Je-LKS
Journal of e-Learning and Knowledge Society
The Italian e-Learning Association Journal
PEER REVIEWED PAPERS
Vol. 11, n.2, 2015
ISSN: 1826-6223 | eISSN: 1971-8829

DIGITAL STORYTELLING AS AN INNOVATIVE APPROACH TO ENHANCE LEARNING MANDARIN AS A SECOND LANGUAGE

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Keywords: Digital storytelling, Mandarin as a second language, language learning and technology

The present study shares the experiences of a Malaysian teacher who tried to enhance the teaching and learning of Mandarin through the use of digital storytelling (DST) in a learning Mandarin as Second/Foreign Language (SL/FL) context. Research studies have shown that DST which combines the art of storytelling with a variety of digital audio, video and multimedia images are effective in enhancing language learning in a variety of contexts. It has been shown to encourage and motivate students and at the same time enhances their communication, interpersonal and technology skills. However, studies that look into the use of DST to enhance the learning of Mandarin are still lacking which make this study relevant and timely. The present study shares the Mandarin teacher's experiences in using DST as a project for a Mandarin SL/FL course. The findings were derived from his personal reflections and his students' questionnaires and interviews were used to cross-verify the findings. The findings of the study demonstrated that the introduction of DST

for citations:
Thang S. M., Mahmud N., Tng C. (2015), *Digital Storytelling as an Innovative Approach to Enhance Learning Mandarin as a Second Language,* Journal of e-Learning and Knowledge Society, v.11, n.2, 161-175. ISSN: 1826-6223, e-ISSN:1971-8829

had enriched the teacher and students' experiences in a variety of ways. Despite some shortcomings the Mandarin teacher was keen to continue using it for his classes.

1 Introduction

1.1 The use of ICT in Language Teaching and Learning

Technology is believed to be the best means to create an environment conducive to language learning. With the rapid development of technology, new technology-based approaches are introduced in order to enhance the language learning process. Way back in 2003, Ybarra and Green (2003) mentioned that computers can play an integral part in providing English as a Second Language (ESL) students with valuable language learning experiences. Looking at today's educational environment, it can be seen that technology has been utilised in a variety of ways to enhance language learning and teaching. There is a wide selection of ICT applications and approaches that the practitioners have developed, ranging from offline language learning applications (dictionary, word processor, concordances, etc.,) to online language learning applications (blog, wiki, language learning websites and language games). These applications have been developed and tested for the last few decades ever since Computer Assisted Language Learning (CALL) emerged in the 1960s.

Solomon and Schrum (2007, p. 43) suggest that "one of the new technologies that could be harnessed is digital storytelling". Research has consistently shown that the successful executions of these applications are very encouraging. Student's creation and sharing of multimedia production using digital images and digital videos is seen to have the potential to promote workplace skills and enhance English language learning (Bull & Bell, 2010; Kearney & Schuck, 2006; Shewbrige & Berge, 2004). In the context of language learning, the learner's production and sharing of multimodal texts using digital images and digital videos has attracted the interest of the researchers and the practitioners due to its ability to create an authentic working environment for the learners and enable them to apply their knowledge in technology into their learning (Hafner & Miller, 2011). Kim and Choi (2013), Kim (2014a) and Kim (2014b) further found that storytelling with the use of silent movie clip as a stimulus can be a good communicative competence task for participants to describe captured events and surrounding context and hence helping them develop English speaking skills, build self-confidence and increase autonomy in oral proficiency.

1.2 The Current Practice of Digital Storytelling in Education

The term 'digital story' (DST) was coined by Dana Atchley in the 1980's

(Robin, 2008). To prepare a digital story, digital devices are integrated into the traditional storytelling methods. Simple video editing software like Microsoft PhotoStory 3 or Windows Movie Maker can be used to create basic digital stories which constitute a set of slides with corresponding narration or music. Learners can record their own voice to narrate their stories. In the education context, DST has commonly been used as an instructional tool by educators (Robin, 2006; 2008; Sadik, 2008) and in many cases it has been implemented as group projects for students too (Hafner & Miller, 2011; Normann, 2011; Cut Nora Azizah, 2010).

Studies undertaken so far have revealed positive outcomes. Due to this, educators in Asia are beginning to accept DST as one of the pedagogical tools to utilise in teaching and learning. In a study by Hafner and Miller (2011) in an English-medium university in Hong Kong, it was found that the process of developing digital stories fosters independent learning among students. Students showed positive attitude towards the project. They found learning this way novel, fun, and challenging and they derived satisfaction from creating their own digital stories. However, they did encounter some technical problems with regard to the software due to a lack of technological skills (Hafner & Miller, 2011). The use of DST in the Malaysia educational context has been explored in some research studies. Cut Nora Azizah (2010) in her study found that interactive DST is capable of capturing the attention of preschool children in daily reading activities due to its engaging nature. Salimun (2011) revealed that students were better able to define moral values after the digital stories prototype was played in the classroom (Salimun, 2011). Lim (2011) studied the effectiveness of DST as an additional teaching-learning method to the conventional teaching process and found that it increases student's learnability of the subject content. Najihah (2014) and Lin *et al.* (2013) found that the creation of digital stories through a group project helped Malaysian university students to improve their English language learning skills as well as their workplace skills such as literacy skills, problem solving skills, collaborative skills and independent learning skills.

The current study explores the benefits of a group project that requires students learning Mandarin as a Second/Foreign Language to construct digital stories and to investigate how they benefit from this experience. Literature has revealed that when students participate actively in creating their digital stories, they most notably develop language skills and workplace skills in line with the needs of the 21st century (Howell & Howell, 2003; Jakes & Brennan, 2006; Robin, 2008). All these studies are undertaken on the learning of other languages. As far as the use of ICT to teach and learn Mandarin as a SL/FL

is concerned, there are now quite a large number of online websites that offer Mandarin learning courses but the number is still insignificant when compared to the humongous amount of materials on the teaching and learning of English as a SL/FL. In the Malaysian context, studies on the use of technology in teaching Mandarin are only slowly gaining momentum (Tan & Lim, 2008; Goh *et al.*, 2006, Tan & Hoe, 2007). As far as we are aware of there is no study on the use of digital storytelling as a tool in the teaching of Mandarin in Malaysia as well as in the South Asian region which makes this study timely and relevant

2 Context of the Study

2.1 Teaching of Mandarin in the National University of Malaysia (UKM)

Mandarin was first taught in UKM starting 1970. For the last ten years, the Mandarin courses offered are Basic Chinese I and II, Writing in Chinese Characters, Reading in Chinese Characters and Chinese for Business. The digital storytelling was introduced to the Chinese for Business students, who can be described as having intermediate level Chinese language proficiency. Students who take this course would have passed three levels of Chinese courses. This course introduces commercial transactions and trading knowledge necessary for undertaking business transactions in Mandarin-speaking countries such as mainland China and Taiwan. The course comprises four evaluation components: class activities (10%), quiz on language skills (20%), DST project (30%) and final examination (40%).

For the DST project, students were asked to choose topics related to the course content, namely business transactions or commerce. Microsoft PhotoStory 3 was chosen as the software for creating the DST due to the fact that it requires only a low threshold level of ICT skills and can be accessed offline. The digital storytelling project was a group-based activity for the students who undertook the course. Robin and Pierson's (2005) procedural approach was adopted in creating and integrating digital stories. To prepare himself, the Mandarin teacher attended a workshop provided by the research team to learn how to use Microsoft PhotoStory 3. The team also had two research assistants who provided the technical support to the lecturers whenever necessary. It was noted that the Mandarin teacher was able to pick up technology easily and did not find the need to consult the research assistants.

The students had twelve weeks to work on their digital stories. Stage 1 was undertaken in week two to three. At the end of this stage, students would have arrived at a title for their digital story and would have explained why they chose

the title in their group blog entry. Stage 2, which took up two weeks (week four to five), involved students putting a description of the digital story on their group blog. Other groups were required to comment on these blogs and the teacher would help to move the discussion along by giving his comments at critical points. Students were required to develop their digital stories from week six to ten (Stage 3). After they completed their digital stories, they were required to post the reflections of their experiences on their group blogs and other students were required to give their comments with teacher coming in to spur things along. On week twelve (Stage 4), students would have to present their digital stories in class and they would be assessed on the quality of their digital storytelling and their presentation. Figure 1 provides a summary of the tasks and assessment involved in the project.

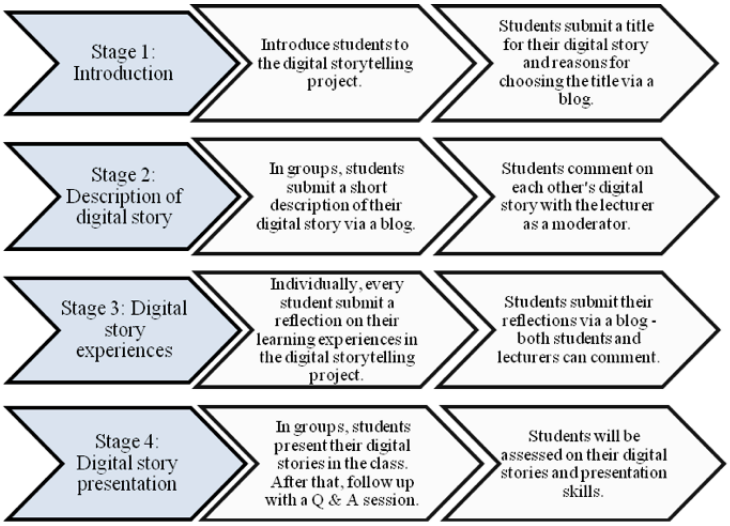

Fig. 1 - A description of the tasks and assessment involved in the project.

3 Objectives of the Study

This paper explores the experiences of a Mandarin teacher (MT) and his students in using DST as a project to teach and learn Mandarin in an SL/FL context. The research questions of the study are as follows:

1. What were the teacher's perceptions of the use of DST as an innovation?
2. What were the students' perceptions of the use of DST as an innovation?
3. What were the similarities and differences between the perceptions of the MT and his students?

4 Research Methodology

4.1 Sample Population

The MT has a master in Language Education and has more than 20 years of experience teaching Chinese as a SL/FL in schools and at Universiti Kebangsaan Malaysia, one of the five biggest public universities in Malaysia. He has also been involved in designing Chinese language curriculum for Higher Certificate of Examination. During the semester the study was conducted, he was teaching Basic Chinese I and II, and Chinese for Business I in which he piloted this study.

The students who took part in the pilot project comprise of students from four faculties: Faculty of Business and Economics (FEP), Faculty of Science and Technology (FST) and Faculty of Engineering (FKB). He described the students as having sound knowledge of ICT software. There were 10 students (6 girls and 4 boys) and all of them were Chinese. All of them were 22 years old.

4.2 Research design and instruments

A mainly qualitative approach involving the MT's reflections of his experiences in using DST to teach his students and the interviews of his students were used to collect data. In addition to that, a questionnaire was distributed to gauge students' overall perceptions towards the DST project.

4.3 Data collection and data analysis procedures

At the end of the semester, MT was asked to reflect on his personal experiences in implementing the DST Project. The guidelines for MT's reflections are as follows:

Instructions: Please give your views on the following. Please support your views with specific examples.

1. Before starting DST what was your opinion of it? Why?
2. Describe your experience in using DST in your class (both the good and bad experiences).
3. What skills do you feel your students have improved through DST?

MT's reflections were analysed for themes or patterns that were in line with the research questions. This was done by an independent researcher who also sought the opinion of two other researchers to confirm her analysis. All the researchers involved are qualified ESL teachers with at least twenty years

of experience.

The questionnaire was designed to gather preliminary data on students' perceptions of DST at the end of the semester. It comprised 31 items covering aspects such as motivation, learning environment, soft skills, language skills and learner autonomy. Mean score analysis was performed using SPSS version 17. In addition to that, the MT conducted two short focus group interviews (of about 15 minutes each) on each of the 10 students, one in the middle of the semester and one at the end of the semester. Questions that were asked during the interview are as follows:

1. Describe your feeling when you heard about DST.
2. What did you find out later on about DST?
3. Do you think you benefit from DST? If so, how?
4. Can you describe your bad experiences with DST if there's any?

The interview data were analysed qualitatively for evidence to substantiate or refute the questionnaire data. Finally, both sets of data (from the MT and his students) were scrutinized for evidence of similarities and differences in views and perceptions.

5 The MT Findings: From his Reflections

From MT's reflections, it could be seen that MT had no difficulty in handling the technology involved in implementing DST. He felt that his students also did not find the technology difficult and he was confident they could cope. He attributed this to his use of technology such as PowerPoint and Windows Movie Maker in the previous semester. He described his students' perceptions of DST as very positive and he felt that it had contributed to their improvement in language skills. He said that "their efforts to surf for images, pictures, materials, etc. have enhanced their reading and writing skills" and they came up with better drafts compared to the beginning. He also felt that "the students also improved their speaking skill as they were discussing, negotiating and defending their ideas".

He also observed an increase in group work among his students due to DST. He saw them "negotiate among themselves" to choose materials for their topics. He also saw them correcting their own mistakes (grammar, typing error, misuse of words, prepositions and conjunctions) and also their efforts to improve their language by using appropriate words in discussion. He was also impressed by their efforts to "defend their views when they were questioned", which led to several arguments and explanation during the 'to-and-fro' blogging.

However, he did express concerns over certain issues in his reflections. He found the DST too demanding and too time consuming in that it required him to take on multiple roles. He had to be a consultant for topics and references, a facilitator to solve some arguments, as well as to correct their grammatical mistakes. He gave an interesting example where he had to resolve the conflict between the groups about the concept whether animal marriage should be encouraged or should sterilisation be encouraged which led to a very heated argument. He also voiced his dissatisfaction over technical problems and the inadequacy of Microsoft Photostory 3 in meeting the needs of his more advanced learners and hence he allowed his students to use more advanced tools such as Windows Movie Maker.

However, on the whole, he was satisfied with the project and described it as helping him achieve the goals of his course and create a platform for the enhancement of entrepreneurship, cooperative and negotiation skills among his students. He also felt DST had helped to boost the confidence of his students to speak in Mandarin especially his quiet students.

6 The Student Findings: From the Questionnaires and Interviews

An item analysis of the mean scores was carried out to enable a better understanding on how students perceived the DST project. The Likert scale (comprising 4 for strongly agree, 3 for agree, 2 for disagree and 1 for strongly disagree) was used to score the items.

Table 1
ITEMS WITH THE HIGHEST MEAN SCORES

Rank	Item No.	Items	N	Min	Max	Mean	Std. Dev.
1.	3	In my group, all of us work as a team to complete the digital story	10	3	4	3.80	.422
2.	24	I find that learning through this digital storytelling project is more interesting than normal classroom activities.	10	3	4	3.70	.483
3.	10	I read more in Chinese than usual because of this project.	10	2	4	3.60	.699
4.	2	I enjoy creating a digital story because I get to work with my friends.	10	2	4	3.50	.707
5.	23	I improve my writing skill because of this project.	10	3	4	3.40	.516

As shown in Table 1, the mean scores for the top five items from the que-

stionnaire are all above 3.4 which approach strongly agree. An analysis of this top five items revealed that the respondents perceived the DST project as helping them to improve their soft skills through working in groups (item 3 & 2), increase their motivation to learn (item 24) and enhance their language skills, specifically reading and writing skills (items 10 & 23).

Findings from the interviews supported the abovementioned quantitative findings. Students found the experience of creating their DST fun and enjoyable:

S 1: We had a lot of fun time. I enjoyed arguing with my friends over blog.
S 2: I enjoyed creating story.
S 3: It is quite enjoyable.
S 4: It is fun. I think it is better than power-point.

One student explicitly stated that it contributed towards his improvement in pronunciation whereas others described how it helped in their vocabulary improvement:

S2: I think I can recognize the words better than before.
S6:Just like S5, I learn to edit. Also know many words I wrote before are actually incorrect.
S10:Through discussion, I know what mistakes I have done especially writing characters. I chose wrong characters quite often.

In addition, students described the project as encouraging students to apply the Mandarin language into real-life practice as enunciated below:

S3: I learn how to bargain with my friends to agree with me.
S4: Got more chances to communicate with friends about certain topic. Can chit-chat more.
S7: Yes, I read more in order to create story.

The five items from the questionnaire with the lowest mean scores are shown in Table 2. All of the items are negative statements and the range of the mean scores of these items are between 2.3 and 1.7 (disagree) which means that most students are in disagreement with the negative effects of DST. The item that scored the lowest is item 29, “I am confused about what it takes to complete this project”, and this implies that students are clear about what they have to do for the project. The low rankings of items 16, 6, 14 and item 4 further suggest that the students felt that the project did not interfere with their leisure time and it was not difficult to work in groups.

Table 2
ITEMS WITH THE LOWEST MEAN SCORES

Rank	Item No.	Items	N	Min	Max	Mean	Std. Dev.
1.	16	The DST project takes up a lot of time.	10	1	4	2.30	.949
2.	6	I find the blog activities time consuming and a waste of time.	10	1	4	2-10	1.197
3.	14	I find creating a digital story a waste of time.	10	1	4	1.90	.994
4.	4	I find it very difficult to work as a group to create the digital story.	10	1	4	1.80	1.135
5.	29	I am confused about what it takes to complete this project.	10	1	2	1.70	.483

There were further evidences in the interview data that support the quantitative data. Student A stated that he learnt from group discussions the mistakes he had made in his writing, which otherwise he would not be aware of. Thus, it seemed that the students were able to teach and learn from each other through group discussions and interactions. However, Student 6 also pointed out a problem with group learning that is difficulty in finding a suitable time to meet to edit their work. The cause of this was because these students came from different disciplines and faculties. Finally, the students also pointed out they had problem of slow internet connectivity.

7 Discussion

The data from his students' questionnaires and interviews were used for cross-verification. From the MT's personal reflection, it was possible to conclude that he strongly felt that the introduction of DST contributed to his students' development of language skills in Mandarin (reading, writing, listening and speaking) and gave them opportunities to practice Mandarin (the target language) in authentic situations. These findings supported earlier studies which showed that DST can guide students towards meaningful learning (Gillies, 2004; 2003; Barrett, 2006; Robin, 2007). This shows that it does not matter what language is learnt, DST is still effective in promoting meaningful learning. The finding that revealed that even quiet students seemed more confident to speak in Mandarin supported findings that showed that DST can create a fun and enjoyable learning environment that is both motivating and non-threatening (Bull & Kadjer, 2004; Sylvester & Greenidge, 2009).

Findings from the students' interviews resonate the findings from the questionnaire. Generally, the findings revealed that the students perceived the DST project as contributing to their improvement in their soft skills through working in groups, increase their motivation to learn and enhance their language skills, specifically their reading and writing skills. Admittedly, these findings are derived from their perceptions but as Krashen (1982) has propounded in his input hypothesis, such positive perceptions can lead to positive learning behaviour and hence culminates in positive outcomes.

The findings from the student questionnaires and interviews also demonstrated that working in groups while developing their DST had encouraged them to be more positive towards learning, and given them the opportunities to learn from each other. Similar findings were reported by Hafner and Miller (2011). They found that students collaborating in the group work project were able to create a social context that provided them opportunities for learning and peer teaching. Robin (2006) further added that developing digital storytelling enable students to integrate numerous roles based on their strengths. Regarding difficulty in finding a suitable time to meet to edit their work, this was also found by Najihah (2014) in her research and a strategy used by her students in overcoming this problem would be useful for these students too. The students in Najihah's (2014) study practised taking turns to work on the project and then sharing their work online for each other to edit and then coming together periodically to discuss their work.

Introduction of the DST also provided new learning experiences for these students and enables MT to move away from the traditional approach of "chalk and talk" and "repetition and memorization" which are still very commonly used approaches to teach Mandarin. It is particularly encouraging to find out that DST has contributed towards the students' improvement in pronunciation and vocabulary. A contributory factor to their improvement in pronunciation might have been their countless practicing of the dialogues in their digital stories and the numerous discussion and arguments they had regarding the topics and the contents of the project. Their improvement in vocabulary could have been due to online search for materials. In other word, constructing digital stories has provided a natural learning environment to these students that is so much more stimulating than the rigid and stifling environment of the traditional classroom.

Understandably, supporting the students for such a project would mean more work for the teacher and in this case the MT brought out the challenges of having to take on multiple roles including the role of an editor of students'

digital stories. These demands on the teacher cannot be ignored and measures on how to address them have to be taken into consideration if not, it would deter other teachers from introducing such projects in their classes. A possible solution is to get the students to peer review each other's work before seeking the help of their teacher or go online to seek for online dictionary or online forums that offer support to students. The MT should also consider introducing online tools that can help students edit their work online. This will promote team work and greater autonomy, which goes towards achieving the goals of this project.

Another problem brought out by all the students was slow internet connection. Studies in the same context have shown this to be a serious obstacle towards the introduction of ICT in UKM (Thang *et al.*, 2012a; 2012b). This phenomenon is also evident in many universities in Malaysia and in other Asian contexts. Thus, it is obvious that institutions need to upgrade their infrastructure so as not to impede ICT initiatives designed to improve the quality of teaching and learning in any institution.

Although the students did not explicitly state that DST helped in improving their ICT skills, this was evident from the high standard of their digital stories in terms of technology usage. Thus, it would appear that these students did not have any problem in accepting and utilising technology. This is not surprising as these students belong to the generation that has been described as "digital natives" (Prensky, 2001) or the "Net generation" (Tapscott, 1998). This generation practically grew up with technology, making it easier for them to embrace technology-related innovations as part of their learning process.

As for teachers in Malaysia, Thang *et al.* (2010) in a study on the development of an online community of practice among Malaysian smart school teachers found many of them apprehensive and fearful of technology. This generation has been frequently described as the 'digital immigrants' who are still coming to terms with the rapid advance in technology and the need to use technology at work (Prensky, 2001). In the case of the MT, he has no such problem; firstly because he uses technology extensively in his teaching and secondly, because he has a highly positive attitude and is willing to take on the challenge, especially after seeing how it had benefited his students despite the fact that it meant more work for him. Thus, as shown in this study the correct attitude and enthusiasm can help "digital immigrants" overcome their fear of technology.

Conclusion

This study clearly demonstrates that the introduction of the innovation by the MT has enriched the learning experiences of the students in his class in a variety of ways. The students involved were able to improve their language and interpersonal skills through collaborating with other students, search for information and work with technological tools like computer software (video editor, sound editor, etc.) and hardware (voice recorder, camera, microphone, etc.). A mastery of these skills is crucial to prepare these students for the job market of the 21st century which view these skills as a necessity. However, it would appear from the lack of literature on this area that many Mandarin teachers in general are either unaware of such innovations or reluctant to take them up. Hopefully the findings of this study will help to create the necessary awareness among them and spearhead changes that will transform their conventional Mandarin classrooms to the type of classroom that students learn in a fun and interactive way and at the same time acquire language skills and other skills desirable in the 21st century's job market.

Acknowledgements

This work was supported by a research grant provided by Universiti Kebangsaan Malaysia: UKM-DPP-2014-099.

REFERENCES

Barrett, H. (2006), *Researching and evaluating digital storytelling as a deep learning tool*. In: C.M. Crawford, R. Carlsen, K. McFerrin, J. Price, R. Weber, and D.A. Willies (eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2006, Chesapeake, VA: AACE, 647-654.

Bull, G., & Bell, L. (2010), *Teaching with digital video: Watch, analyze, create*. Eugene, OR: International Society for Technology in Education.

Bull, G. & Kajder, S. (2004), *Digital storytelling in the language arts classroom*. Learning & Leading with Technology, 32(4), 46-49.

Cut Nora Azizah. (2010), *Potentials of interactive digital storytelling for preschool children in daily reading activity*. Unpublished Masters thesis, Universiti Utara Malaysia. Retrieved from http://etd.uum.edu.my/2390/1/Cut_Nora_Azizah.pdf

Gillies, R.M. (2003), *Structuring cooperative group work in classrooms*. International Journal of Educational Research, 39(1-2), 35-49.

Gillies, R.M. (2004), *The effect of co-operative learning on junior high school students during small group learning*. Learning and instruction, 14(2), 197-213.

Goh, C.S., Kuek, F.C.C., & Kuek, C.S. (2006), *The use of FAST-Mandarin.2 in elementary Mandarin learning*. Proceeding paper of 2nd CLS International

Conference NUS.

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 and Technology, 15(3), 68-86.

Howell, D., & Howell, D. (2003), *What's Your Digital Story?* Library Media Connection, 22(2), 40.

Jakes, D., & Brennan, J. (2006), *Digital Storytelling, visual literacy and 21st century skills*. Retrieved from http://www.techlearning.com/techlearning/pdf/events/techforum/ny05/Vault_article_jakesbrennan.pdf

Kearney, M. & Schuck, S. (2006), *Spotlight on authentic learning: Student developed digital video projects*. Australasian Journal of Educational Technology, 22(2), 189-208.

Kim, S. (2014), *Developing autonomous learning for oral proficiency using digital storytelling*. Language Learning and Technology, 18(2), 20-35.

Kim, S. H. (2014), *The effects of using storytelling with a Charlie Chaplin silent movie clip on oral proficiency development*. STEM Journal, 15(1), 1-20.

Kim, S.H., & Choi, I.C. (2013), *Developing a communicative task for Korean English language learners using two different types of visual modes on computer-based tests*. Paper presented at e-Learning Korea conference, Seoul, South Korea. Retrieved from http://www.elearningkorea.org/kor/conference/speaker.asp#

Krashen, S.D. (1982), *Principles and practice in second language acquisition*. New York: Pergamon Press Inc.

Lim, W.W. (2011), *Implementation of digital storytelling to increase learnability among primary students*. Project Report. UTeM, Melaka, Malaysia.

Lin, L.K., Thang, Nurjanah, M.J., & Noraza, A.Z. (2013), *Digital storytelling as a project in EAP course: Insights from Malaysian undergraduates*. Journal of Institutional Research in South East Asia, 11(2), 48-67.

Najihah, M. (2014), *Investigating EAP Students' 21st Century Skills Development through Digital Storytelling: A Case Study in UKM*. Unpublished Masters thesis, Universiti Kebangsaan Malaysia.

Normann, A. (2011), *Digital storytelling in second language learning: A qualitative study on students' reflections on potentials for learning*. PhD Thesis. Norwegian University of Science and Technology.

Prensky, M. (2001), *Digital native, digital immigrants part 1*. On the Horizon, 9(5), 2-6.

Robin, B. (2006), *The educational uses of digital storytelling*. In: C. Crawford et al. (eds.), Proceedings of Society for Information Technology and Teacher Education International Conference 2006 (pp. 709-716). Chesapeake, VA: AACE, 709-716.

Robin, B. (2007), *The convergence of digital storytelling and popular culture in graduate education*. In: C. Crawford et al. (eds.), Proceedings of Society for Information Technology and Teacher Education International Conference 2007. Chesapeake, VA: AACE, 643-650.

Robin, B.R. (2008), *Digital storytelling: A powerful technology tool for the 21st century classroom*. Theory Into Practice, 47, 220-228.

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).

Sadik, A. (2008), *Digital storytelling: A meaningful technology-integrated approach for engaged student learning*. Educational Technology Research and Development 56, 487–506.

Salimun, S. (2011), *Basic components in creating contents for moral subject using digital storytelling: A conceptual model*. Unpublished Masters thesis, Universiti Utara Malaysia. Retrieved from http://etd.uum.edu.my/2551/1/Shirley_Salimun.pdf

Shewbridge, W. & Berge, Z. (2004), *The role of theory and technology in learning video production: The challenge of change*. International Journal on E-learning, 3(1), 31-39.

Solomon, G., & Schrum, L. (2007), *Web 2.0: New tools, new schools*. Washington, D.C.: International Society for Technology in Education.

Sylvester, R. & Greenidge, W. (2009), *Digital storytelling: Extending the potential for struggling writers*. The Reading Teacher, 63(4), 284-295.

Tan, T.G., & Hoe, F.T. (2007), *Research and contribution of Mara University of Technology Malaysia towards the teaching and learning Mandarin as a foreign language* [in Chinese]. Proceeding papers of 3rd International Forum on Teaching and Learning Chinese as Second Language. Taiwan Normal University.

Tan, T.G., & Lim, T.H. (2008), *Efficacy of multimedia teaching instruction in elementary Mandarin class*. Proceedings of CLaSIC conference 2008.

Tapscott, D. (1998), *Growing up digital: The rise of the net generation*. NY: McGraw-Hill.

Thang, S.M., Lee, Y.S., & Nurul Farhana, Z. (2012), *The role of the electronic portfolio in enhancing information and communication technology and English language skills: the voices of six Malaysian undergraduates*. Computer Assisted Language Learning, 25(3), 277-293.

Thang, S.M., Murugaiah, P., Lee, K.W., Hazita Azman, Tan, L.Y., & Lee, Y.S. (2010), *Grappling with technology: A case of supporting Malaysian Smart school teachers' professional development*. Australasian Journal of Educational Technology, 26(3), 400-416.

Thang, S.M., Najihah, M., & Norizan A.R. (2012), *The use of wireless technology in UKM: Challenges faced and its impact on English language learning*. 3L: The Southeast Asian Journal of English Language Studies, 18(1), 129-143.

Ybarra, R., & Green, T. (2003), *Using technology to help ESL/EFL students develop language skills*. The Internet TESL Journal, 9(3). Retrieved from http://iteslj.org/Articles/Ybarra-Technology.html.