Developing Reading Comprehension Skills for Grade 6 Students at Piboonbumpen Demonstration School using Multimedia

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Abstract: *This research aims to develop reading comprehension skills for grade 6 students by using Multimedia. It has been conducted for the sixth-grade students at Burapha University: Piboonbumpen Demonstration School. The sample group is comprised of 34 sixth grade students in the academic year 2016 of Burapha University: Piboonbumpen Demonstration School, Chonburi. This sample was selected by applying the purposive sampling method. The tools used for collecting data are lesson plans, which include multimedia and an ability test for reading skills which consists of 30 questions. The data was analysed by using dependent t-test statistics. The result of the analysis shows that the efficiency of teaching with multimedia was 83.33/ 84.90, higher than the criteria standard of 80/80. The reading skills of the students are higher after the training using multimedia for teaching in the reading comprehension skills lesson at a statistical significance level of .05.*

Keywords: Reading Skills, the development of reading skills with multimedia

Introduction

Reading comprehension is very important in modern society. Reading is not used only for entertainment purposes but it is also used as a tool to support education and keeping up to date on various subjects in the news. People who read regularly can truly understand the aim of a subject and use that knowledge to benefit themselves and others. At present, reading problems can be a significant hindrance which should addressed at the earliest opportunity. When students lack reading comprehension skills, this can affect their learning for many subjects. This research study discovered that the main causes of reading comprehension problems are as follows:

Cause 1 Vocabulary. When students exhibit difficulty in understanding and deriving a meaning from a piece of text, explicit instructions should be in place to provide a clearer understanding. Difficulty in understanding a piece of text can come from not knowing the meaning of words or concepts, not capturing enough factual information and not having pieces of text flowing in relation to each other in a sentence. In order to resolve reading comprehension problems, teachers should first consider focusing on expanding the students' vocabulary and developing their understanding. Phaisalvornpong (2000, p. 110) confirmed this with her research, since she mentioned that by using reading exercises, students are able to improve on their reading and their vocabulary. Teachers should start with letting the students read short stories with easy vocabulary and simple storylines. Then they should continue by gradually increasing the difficulty of the subject. When students discover new vocabulary, teachers should let students use dictionaries to search for the meaning of that word. This can be turned into a dictionary based competition so students try to quickly find the meaning of each word first to win prizes. In return, this activity gives students enthusiasm to learn new

vocabulary. When students know more vocabulary, they will be able to comprehend the essence of the story.

Cause 2: Lack of Concentration. The students who lack concentration should be introduced to a variety of topics in the lessons as a means of improving concentration. This agrees with research conducted by Bunyaritrungrote (2011, p. 10), 'Developing Reading Exercises for Students in Grade 3'. As mentioned in his research, the teacher must develop various reading topics, for example natural resources, environments, tales, traditions and cultures. Reading exercises should contain related illustrations in order to attract the attention of the reader. This can be achieved by using intuitive teaching techniques that make use of multimedia tools like animation and audio, such as computer games, video on Internet, etc. The reasons that students are less likely to learn and develop an understanding behind a subject or topic can be due to the difficulty of the reading exercise and lack of engaging activities. Hence, teachers should make use of different types of activities to stimulate the curiosity of students. Teachers may create tutorials on the computer (CAI) for the students to do at home. This changes the style of the homework from doing exercises on paper to interactive homework online. Teachers should give a variety of topics for students to read, then the teacher should analyse the main point of the story together with the students. Furthermore, teachers should let the students select their own stories to read. When students are interested in a subject and activities in a lesson, students should be capable of improving their reading skills even when the subject is difficult.

Cause 3: The Topic of an Article. The topic of an article can result in a student's lack of interest. This can occur when a topic or story is far above the student's reading capability or has a complicated storyline. The mind map technique is able to help recover from this problem as advised by research conducted by Suriyawong (2012, pp. 96-99). The researcher developed reading comprehension exercises using mind map techniques for grade 3 students. A mind map is a diagram used to visually organize information. A mind map is hierarchical and shows relationships among pieces of the complete structure. This helps the reader to understand the topic even if the topic is difficult. Students are also able to have fun while reading. Furthermore, using a mind map is good practice for students to use their creativity and to link student's ideas. The students will able to draw conclusions about what they read and distil long stories into short simple stories for ease of communication.

Cause 4: Students dislike reading. Some students have a bad attitude towards reading or dislike reading altogether. This issue can be solved by allowing students to select their own type of reading material. This will make students more interested in the topic of their choice and then continue to enjoy reading. This is a very important technique in teaching since this will motivate the students to read. When students begin to take an interest in reading, this is a first sign of success as shown in a study conducted by Khuntee (2009, p. 78). Kinnear's research focused on the comparison of reading comprehension in elementary school (Wat Sribunruang School) between students who chose to read advertisement material and a group of students who were instructed to read advertisement material by their teachers. The result was that the students who chose to read the advertisement material were able to demonstrate a good level of understanding in comparison to the group of students who were instructed to read the advertisement material. The researcher conducted a study based on the national education test

(Ordinary National Education Test: O-NET) of students in grade six at the national level. They found that the characteristics of the test are measured in accordance to a The Basic Education Core Curriculum B.E.2551 (A.D. 2008). For the Thai language curriculum exam, many questions focus on Learning Standards and Indicators TH 1.1, which covers the subject of reading. The purpose of the test is to raise the awareness of the power of reading to improve the student's general knowledge, to develop their ability to make good judgments on a daily basis, and for students to continue to have a habit of reading. The test consists of examples of poems, stories, and news articles about events for the student to read. It measures whether they can comprehend information in the article.

Therefore, the researcher, as a teacher of the 'Thai language' subject, is aware of existing reading problems that students have. The various reading problems arise when there is a lack of good reading skills. Students with poor reading skill are uninterested in the reading material. Those students are not able to see the importance of reading, and have noticeable reading errors. They lack reading comprehension skills and those students have a lack of interest in an activity or a lesson that involves reading. Students who achieve below average grades for the subject 'Thai language' are a significant concern and this issue should be addressed at the earliest opportunity. A variety of teaching material can be used for learning and teaching. The teacher's main aim is to transfer their knowledge to the student, so the students can apply that knowledge in order to develop their skills and make decisions in a variety of situations. Multimedia based teaching material has different effectiveness levels depending on the media type. Therefore, teachers should consider the main purpose of that subject and prepare suitable multimedia based resources for that lesson. The most effective methods of teaching in lessons include the use of multimedia.

This research aims to improve the reading comprehension of primary school students in Grade 6 using multimedia based resources. Multimedia resources are used to help students develop their reading comprehension skills more quickly. Reading comprehension skills can be used to benefit students' daily live and improve their learning potential in the future.
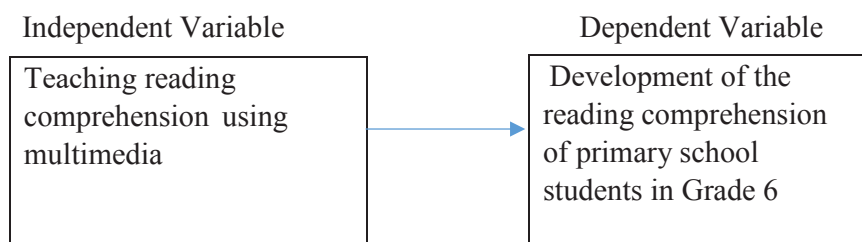
Conceptual Framework

Independent Variable   Dependent Variable

| Teaching reading comprehension using multimedia | → | Development of the reading comprehension of primary school students in Grade 6 |

Figure 1 Conceptual Framework

Research Objectives

1. The efficiency of reading comprehension of grade 6 students at Piboonbumpen Demonstration School, Burapha University, using multimedia is in what level?

2. Will the reading comprehension ability of students taught using multimedia in grade 6 at Piboonbumpen Demonstration School Burapha University improved or not?

Research Questions

1. The efficiency of reading comprehension of grade 6 students at Piboonbumpen Demonstration School, Burapha University, using multimedia is in what level?

2. Will the reading comprehension ability of students taught using multimedia in grade 6 at Piboonbumpen Demonstration School Burapha University improved or not?

Research Hypothesises

1. Efficiency in teaching reading comprehension using multimedia of grade 6 students at Piboonbumpen Demonstration School, Burapha University, will have an efficiency of 80/80

2. Comparison of literacy rate of reading of the students using multimedia teaching resources of grade 6 students at Piboonbumpen Demonstration School Burapha University might be different than before and after.

Research scope

1. The population sample used includes a selection of 34 students from a total of 155 students in Piboonbumpen Demonstration School in Grade 6/5. A sample of 34 students was selected using a purposive sampling method, since the class selected is part of the international program where some of the students are international and have difficulty reading Thai language.

2. The research durations were the first semester and the second semester of academic year 2016 for a total of 11 hours.

3. The independent variable is the reading comprehension teaching technique for primary school Grade 6/5. The dependent variable is the achievement of the student's reading comprehension skill after learning with use of multimedia teaching resources.

In this research, the researcher was assigned a sample group of 34 students from Primary School Grade 6 at Piboonbumpen Demonstration School which was selected by using the purposive sampling method.

The research tools

1.1 Lesson plans for developing reading comprehension with using multimedia.

Teachers must use media that includes Internet websites, images, videos, activity games, iBook, and diagramming. The lesson plan consists of 5 lessons:

Lesson 1 Reading Articles Using Mind Mapping
Lesson 2 Reading Investigative Articles
Lesson 3 Reading and Watching Cartoon Movies
Lesson 4 Reading and Analysing Quotations from Music
Lesson 5 Reading and Analysing News

1.2 A reading comprehension skills test with 30 questions.

Methodology

Researchers conducted the research by teaching and using multimedia in reading comprehension lessons in the second semester of the academic year of 2016.
The researcher must collect the data in the following order:

1. The researcher used a pre-test of reading skills to test the 34 sample students. The test was a 30 minute test. The test results were recorded in order to be used in the analysis of statistical data.

2. The researcher always conducted learning activities using of multimedia in sequential order according to the lesson plans.

3. After completing all of the learning activities with the use of multimedia in the lesson plans a 30-minute comprehension practice test was given to examine the student's understanding.

4. Analysis of student test results before and after using the multimedia enhanced method of learning was done using statistical methods to test the hypothesis. The methods used were the mean (X), standard deviation (S.D.), and the t-test to compare the progression of students before and after they received lessons using the new style of instruction.

Research Results

Table 1 shows the results of the effective value of multimedia as a supplement for developing Thai reading comprehension (E1) scores.

Lesson	Total scored	$\bar{X}$	SD	Percentage
Read Articles Using Mind Mapping	4	3.04	0.58	76.00
Read the investigations	4	3.14	3.82	78.00
Read the advertisements	4	3.82	0.47	95.00
Reading and Analysing Quotations from Music	4	3.39	0.47	84.75
Reading and Analysing News	4	3.69	0.42	92.25

The Effective Value of Multimedia (E1) 83.30

The average of effective value of reading comprehension scores when using the multimedia is 83.30.

Table 2, shows the results of the effective value of multimedia for developing reading comprehension scores (E2)

Instruments	Full score	Total /Mean Score	Percentage
Achievement Test	30	866/25.47	84.90

From Table 2, it is clear that scores for students· reading comprehensions ability were significantly improved. The students' 84.90% indicates that teaching reading comprehension using multimedia is more effective than traditional methods.

From the results of the data in tables 1 and 2, it is apparent that effective value of multimedia for developing Thai reading skill (E1/E2) is 83.30 / 84.90 with prescribed value at 80/80 and the average score of the students· achievement test following the use of multimedia for developing reading skill was markedly improved.

Table 3 Comparison of Reading Ability of Students before and after learning with multimedia

Measurement of critical reading ability by multimedia	N	$\overline{X}$	SD	t	*p
Before teaching by multimedia	34	19.97	2.96	1.6923*	.000
After teaching by multimedia	34	25.47	5.10		

*p<.05

Table 3 shows that the ability of reading comprehension of grade 6 students after learning through multimedia at Piboonbumpen Demonstration School Burapha University is higher than before, and the post-test score is significantly higher than the pre-test score with a statistical significance of 0.05

Conclusion

The progress of reading comprehension skills by students at Grade 6 can be concluded as follows:

1. The results of the development of reading efficiency in terms of student reading comprehension skill after learning with multimedia were measured using reading comprehension tests. The result of the development was an efficiency of 83.33 / 84.90, which is higher than the standard of 80/80.

2. Reading comprehension skill of the students is higher after learning using multimedia with statistical significance of 0.05.

Discussion

1. The subject of teaching reading comprehension to students at primary school grade 6 has been developed using multimedia as a teaching tool, yielding an efficiency of 83.33/85. This shows the relevance of using multimedia in reading comprehension lessons, where the

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teacher is responsible for creating multimedia correctly. The researcher studies both the teacher's perspective and the student's perspectives. The researcher was also responsible for collecting suggestions from feedback provided by specialists for teaching reading comprehension in classrooms, as well as the arrangement of content and multimedia used. The multimedia should be a story or topic that gains students' interest to improve the student's concentration. The reading comprehension with use of multimedia lessons contain 5 topics which are aim, content, activities plan, suitable activity and multimedia. The multimedia created by the researcher under the technology media categories are electronic books (iBook), websites, and videos. The researcher also has another form of media available by using games, pictures, and other activities that relate to the subject content and attract the student's attention. Teaching with media (multimedia are a combination of games, images, and video clips) using beautiful and colourful forms of content to encourage students to learn, understand and remember the subject for longer was done as suggested by Lersine (2011, p. 8). The journal article states that using good teaching multimedia tools containing different types of materials such as real objects or models, images, diagrams, instructional materials, audio, films, exercises and other materials should be used in combination to deliver the content. According to Promvong (2000, p. 118), the key to teaching with media is to use various forms of media in combination so each piece of content works in relation to and in support of the other. This concept helps students to learn the subject from different sources. The Basic Education Core Curriculum B.E. 2551 by The Ministry of Education (2007) stated that the use of multimedia in teaching improves and develops the learning process. This provides the student access to the knowledge with efficiency by using a variety of materials using document technology (website / CD / television). The use of media should match the skill level of students in order to provide a more effective and engaging lesson. Singha (2007) researched and developed multimedia to be used in Thai language grade 3 lessons for topics about leading consonants. The researcher used Microsoft PowerPoint, word cards and practised exercises yielding an efficiency performance based result of 83.17/82.87, which is higher than the criteria of (80/80). Benjid (2006) researched the development of multimedia used in Thai language for grade 6 students under the topic reading cluster. The results showed that the efficiency of student results on the test after using multimedia was 90.30/80.65, which again is higher than the standard criteria of (80/80).

      2. The result of reading comprehension skills of students in grade 6 were higher after conducting the study which has a statistical significance of 0.05. This agrees with the research hypothesis, as the researcher created mixed media using student feedback and opinions. Media is very suitable in lessons which generally contain images, slides, games, websites, computer games, etc. These help enhance the atmosphere of learning and motivate the student to learn more about the lessons. In addition, The National Education Act B.E. stated that learning activities like self-learning or self-teaching give a direct experience to the individual. Learning activities also help to develop student's intellect and thinking processes when the students interact with others to find a solution. Mlithong (2000, p. 93) suggests that using more than one type of media will make the student gain more knowledge in comparison to the case when only a single type of media used. Hence, one type of media may not achieve all of the objectives. Teachers should use many different types of media in a coherent and mutually supportive way to enhance the learning process. The lesson plans and lessons that

researchers create must be suitable for multimedia. This is consistent with research by Dyer (1985, pp. 2641-A) who studied the development of lessons and lesson plans which aim to improve the reading skills of students in grade 4. The result shows that the studies into the learning plan and ready-to-read lessons for Thai language fourth grade elementary school students had an efficiency of 81.44/87.80, which exceeded the 80/80 pre-set criteria. This also agrees with the work of who studied the use of reading comprehension for reading and comprehension. The results show that there is no difference between the two groups when one of them studied with the linkage diagram before reading. However, significant differences were found in the study of groups with and without using a summary diagram. It also found that the arithmetic means for transferring the learning of a group which learned by using a pre-reading linkage scheme, which emphasizes the importance of the subject, is higher than a group of the learners using the linkage diagram, without emphasizeing the subject and the groups that do not use the linking scheme with gave statistical significance of 0.01. Chantra (2000, p. 78) created a Thai teaching package for training reading comprehension for elementary school students in grade 5 in the Office of Private Education, Songkhla Province. After learning reading comprehension in Thai language with this method the students' scores were higher than the pre-test scores with a statistical significance of 0.01, which is above the standard. The teaching and learning process of reading comprehension with use of multimedia was tested by the researcher with grade 6 students with positive results, since the students improved in their reading comprehension skills.

Recommendations

     1. Use of multimedia in Thai language courses to improve reading comprehension should be used early in primary schools since young students need to build fundamental reading comprehension skills.

     2. Multimedia based technology like computers, projectors, audio and video equipment used should be of a suitable standard to aid teaching for the number of students in the classroom.

     3. Technology used in the classroom like computers or smartphones should only be used to aid learning for students. Hence, a sense of control should be implemented to meet objectives and not interfere with teaching activities.

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