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Research Report: A Study on the Use of Electronic Stories in Malay Language Teaching*

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Objectives

Bilingualism has been the cornerstone of Singapore's language policy. For the Malays who are in the minority in Singapore (about 14% of total population), attendance at the government Primary Schools entail the learning of English as the first language or language of instruction and Malay, their mother tongue, as a second school language.

It was revealed that language shift towards English had occurred and more and more homes will be using English instead of Malay as the most frequently used language at home. Thus, it is imperative that the teaching of Malay in the schools be enhanced and a more interesting and dynamic approach towards its teaching should be implemented at the school level. The general aim of this study is to contribute to this improvement in Malay language teaching

As Malay language classrooms in Singapore are equipped with computers and LCDs (liquid Crystal Display) projector, e-books could be shown to the whole class to aid in the learning of language skills such as reading and reading comprehension. These teaching materials could provide an enjoyable learning experience for the pupils and at the same time, teach or reinforce their vocabulary, language structures and language skills. As Malay story books are not easily available, another related aim of the study is to produce quality stories in the form of e-books that can help ease the scarcity of such materials.

Realizing the importance of stories in gaining students' interest in learning a language, and three-year study was conducted to find out about its effectiveness as a learning tool in the Malay language classroom settings at the lower Primary Level. An important part of the research is the creation of stories or e-books which is an electronic version of children's illustrated books (as defined by Higgins & Cox, 1997 and Grace Oakley, 2001). But more specifically the study aims to investigate the effectiveness of using the e-stories produced as a teaching material in Malay Language classrooms at the lower Primary Level.

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Research Framework

The research framework undertaken by the project is divided into three phases of development:

1st Phase: To write and develop children's stories in electronic form, suitable for use as instructional materials for Malay Language teaching

2nd Phase: To conduct an experimental study on the effectiveness of using the developed stories as instructional materials in teaching Malay Language in lower primary schools.

3rd Phase: To conduct interviews and obtain feedback from teachers on the use of the e-books to teach Malay.

For the first phase of the project, stories about animals – spider, frog, fish, tortoise, monkey, cow, birds, snake, elephant, bees and bears were initially created by teachers in a workshop. Six stories were selected and then revised, rewritten and edited by the research team. After the final drafts were completed, drawings, graphics and animation as well as the audio input were put in place using Flash Macro Media program. Finally the stories were produced in CD forms.

Before being utilized in the classroom the texts of each book were subjected to analysis of the readability level using a suitable readability formula for Malay language developed by Khatijah Rohani (1984).

$$Y = -13.988 + 0.3793 \times (\text{words per sentence})^* \\ + 0.0207 \times (\text{no. of syllables})^*$$

(*based on 300 words) .

With this as the basis for difficulty level of the reading texts, two books were chosen for each level of Primary 1, 2 and 3. Therefore, altogether six e-books were produced. The titles of the e-books and the readability levels are as follows:

(1) Anbut Si Labah-labah	- 1.969
(2) Sang Kura-kura	- 1.579
(3) Beruk Yang Malas	- 2.876
(4) Gagak dan Serigala	- 2.985
(5) Gajah yang Nakal	- 3.32
(6) Beruang Yang Berbau	- 3.8

Consequently, lesson plans, including tests for teaching of reading comprehension for each level were developed by the team of researchers and teachers who will be teaching the lessons.

An experimental study to investigate the effectiveness of the e-books produced as teaching materials in the Malay language reading and writing lessons was conducted. Research questions investigated for this 2nd and the 3rd phase focused on:

1. What are the pupils' responses towards the e-books or e-stories produced?
2. How effective is the use of the e- stories in developing the reading and writing skill of the experimental group?

3. How can these e-stories or e-books assist teachers in teaching Malay Language?

The Sample

A structured sampling approach was utilized. Ten primary schools in Singapore were selected based on locations, distribution and size of the Malay pupils in the schools. The respondents of the study were Primary 1, 2 and 3 pupils learning Malay, randomly chosen from each level of the selected schools. Altogether 2,808 students were involved in the study.

Method

For each level of the Primary 1, 2 and 3 pupils in a participating school, two groups of respondents were drawn, the experimental group and the control group. Teachers were asked to randomly select any two classes for each level and randomly assign one of the two chosen classes into the Experimental Class and the other into the Control Class. Once assigned, the two groups will be taught differently: the Experimental Class will be taught using the e-books while the Control Class will be taught the same lesson, using the same story texts as the e-books, but printed in an A4 paper text format.

Teachers who conducted the lessons were told to use the same teaching objectives and exercises for both groups. Therefore only the format / media of the stories were different (multi-media vs. print). A special coding system to analyze the lessons in session and through video recordings was designed. The same teacher was asked to teach both groups. Interviews with teachers were conducted to obtain their views, opinions and feedback. All these interviews were also recorded and transcribed.

It should be mentioned that before the actual study, a pilot study was conducted in one particular school in order to ascertain the feasibility and appropriateness of the lesson plans, exercises and test instruments.

Data Collection

Quantitative data for the experimental part of study were obtained through formal observation of lessons as well as from pupils' reading comprehension tests designed by the researcher. Data collected for the lesson observation utilized The Malay Language Teaching Observation Scheme which is 5-point scale evaluation of pupil's level of engagement, verbal and non-verbal responses in the lesson observed. Qualitative data were drawn from the interviews with participating teachers. This paper reports the summary of the main findings of both the qualitative as well as the quantitative aspect of the study.

Result of the Experimental Study

The scores obtained in the reading comprehension tests done by every pupil in the experimental and the control groups of every level, were computed. Comparison of means obtained by the two groups was then analyzed by using t-tests.

Overall results showed that the reading comprehension attainment of pupils who were taught using the e-books (the Experimental Group) were significantly better in the t-tests compared to those who were not exposed to it (the Control Group).

In addition, valuable information was elicited through the observation instruments with regard to the uses of e-books as a teaching tool. A more detailed result will be provided in the main paper.

Findings from Interview Sessions with Teachers/Users

A heartening feedback given by the users was comments on the usefulness and the interest shown by students when e-books were used. More important, the texts presented in the e-book version, with the use of sounds, animations and graphics helped to make reading light and easy for the students in the experimental group.

From the interview sessions conducted with the teachers involved in the study, we learn that the electronic books should be made more interactive. The characters should have more 'movement' and made more interactive with students able to control and teachers able to prompt them of what will happen next. Teachers would like the e-books, to be equipped with many other features such as simple questions at the end of the story to test students' understanding. Online worksheets or exercises on adjectives, synonyms, antonyms, conjunctions, articles, as well as word lists on vocabulary and meanings of words which are new to the students were also mentioned. Relevant games such as crossword puzzle, and songs for sing-along were also suggested to be included in future e-books.

Apart from the above, some technical support was suggested for efficiency. For example difficult words found in the story should be underlined or highlighted in bold so that students can learn the meanings of the new words just by moving the cursor over the word intended. The word should then become highlighted when the meaning of the word appears.

Another feature teachers would love to have is a page full of examples of applications of the difficult words introduced in the story which students can refer to at the end of the story. By this, students would be able to fully maximize the usage of the electronic books in the endeavour to learn the language.

Teachers also request for e-books that can run automatically without needing the teacher to station herself near the computer to click the mouse. This will allow teachers to move about in the classroom freely and thus be able to monitor and manage the classroom in a more effective manner.

Making the electronic books as part of the curriculum is something which matters greatly to all teachers. Thus, they are very hopeful that eventually when schools are provided with the electronic books, the themes of these e-books will blend in with the curriculum. A few teachers also suggested that in an effort to appeal to students in the upper primary level who are slightly more mature, electronic books should also be made based on themes such as history and ancient times.

Significance

The use of technology is more important than ever now, in Singapore schools, where teachers are required to be computer literate and to conduct IT lessons in teaching all subjects including Malay language. However, few empirical research studies were conducted to investigate the effectiveness in using such technology in the actual classrooms. This experimental study on the use of e-books in the form of stories for language learning will not only prove the effectiveness in using the electronic media, but also shed more light on the kind of e-books that should be produced, the methods employed by teachers and above all the learning styles of the pupils. The significance of this study for Malay language teaching is pioneering in nature. It is thus able to contribute to more knowledge in Malay language teaching pedagogy.

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