve Academic Performance in Children Attending Elementary School. Occupational Therapy International, 2017, 7. DOI: 10.1155/2017/5087145

22. Greene, S., Burke, K. J., & McKenna, M. K. (2018). A Review of Research Connecting Digital Storytelling, Photovoice, and Civic Engagement. Review of Educational Research, 88(6), 844–878. https://doi.org/10.3102/0034654318794134

23. Hafner, C. A., & Miller, L. (2011). Fostering Learner Autonomy In English for Science: A Collaborative Digital Video Project In A Technological Learning Environment. Language Learning & Technology,15(3), 68-86.

24. Kane, R., Sandretto, S., & Heath, C. (2002). Telling Half the Story: A Critical Review of Research on the Teaching Beliefs and Practices of University Academics. Review of Educational Research, 72(2), 177–228. https://doi.org/10.3102/00346543072002177

25. Karakoyun, F., & Kuzu, A. (2016). The Investigation of Preservice Teachers' and Primary School Students' Views about Online Digital Storytelling. European Journal of Contemporary Education, 15(1), 51-64

26. Kirsch, C. (2016). Using storytelling to teach vocabulary in language lessons: does it work? The

Language Learning Journal, 44(1), 33-51. DOI: 10.1080/09571736.2012.733404

27. Kobayashi, M. (2012). A digital storytelling project in a multicultural education class for pre-service teachers. Journal of Education for Teaching, 38(2), 215-219. DOI: 10.1080/02607476.2012.656470

28. Kordaki, M., and Psomos, P. (2014). An adaptive educational digital storytelling environment was focusing on students' misconceptions. In L. Gómez Chova, A. López Martínez, I. Candel Torres (Ed.) Proceedings of 8th International Technology, Education and Development Conference (INTED 2014), 10-12 March 2014, Valencia, Spain, pp. 6634-6641. ISBN:978-84-616-8412-0, ISSN: 2340-1079

29. Krish, P., Hussin, S., & Sivapuniam, N. (2011). Language learning and language acquisition in online forums. 3L: The Southeast Asian Journal of English Language Studies, 17(2), 91 – 100

30. Kumar, N., Raduan, C.R., & D'Silva, J.L. (2008). Teachers' readiness to use technology in the classroom: An empirical study. European Journal of Scientific Research, 21(4), 603 – 616

31. Liu, M.-C., Huang, Y.-M., & Xu, Y.-H. (2018). Effects of individual versus group work on learner autonomy and emotion in digital storytelling. Educational Technology Research and Development, 66(4), 1009-1028. DOI: 10.1007/s11423-018-9601-2

32. Matias, C. E., & Grosland, T. J. (2016). Digital Storytelling as Racial Justice: Digital Hopes for Deconstructing Whiteness in Teacher Education. Journal of Teacher Education, 67(2), 152–164. https://doi.org/10.1177/0022487115624493

33. McGovern, E. R. (2019). Storytelling and Mothering: A Portrait of a Homegrown, Mexican American Teacher. Qualitative Inquiry. 25(5). 482–491. https://doi.org/10.1177/1077800418817837

34. Miyaji, I. (2018, 31 July-2 Aug. 2018). Comparison of Required Times and Awareness in Classes Through Creation of Storytelling and Product Introduction Slides. Paper presented at the 2018 International Symposium on Educational Technology (ISET).

35. Mojgan, R., & Mosayeb, M. (2018). Role-playing in storytelling classes and their impact on Iranian young EFL learners' narrative writing. Journal of Language and Education. 4 (4 (16)), 65-76.

36. Morais, C., Araújo, J. L., & Saúde, I. (2019). Awakening to chemistry through storytelling and practical activities: middle school students interacting with pre-school children. Chemistry Education Research and Practice, 20(1), 302-315. DOI: 10.1039/C8RP00096D

37. Nam, C. W. (2017). The effects of digital storytelling on student achievement, social presence, and attitude in online collaborative learning environments. Interactive Learning Environments, 25(3), 412-427. DOI: 10.1080/10494820.2015.1135173

38. Norhayati, A.M., & Siew, P.H. (2004). Malaysian perspective: Designing interactive multimedia learning environment for moral values education. Educational Technology & Society, 7(4), 143 – 152.

39. Nurul, U. N. (2017, 2017/08). Teaching proficiency through reading and storytelling: a method to improve students' speaking ability (class a of access micro-scholarships program batch five ambon). Paper presented at the International Conference on English Language Teaching (ICONELT 2017).

40. Piipponen, O., & Karlsson, L. (2019). Children are encountering each other through storytelling: Promoting intercultural learning in schools. The Journal of Educational Research, 112(5), 590-603.

DOI: 10.1080/00220671.2019.1614514

41.   Price, D. M., Strodtman, L., Brough, E., Lonn, S., & Luo, A. (2015). Digital storytelling: an innovative technological approach to nursing education. Nurse Educ, 40(2), 66-70. DOI: 10.1097/nne.0000000000000094

42.   Rahim, S. A. (2012). Digital Storytelling in Bangladesh: Experiences, Challenges and Possibilities. IDS Bulletin, 43(5), 98-103. DOI: 10.1111/j.1759-5436.2012.00369.x

43.   Rammos, D., & Bratitsis, T. (2018). Inclusive strategies for the History Subject in 6th Grade of Greek Primary School: Gamifying the curriculum with Digital Storytelling and Augmented Reality. DSAI. Conference Proceedings

44.   Ranjit Singh, T.K., & Muniandi, K. (2012). Factors affecting school administrators' choice in adopting ICT tools in schools - The case of Malaysian schools. International Education Studies, 5(4), 21 – 30

45.   Reinders, H. (2011). Digital storytelling in the foreign language classroom. ELTWorldOnline.com 3. Retrieved from http://www.blog.nus.edu.sg/eltwo/2011/04/12/digital-storytelling-in-the-foreign-language-classroom

46.   Roberts, K. M. (2019). An analysis of autobiographical tools in written reflection: implications for teaching critical thinking and goal-setting. Reflective Practice, 20(2), 201-217. DOI: 10.1080/14623943.2019.1575196

47.   Robin, B. R. (2008). Digital Storytelling: A Powerful Technology Tool for the 21st Century Classroom. Theory Into Practice, 47(3), 220-228. DOI: 10.1080/00405840802153916

48.   Robin, B. (2016). The Power of Digital Storytelling to Support Teaching and Learning. Digital Education Review. Conference Proceedings. 30.

49.   Robin, B., & Pierson, M. (2005). A multilevel approach to using digital storytelling in the classroom. In C.M. Crawford, R. Carlsen, K. McFerrin, J. Price, R. Weber, & D.A. Willis (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2005 (pp. 708 – 716)

50.   Sadik, A. (2008). Digital storytelling: a meaningful technology-integrated approach for engaged student learning. Educational Technology Research and Development, 56(4), 487-506. DOI: 10.1007/s11423-008-9091-8

51.   Salpeter, J. (2005). Telling Tales with technology. Technology and Learning, 25 (7):18-24 Retrieved September 12, 2012, from http://www.techlearning.com/shared/printableArticle.jhtml?articleID=6030027

52.   Saubern, R., Urbach, D., Koehler, M., & Phillips, M. (2019). Describing increasing proficiency in teachers' knowledge of the effective use of digital technology. Computers & Education, 103784. DOI: https://doi.org/10.1016/j.compedu.2019.103784

53.   Schmoelz, A. (2018). Enabling co-creativity through digital storytelling in education. Thinking Skills and Creativity, 28, 1-13. DOI: https://doi.org/10.1016/j.tsc.2018.02.002

54.   Setyarini, S., & Ling, M. (2019). Promoting Higher Order Thinking Skills in Storytelling for Teaching English to Young Adolescents in the 21st Century. KnE Social Sciences, 3(10), 155–164.

https://doi.org/10.18502/kss.v3i10.3897

55. Smeda, N., Dakich, E., & Sharda, N. (2014). The effectiveness of digital storytelling in the classrooms: a comprehensive study. Smart Learning Environments, 1(1), 6. DOI: 10.1186/s40561-014-0006-3

56. Static, A. I., Huang, P.-S., Valeeva, R. A., Latypova, L. A., & Huang, Y.-M. (2017). Digital Storytelling and Mobile Learning: Potentials for Internationalization of Higher Education Curriculum, Cham.

57. Takacs, Z. K., Swart, E. K., & Bus, A. G. (2015). Benefits and Pitfalls of Multimedia and Interactive Features in Technology-Enhanced Storybooks: A Meta-Analysis. Rev Educ Res, 85(4), 698-739. DOI: 10.3102/0034654314566989

58. Thang, S. M., Mahmud, N., & Alfred Tng, C. K. C. (2015). Digital Storytelling as an Innovative Approach to Enhance Learning Mandarin as a Second Language. Journal of E-Learning and Knowledge Society, 11(2). https://doi.org/10.20368/1971-8829/977

59. Treadwell, T. W., Reisch, E. E., Travaglini, L. E., & Kumar, V. K. (2011). The Effectiveness of Collaborative Story Building and Telling in Facilitating Group Cohesion in a College Classroom Setting. International Journal of Group Psychotherapy, 61(4), 502-517. DOI: 10.1521/ijgp.2011.61.4.502

60. Wachida, U., Suhartono, S., Bambang, Y., & Muhammad Nahdia, F. (2018, 2018/12). Digital Storytelling Media by Paired Storytelling Model to Improve Speaking Skills. Paper presented at the 2nd International Conference on Education Innovation (ICEI 2018).

61. Wang, S. & Zhan, H. (2010). Enhancing teaching and learning with digital storytelling. International Journal of Information and Communication Technology Education (IJICTE), 6 (2), 76-87.

62. Won, H. J. & Suhyun, S. (2012). Making Learning Active with Interactive Whiteboards, Podcasts, and Digital Storytelling in ELL Classrooms. Computers in the Schools. 29(4). p320-338

63. Wright, C. Z., & Dunsmuir, S. (2019). The Effect of Storytelling at School on Children's Oral and Written Language Abilities and Self-Perception. Reading & Writing Quarterly, 35(2), 137-153. DOI: 10.1080/10573569.2018.1521757

64. Wu, J., & Chen, V. D.-T. (2019). A systematic review of educational digital storytelling. Computers & Education, 103786. DOI: https://doi.org/10.1016/j.compedu.2019.103786

65. Yang, Y.-T. C. & Wu, W.-C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking, and learning motivation: A year-long experimental study. Computers & Education, 59(2), 339-352. DOI: https://doi.org/10.1016/j.compedu.2011.12.012

66. Zaidi, R., Freihofer, I., & Townsend, G. C. (2017). Using Scratch and Female Role Models while Storytelling Improves Fifth-Grade Students' Attitudes toward Computing. Paper presented at the Proceedings of the 2017 ACM SIGCSE Technical Symposium on Computer Science Education, Seattle, Washington, USA.