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Using Digital Comprehension to Improve Reading Comprehension Skills among Year 6 Pupils

Mohd Nur Hifzhan Noordan[1]*, Aeida Nurhafidzah Zahili[2]

[1]Sekolah Kebangsaan Kuala Kenyana, D/A Pejabat Pelajaran Daerah, 96400 Mukah, Sarawak, Malaysia
[2]General Studies Department, Politeknik Kuching Sarawak, KM22 Jalan Matang, 93050, Kuching, Sarawak, Malaysia

*Corresponding author: aeidazahili@poliku.edu.my
Please provide an **official organisation email** of the corresponding author

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Abstract

This innovation product is invented to assist the understanding of level two primary school pupils (Year Six) in the storyline or chronology of stories contained in the syllabus such as in the Year 6 (SK) textbook, How the Tiger Got its Stripes. This is because the innovators found that their pupils were unable to comprehend the stories in form of text. They have also shown less interest in reading as they are audio-visual learners. This has caused these pupils to be unable to answer the questions based on the story correctly. *Digital Comprehension* has proved that it has successfully helped these pupils to comprehend story by listening, watching, and reading at the same time. Plus, it correlates the most to the six components in the Bloom's Taxonomy, which are Remembering, Understanding, Applying, Analysing, Evaluating, and Creating. The objective of producing this innovative product is to improve the pupils' understanding of storylines, to allow them to enjoy learning stories through reading and watching, and to have them answer simple questions related to the story. As for novelty, *Digital Comprehension* is created using the *'Courselab 2.0'* software and it can be published into an interactive application. So, it is a genuine idea in assisting their pupils. It has proven that *Digital Comprehension* had improved the pupils' performance in form of worksheets that contains two components: arranging storyline and answering comprehension questions. This innovation benefitted the society the most as it is user-friendly, editable depending on the story the teachers want to teach, can be integrated offline, and suitable for all ages.

Keywords: - Digital comprehension, Bloom's Taxonomy, Courselab 2.0

1. Introduction

Digital Comprehension is innovated with the assist of Courselab 2.0 application. It is a slideshow-like application, but it can be published so that it cannot be disturbed by the users. Only the creator can make the modifications onto the digital module. Once it is published, 'Digital Comprehension' will move in a one-way direction to have the users to go through the chronology of the process orderly. This means that the user cannot skip any part of the published application. This is to ensure that users really watch and answer all the quizzes given to them. Any incorrect answers will not allow users to move to the other questions. They will have to get the correct answer by hook or by crook.

We often hear that pupils say that reading is very boring for them. That includes many young people who are furthering their studies in the tertiary level admit reading is a very boring and dull activity to do (Hashim et. al., 2018). Thus, pupils in school always lose their attention while doing reading activity in the classroom. It will indirectly affect their performance in education. Pupils will be having problem in understanding the text and unable to comprehend it. Due to this condition, they will not be able to answer the comprehensive questions related to text they have read (Ien et. al., 2017). Some pupils will read for the sake of following the teacher's order without being able to know or understand the meaning of the text.

Therefore, finding an alternative to enhance reading activity in the classroom is very important for a teacher. Hashim (2018) believed that innovative and interesting aids such as digital comprehension is one of the effective ways to arouse pupils' attention and interest to understand a story. Instead of using the textbook only, the teacher can use a video to accompany the story. While reading the story, pupils can watch the story too. Thus, pupils will find it easier to understand the storyline. Besides, the digital comprehension software also has some questions regarding the story such as chronological and comprehensive questions, hence Digital Comprehension comes in as a digital innovation to further enhance classroom experience for students as well as aiding teacher's teaching tools specifically focusing on reading skills.

This digital innovation has profound that it has linked its purpose to the stages in the Bloom's Taxonomy as questions provided arranged properly according to the level of difficulty or in the hierarchy of the taxonomy itself. Plus, there is also a game inserted and believed by Hashim et al. (2019) can engage students' learning in the lesson.

2. Literature Review

2.1 Research Context

As for reading, it involves knowledge of certain writing conventions, whereby its direction in which a text is to be read varies from language to language such as English language, Chinese characters and Jawi. Reading is a thinking process because it involves thinking most of the time. It is the attempt of the reader to understand as nearly as possible the thinking of the writer. Individuals tend to infer, predict, and draw conclusions. Reading, especially complex and diverse materials, exposes learners to various perspectives and challenges them to analyse, evaluate, and synthesize information. It fosters the ability to think critically, make informed decisions, and approach problems with a more analytical mindset (Paul & Elder, 2006; Willingham, 2007).

Years had passed and the integration of ICT had emerged among the community from kids as early as birth up till senior citizens. Tons of reviews made by previous researchers worldwide on the development of ICT occurring in the field of education due to the emergence of technology. As the world keeps on evolving and various methodologies and innovations are introduced by creative individuals, the quality of teaching and learning keeps on increasing. In accordance with the everchanging educational field, a sum number of researchers has approved that information and communication technology (ICT) plays a vital role in the field of teaching English as a second language (TESL) and even teaching English as a foreign language (TOEFL). With the emerging of the ICT as an innovative tool in language teaching, English Language teachers as well as the researchers themselves are anticipated to adopt and adapt the new sight of integrating the basic ICT skills in the English Language teaching and learning fittingly. Scholars have highlighted the shift in language pedagogy brought about by technology. Traditional teaching methods are being augmented or replaced by digital tools, online platforms, and multimedia resources. Research suggests that integrating technology into language pedagogy enhances instructional strategies, making lessons more engaging and interactive (Chapelle, 2001 and Warschauer & Healey, 1998).

2.2 Theoretical Framework

This study was guided by the underpinnings of the theory Anderson's Online Learning Model. While this theory emphasizes the usefulness of technology to distant learners it is paramount in this research for its instance on importance of technology to include a blended approach during learning. By incorporating online components, learners gain access to a variety of resources, interactive activities, and personalized learning pathways. This integration fosters self-directed learning and allows for flexibility in pacing, accommodating diverse learner preferences (Garrison & Kanuka, 2004; Bonk & Graham, 2006). The integration of technology not only enhances the convenience of online learning but also makes the learning process more enjoyable. User-friendly interfaces, mobile compatibility, and adaptive learning technologies contribute to a seamless and enjoyable educational experience for all parties involved (Dabbagh & Kitsantas, 2012 and Siemens & Gasevic, 2012). Digital platforms offer a wealth of multimedia resources and interactive content that cater to diverse learning styles. Learners can access a variety of materials, such as e-books, videos, and simulations, contributing to a richer and more comprehensive understanding of the subject matter (Bates & Poole, 2003; Mayer, 2005). They also mention that the availability of digital resources supports knowledge acquisition and application. Furthermore, the researcher posited that the internet has a capacity of hyperlink that is compatible to human's mannerism of storing knowledge. The constructivist nature of hyperlinks contributes to the preference for digital learning over traditional forms of education. The interactive and exploratory features of hyperlinked content resonate with the evolving expectations of learners in the digital age. As a result, digital learning platforms that leverage hyperlinks are seen as more adaptable and aligned with the constructivist approach, offering a more engaging and personalized educational experience (Hannafin & Land, 1997; Siemens, 2005). This is the importance of any form of interaction between the teachers, content and the students.

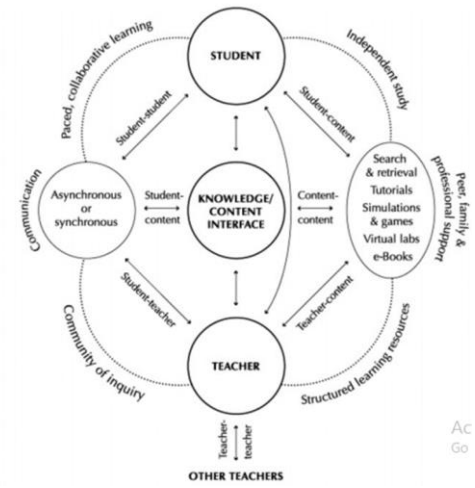

Fig. 1. Anderson's online learning model

3. Methodology

Digital Comprehension was experimented with eight students of Year 6 at Sekolah Kebangsaan Kuala Kenyana Mukah over a period of 2 weeks where the students are being observed and reflect more carefully, more systematically, and more rigorously than they usually do. A pretest and posttest were also done using semi structured interview, observation and worksheet which was following Kemmis and McTaggart (1988) action research in the form of self-reflective enquiry undertaken by the students. The students' attitude in learning was observed during these 2 weeks of fun learning experience.

The data obtained is processed using SPSS software (Statistical Package for Social Science version 22.0). This study uses descriptive statistics by using the mean score value for the purpose of data interpretation. The researcher has determined that the criteria for analysis and interpretation of the mean score are divided into three levels as suggested by the Universiti Teknologi Malaysia Student Self-Development Committee. The interpretation of the mean score value used are low, medium, and high.

3.1 Action Research Model

The researcher had adopted the Kemmis and McTaggart's model (1988) in this conduct of this digital innovation as shown in Fig. 2.

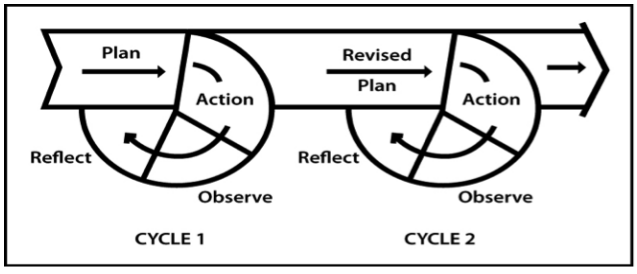

Fig. 2. Kemmis and McTaggart's model 1988

The researcher conducted his lessons by using two different methods, conventional method, and the application of Digital Comprehension. In the first stage, the innovator just read the text or script from the textbook blindly and discussed it with the participants as a conventional method. In the second stage, he improvised his pedagogy by using Digital Comprehension, which was technology-based learning as shown in Fig. 3. The researcher facilitated the pupils with a spacious room for the lesson to have them be able to watch the product together during the lesson, led by a pupil who is proficient in English Language. This allows leadership skills among young kids (Kwan & Yunus, 2015).

Fig. 3. The teacher conducted the digital comprehension in the Year 6 class

3.2 Data Collection Methods

The researcher had collected the data through observation, interview, and document analysis (Creswell, 2012). Through the participants' observation, the researcher used the structured and unstructured observations, and they were observed in both cycles. The researcher also analyzed the data from the participants' worksheets retrieved from both cycles. He also interviewed the participants after both cycles as soon as both lessons ended.

3.3 Data Analysis Methods

The data collected from the three instruments used, specifically observation document analysis, and interview. The researcher used descriptive statistics to analyze the data collected. Ma (2015) explained that the data analysis for qualitative research is the process of moving from the data collected into some forms of explanation, understanding or interpretation of the people or situations being investigated. Hence, the researcher would describe every detail of the data collected.

The first data analysis method applied was the qualitative analysis. Based on the worksheets collected from the participants, the researcher analyzed the length and availability of answers provided by the participants

in the comprehension. As there were answers provided, the researcher could predict that participants were confident and be able to understand the story 'How the Tiger Got its Stripes'. When there was no answer given, the researcher can infer that the individual was unable to comprehend and had had less confidence in proving his or her answer.

The second data analysis method was quantitative analysis. This is where the researcher got the data from the correct answers in arranging the chronology of the story 'How the Tiger Got its Stripes'. The more correct answers achieved, the better their understanding is. As a participant did not manage to get any correct answer, he or she is counted as acceptable due to his or her learning disability as the researcher wanted the participant to not feel left behind.

The third data analysis method was thematic analysis. Back in rural environment, ICT is not the main concern of teachers there. Conventional methods are said to be effective, having excuses that ICT is not applicable in educating rural kids. As they were given a chance of integrating the ICT during the research dissertation, they were found to be excited and curious of using the laptops. This has shown a positive attitude towards learning English Language.

4. Finding and Analysis

The findings of the innovation show few impacts that can be observed. First, pupils managed to improve on their ability to arrange the story by its chronological. This has made both RO and RQ1 achieved easily. The first component of the worksheet is meant to test the pupils' memory on the correct order of the storyline.

Secondly, pupils can answer comprehensive questions correctly. Having it well-said, RO3 and RQ3 have been achieved. The comprehension questions are prepared in aligned with the hierarchy of Bloom's Taxonomy. The questions will get more difficult and more difficult up till the last question where pupils must generate their own ideas in modifying the story.

Finally, pupils show interest in learning the story through reading and watching. The researcher interviewed all the pupils and got their feedback. Since all of them were staying in the school dorm, the ICT access was quite limited. So, they showed great interest as they were allowed to integrate ICT in their lessons. Not only that, but they were also asked to listen to the videos to understand the story. The quizzes and games provided made the lesson more interesting where the pupils enjoyed answering and had fun guessing the answers and played the game provided. So, RO2 and RQ2 were achieved.

From getting almost all wrong for the chronological and comprehension questions, pupils managed to get less mistakes and errors. Watching the story while reading helps pupils to understand more where they can see the actions of the characters while they read the scenes.

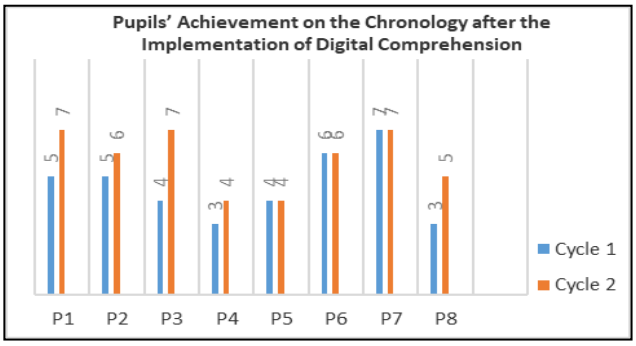

Fig. 4. Data analysis on pupils' achievement on chronology questions

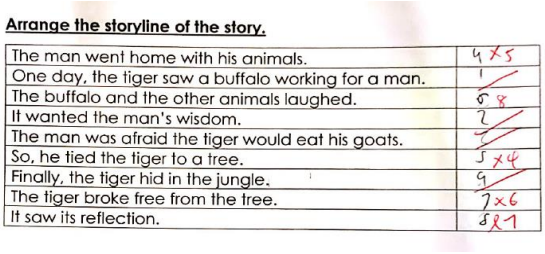

Fig. 5. Pre-test for chronological activity

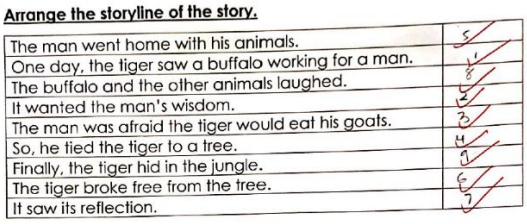

Fig. 6. Post-test for chronological activity

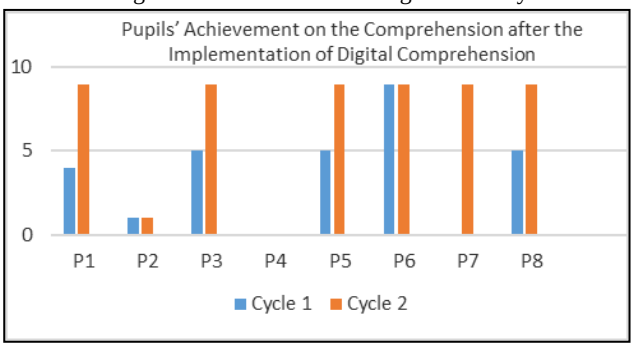

Fig. 7. Data analysis on pupils' achievement on comprehension questions

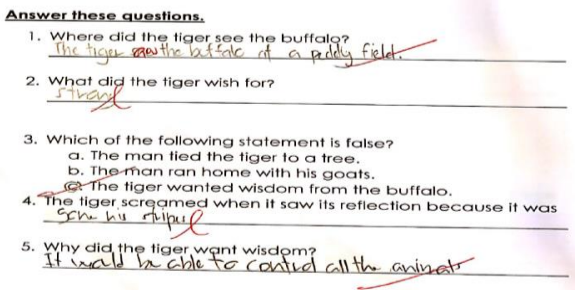

Fig. 8. Pre-test for comprehensive questions

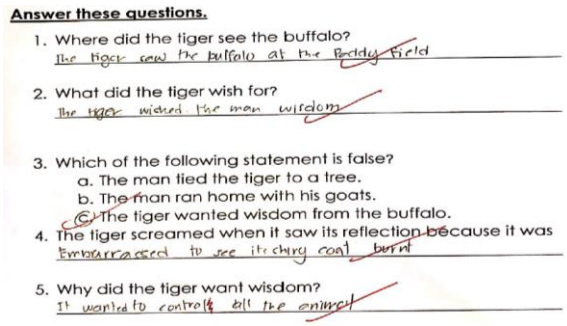

Fig. 9. Post-test for comprehensive questions

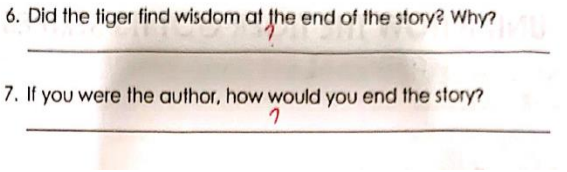

Fig. 10. Pre-test for HOTS questions

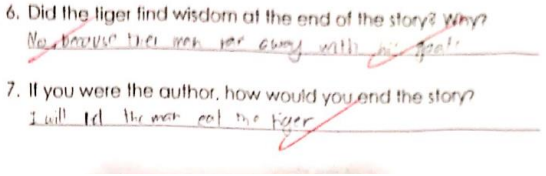

Fig. 11. Post-test for HOTS questions

5. Conclusion

To sum up, the results from this innovation advocates that digital comprehension gives a great impact to pupils' reading comprehension skill especially those in the primary school. Furthermore, Leu et al. (2015) argue that educators need to equip students with the competencies to navigate the complex terrain of the digital world, emphasizing the development of digital literacy skills that extend beyond the classroom. The application itself is editable. Thus, it is suitable for every level of education. Teachers can set the questions according to the learners' levels or language fluency. Besides, it can be used for free and offline. It is very convenient for teachers in rural areas to use it in the classroom.

Nevertheless, there are few suggestions which could be taken into considerations to improvised the digital comprehension application (Pazilah et. al., 2019). Firstly, teacher can draw the scenes by him or her own yet keeping the original chronology. Instead of using a video made by someone else, the teacher can produce a video by compiling all the drawings. Secondly, the questions should variety just in case a class of 30 – 40 pupils want to use the digital comprehension application. The current activities are more to individual activities whereas current education promotes collaborative activity.

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