

**THE EFFECT OF PHONEMIC SEGMENTATION
THROUGH INTERACTIVE WHITEBOARD
ELKONIN BOX MODULE AMONG
REMEDIAL CHILDREN**

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SULTAN IDRIS EDUCATION UNIVERSITY

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THE EFFECT OF PHONEMIC SEGMENTATION THROUGH INTERACTIVE
WHITEBOARD ELKONIN BOX MODULE
AMONG REMEDIAL CHILDREN

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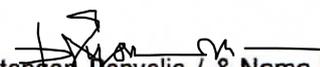
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ABSTRACT

The purpose of this study is to develop and evaluate the effectiveness of Interactive Whiteboard's Elkonin Box Module in improving phonemic segmentation skills among Year Two remedial students. Interactive Whiteboard's Elkonin Box Module had been designed based on Constructivist Theory, mastery learning and interactive learning. Quantitative approaches with quasi-experimental design were used for this study. A number of 60 Year Two remedial students from Muar district were selected using purposive sampling. The sample was divided into the treatment and control groups. The former went through a teaching and learning process using Interactive Whiteboard's Elkonin Box Module, while the latter learnt through traditional teaching. After the pre-test, three months of intervention was carried out to both groups of sample, followed by post-test. Data was analysed using descriptive and inferential statistics. Paired samples t-test showed that there was a significant increase in the achievement of treatment group from pre-test ($M=59.47$, $SD=27.242$) to post-test ($M=91.53$, $SD=12.566$), $t(29) = 6.254$, $p < .001$. The two sample t-test had shown that the achievement of phonemic segmentation skill in post-test of treatment group ($M=91.53$, $SD=12.566$) is higher than the post-test of control group ($M=79.17$, $Sd=22.588$), $t(58)=2.621$, $p < .012$. As a conclusion, the Interactive Whiteboard's Elkonin Box Module showed the effect on improving the phonemic segmentation skill among Year Two remedial students. This study implicates that Interactive Whiteboard's Elkonin Box Module should be applied to all remedial students in Malaysia in order to improve their reading particularly in phonemic segmentation skill.





KESAN KEMAHIRAN SEGMENTASI FONEMIK DENGAN MENGUNAKAN MODUL ELKONIN PAPAN PUTIH INTERAKTIF DALAM KALANGAN MURID PEMULIHAN

ABSTRAK

Kajian ini bertujuan untuk membina dan menilai keberkesanan modul *Elkonin* papan putih interaktif bagi meningkatkan kemahiran segmentasi fonemik dalam kalangan murid pemulihan Tahun Dua. Modul *Elkonin* papan putih interaktif dibina berdasarkan teori konstruktivis, pembelajaran masteri dan pembelajaran interaktif. Kajian ini menggunakan pendekatan kuantitatif dengan reka bentuk kuasi eksperimen. Sebanyak 60 murid pemulihan Tahun Dua dari daerah Muar dipilih menggunakan persampelan bertujuan. Sampel dibahagikan kepada kumpulan rawatan dan kawalan. Kumpulan rawatan mengikuti proses pengajaran dan pembelajaran menggunakan Modul *Elkonin* Papan Putih Interaktif, dan kumpulan kawalan mengikuti pengajaran dan pembelajaran tradisional. Selepas ujian pra, intervensi selama tiga bulan dijalankan kepada kedua-dua kumpulan sampel, diikuti dengan ujian pos. Data dianalisis menggunakan statistik deskriptif dan inferensi. Ujian-t dua sampel bersandar menunjukkan bahawa terdapat peningkatan yang signifikan dalam pencapaian kumpulan rawatan daripada ujian pra ($M=59.47$, $SD=27.242$) ke ujian pos ($M=91.53$, $SD=12.566$), $t(29)=6.254$, $p<.001$. Ujian t-sampel tidak bersandar menunjukkan bahawa pencapaian kemahiran segmentasi fonemik dalam ujian pos kumpulan rawatan ($M=91.53$, $SD=12.566$) lebih tinggi daripada ujian pos kumpulan kawalan ($M=79.17$, $SD=22.588$), $t(58)=2.621$, $p<.012$. Kesimpulannya, Modul *Elkonin* Papan Putih Interaktif menunjukkan kesan dalam meningkatkan kemahiran segmentasi fonemik dalam kalangan murid pemulihan Tahun Dua. Implikasi kajian ini menunjukkan Modul *Elkonin* Papan Putih Interaktif harus diterapkan pada semua murid pemulihan di Malaysia untuk meningkatkan kemahiran membaca mereka terutama dalam kemahiran segmentasi fonemik.



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LIST OF ABBREVIATIONS

ANOVA Analysis of Variance

IWB Interactive Whiteboard





CHAPTER 1

INTRODUCTION



This chapter will explain briefly about the introduction of the study. It consists background of the study, problem statement, conceptual framework, purpose of the study, hypothesis, significance and limitations of the study, and operational definitions.

1.2 Background of the Study

Reading skill is a noticeable milestone in the early stage in schools (Kern & Friedman, 2018). Although reading is formally introduced in the primary schools, some children begin to read before starting school. Some of the children facing





difficulties in the process of learning to read throughout primary school. This give negative effects on their desirable outcomes in their primary school.(Kern & Friedman, 2018). Being proficient readers in classrooms is a significant issue in education. Phonological awareness is one of these reading program. It is considered as a critical prerequisite for proficiency in reading skill. It helps to originate the development of word-recognition.

The critical role of phonological awareness in the early stages of learning to read provides and powerfully predicts and identifies remedial students who are at risk of reading problems in the early years of schools (Al Otaiba, 2016). The term phonological awareness is used to demonstrate different levels of metalinguistic skill regarding letter (grapheme)-sound (phoneme) association (Lane, 2019). It is important to indicate that in few studies dealt with the issue of phonological awareness and the phonemic segmentation in particular.

Al-Ghazo and Smadi (2019) pointed out that the objectives of the education is students should read in order to respond and understand the printed English words in various literary and authentic context. The remedial students requires additional skills in order to reach that level of understanding of the English texts. It should be more effective if learning is accompanied by the integration of educational technology, specifically the interactive whiteboard with Elkonin Box.





1.3 Problem Statement

Language is vital in every aspect of our lives because it allows people to communicate in a manner that enables the sharing of common ideas. However, many children still have difficulties in studying it and are little interested in it (Chang, R.C, 2016). Research found that many pupils failed to master language beyond the primary grades because they never master the phonics (Johnson & Street, 2015). Furthermore, declines in language mastering enrolment at high school are worldwide and extend beyond cultural and national borders. Educator must develop strategies that are underpinned by theories that address the obstacles imposed by the global declines in literacy skills (Everingham, Gyuris, & Conolly, 2017).



As critical phonological skills is an important skill learnt in primary education. Research also found that students still lack literacy skills. These skills include phonological and phonemic awareness (Alshaboul et al., 2016). The teaching of phonological skills provides some particular challenges for teachers in order to help pupils develop a conceptual understanding of these operations (Bicknell, Young-Loveridge & Nguyen, 2016). Pupils' problem in learning phonological skills especially in the phonemic segmentation started since they were in Year One where they need to learn the basic phonological skills (Norhayati Ahmat, Nurul Huda Mohamed, Nor Afzalina Azmee, & Sarah Mohd Adham, 2017).





Remedial students were likely to treat reading skills as hard tasks because they had received systematic instruction of reading through their language class. Over practice on reading using coding curriculum might train these children to rely more on codes for retrieval (Liu, R.D., Ding, Y., Xu, L., & Wang, J., 2016). Self-guided learning and teamwork with an appropriate tool and minimalist instruction increased pupils' intrinsic motivation towards reading, whereas the traditional English lessons, in which the motivation is more extrinsic due to the teacher's active role, were less appealing to them (Eronen & Karna, 2017). According to which remedial students recognize that they master less in reading skill, and therefore are less confident in their reading judgement (Lortie-Forgues & Siegler, 2016).



The traditional method of teaching reading used to be syllable methods. The traditional teaching interprets logic training by forceful memorizing the vowel and consonants composed by alphabets. This cramming way of learning has led to a result that pupils lack of interest in reading (Chang, R.C. & Yang, C.Y., 2016). It is undeniable that memorizing syllable method is good for reading. However, the concept of reading should be understood by the pupils before memorization occurred (Kendeou, 2019).

In twenty first century, interactive learning has become a form of new teaching and learning activity yet it has not been practiced in the formal education system in Malaysia (Sayed Yusoff Syed Hussain, Tan, W.H., & Muhammad Zaffwan Idris, 2016). The design and development of a interactive teaching could be utilized as an adaptable tool for the educational process (Katmada, Mavridis, &





Tsiatsos, 2016). Meantime, combination of computer and video with a variety of educational content may also achieve as good or better results as though traditional learning methods in the process (Prensky, 2017).

In Malaysia, the results provide a sharp indication that children in the Year One and Year Two apparently confront difficulties when learning English, and particularly in reading English texts (Mohd Razak Mohd Nordin, Shaharuddin Shaari, & Normah Kamarodzan, 2017). They lack early phonemic awareness instruction in their educational programs and they have not consequently reached an appropriate level of phonemic awareness in order to help them become quite good in reading (Al-Shaboul et al., 2013).



Based on the source from Muar District Education Office (PPD), the pass rate of English subject results in year 2018 are Year One (65.47%), Year Two (65.93%), Year Three (83.19%), Year Four (81.22%), Year Five (89.4%), and Year Six (91.34%), whereas their Grade Point Averages are 3.35, 3.23, 2.58, 2.73, 2.03, and 2.43 respectively. This data showed that Year One and Two obtained pass rate lower than 70 % which are 65.47% and 65.93% respectively and the highest Grade Point Average are 3.35 and 3.23 among all.

Therefore, it is clear that researches on identifying effective teaching and learning strategies are needed in Malaysia especially for the Year One and Two children who have not mastered in reading skill. Once the children enter Year three, they might be left out as the teacher will focus on teaching of sentences instead of



basic facts. Hence, this study will be carried out to develop and evaluate the effectiveness of phonemic segmentation through interactive whiteboard on word recognition among remedial students.

1.4 Theoretical Framework

Figure 1.1 shows the theoretical framework of this study. This study is experimental in nature, so the variables that could affect the study outcome have to be determined. Two types of variables identified are independent variable and dependent variable. The independent variable is controlled and manipulated by the researcher and does not depend on another variable. In this study, the independent variable refers to interactive whiteboard. This includes Elkonin Box module of phonemic segmentation. It is expected that this variable will have some effect on the dependent variables.

Meanwhile, the dependent variable is the factor measured in a research. It depends on the independent variables. In this study, the dependent variable is achievement of remedial students in reading skills. The achievement of the pupils will be measured by pre-test and post-test. The researcher will measure the pupils' improvement by comparing the results between pre-test and post-test.

The theoretical underpinning of the module is based on Bruner's Constructivist Theory. Bruner's Theory of Constructivism was influenced by the earlier theoretical research of Vygotsky and Piaget. His theoretical framework supports the belief that learners construct new ideas or concepts based upon existing



knowledge (Cherry & Overbaugh, 2016). The theory described by Piaget and Vygotsky is very important because knowledge is increased based on construction of learning and learners, instead of something that is fed from the others (Hayati, Fauzan, Iswari, & Khairdir, 2018).

Regarding to this, teachers should help the pupils to build their basic concepts from concrete thinking to the utilization of more conceptually adequate modes of thought (Kennedy, 2017). The process of learning is an active construction on phonemic segmentation. This means that students develop their skill through the selective experience to create a conceptual structure that forms the basis of their knowledge (Matanluk, Baharom Mohammad, Kiflee, & Imbug, 2016).

On the other hand, the learning models used in designing this module are interactive learning and mastery learning. Interactive learning is a type of learning by interactive activity and has defined learning outcomes. Generally, interactive learning is designed to balance the subject with interactive activity and the ability of children to apply the learning into the real world. Interactive activity offer a unique structure to complement traditional teaching strategies and infuse teaching with energy, spark innovative thinking, and provide diversity in teaching methods (Boyle, 2018). This creates a learning experience that can make a preferable interactive activity compared to other traditional activities (Plass, Homer, & Kinzer, 2018).

Mastery learning is a method of instruction where the focus is on the role of feedback in learning (Motamedi, 2019). In mastery learning, pupils must master the content of a unit before moving on to the next unit. The model is being applied into





Elkonin Box Module by which the pupils are required to master phonemes for a certain words before they can proceed to the next level words. This module has also offer enrichment activities in form of digital games for the pupils that have mastered reading certain words. The integration of mastery learning strategies with interactive activity provides greater benefits for pupils when learning reading skill (Lin, C.H. et al., 2016).

Reading is the foundation of language, technology, intellectual development, and an index of civilization evolution (Chang, R.C. & Yang, C.Y., 2016). Reading contains of few domains, which include decoding, phonics, phonemes, and word recognition. Meanwhile in primary school, reading becomes one of the most important skills as it contains four basic skills in English subject. Reading skills refer to the word recognition via phonological segmentation. In this study, the researcher focused on word recognition skills.

This study had evaluated the effectiveness of phonemic segmentation through interactive whiteboard on word recognition among remedial students. After three months of intervention, the pupils in the treatment group are able to improve in their achievement. The researcher had evaluated the effectiveness of phonemic segmentation by using pre-test and post-test. The differences between the results of pre-test and post- test showed that there is an improvement on the pupils' achievement in reading and word recognition skills.



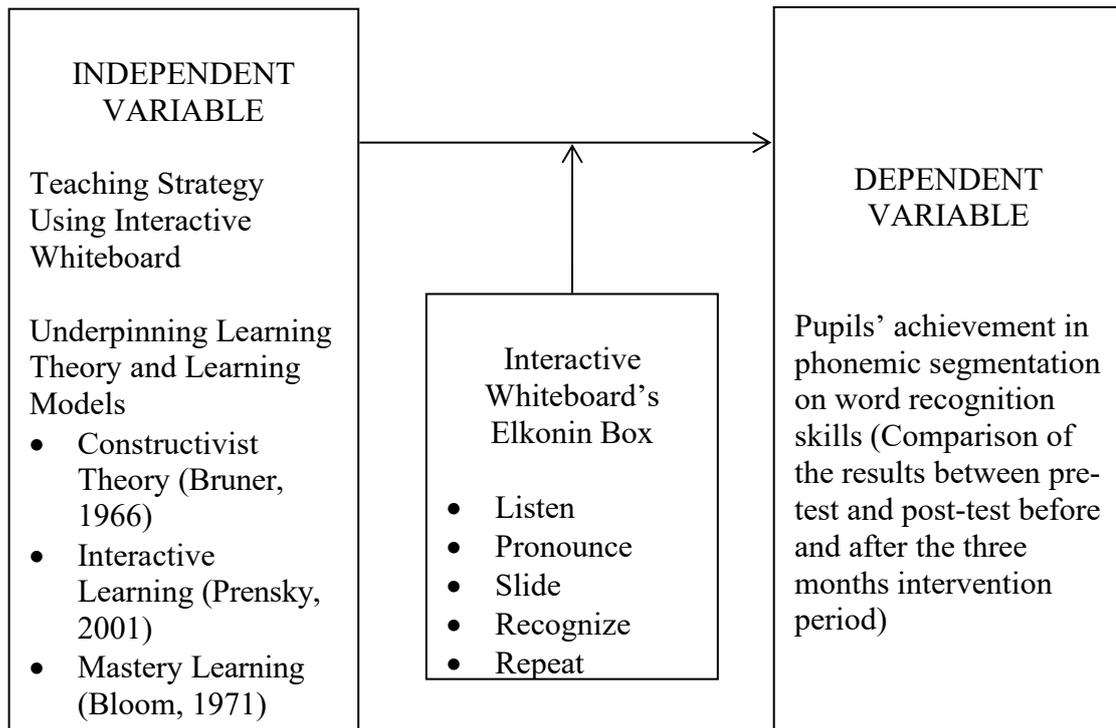


Figure 1.1. Theoretical Framework

1.5 Conceptual Framework

Figure 1.2 shows the conceptual framework in this study. There are two phases in this study, which are Module Developmental Phase and Module Evaluation Phase. During Module Developmental Phase, the researcher had designed Elkonin Box Module based on Constructivist Theory, interactive learning, and mastery learning.

Bruner's three modes of representation are enactive, iconic, and symbolic. Firstly, enactive mode involves encoding action based on information and storing it in our memory. Secondly, iconic mode is where information stored visually in the form of images as a mental picture in the mind's eye. Thirdly, symbolic mode is where information stored in the form of a code or symbol, such as language (McLeod, 2018).



The activities in Elkonin Box Module are in line with Bruner's three modes of representation. During enactive mode, the pupils are exposed to the Elkonin boxes. The Elkonin box gave remedial students a raw picture of alphabets. Next, during iconic mode, the pupils will be shown the picture and the phonemic sound. These activities enable pupils to visualize and form a mental image in their mind. Lastly, it comes to symbolic mode. During this mode, the pupils need to write the alphabet in the Elkonin boxes, so the information is stored in the form of language.

During Module Evaluation Phase, the samples are selected from the population of Year One and Year Two English remedial students. Then, the pupils in the treatment group will learn reading skills to word recognition by using Elkonin Box in interactive whiteboard. Five important steps using Elkonin box are recognize, picture, writing, reading, and repeat. After the three months intervention, the pupils are able to master in reading and word recognition.

Interactive activities are potentially the most engaging pastime in the history of mankind. This is due to a combination of twelve elements; (1) interactive activities are a form of fun; (2) interactive activities are form of play; (3) interactive activities have rules; (4) interactive activities have goals; (5) interactive activities are engaging; (6) interactive activities are adaptive; (7) interactive activities have outcomes and feedback; (8) interactive activities have win and lost; (9) interactive activities have challenge; (10) interactive activities have problem solving; (11) interactive activities have cooperation; and (12) interactive activities have representation and story (Prensky, 2001).





Bloom taxonomy is associated with mastery learning, because it is the same Benjamin Bloom who is famous for both. The taxonomy, edited by Bloom, was developed by a committee and published in 1956 to expand teaching and testing beyond the lowest levels of rote learning that were considered to dominate teaching in those days. By 1968, Bloom had launched his version of mastery learning, based on John Carroll's model of school learning (Lalley, 2016). In mastery learning, teachers set an objective based on pupils' level. The pupils went through learning process so that they can achieve the first objective. Formative assessment is given to the pupils in every lesson. This is to see whether the pupils acquired the knowledge along the intervention taking place. Next, enrichment activity is carried out. If the pupils does not show mastery in the skill, then the pupils will repeated the same word to make at least 80% of the items correctly. After the pupils able to read a word, then they will proceed to the next word in the interactive whiteboard.

Module Evaluation Phase begins after Elkonin Box Module is completed. The researcher had selected remedial students using purposive sampling. The researcher had also divided these children into control group and treatment group. The treatment group went through an intervention using Elkonin Box Module. After three months period, the pupils in the treatment group are able to master in reading and word recognition.



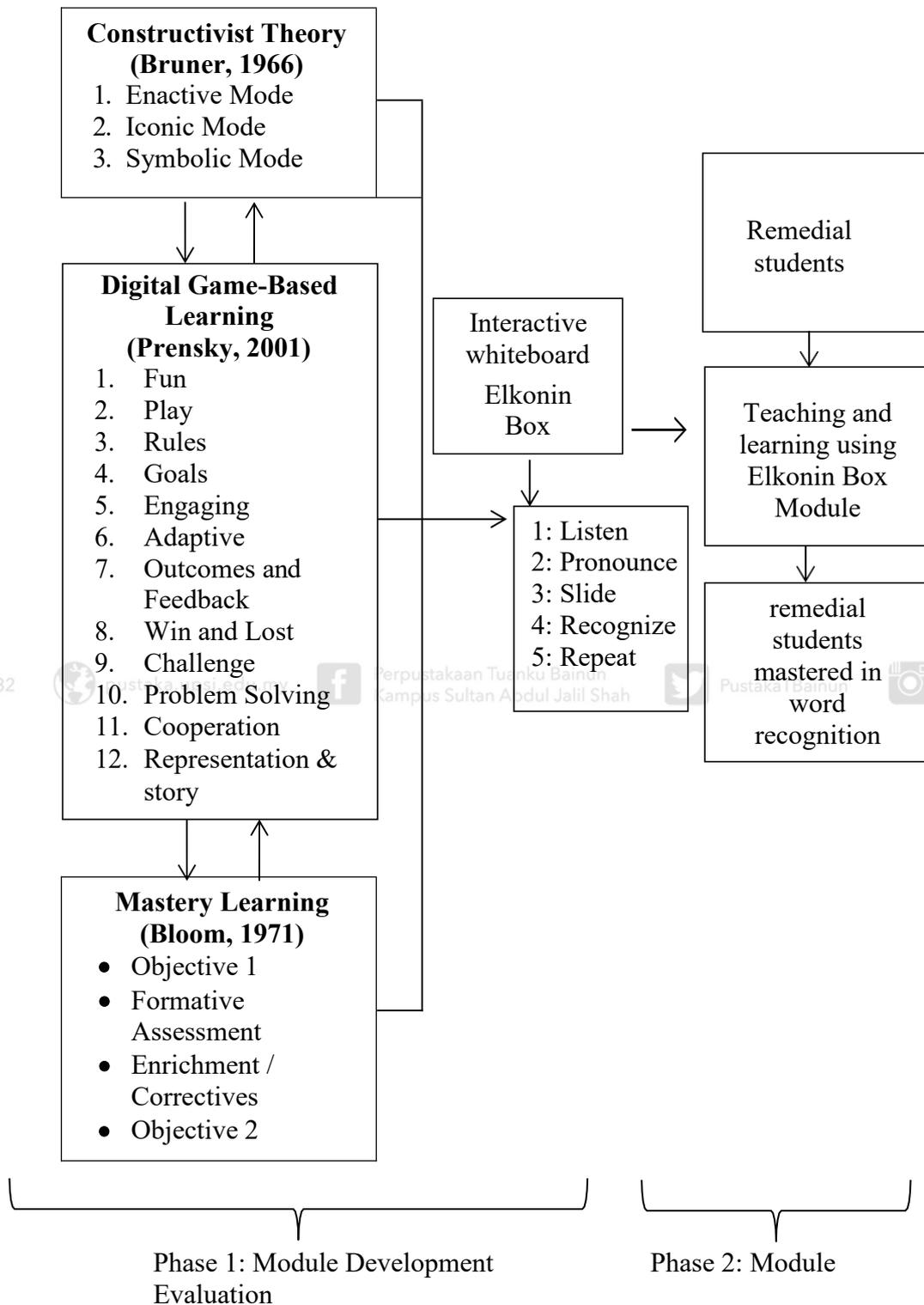


Figure 1.2. Conceptual Framework



1.6 Purpose of the Study

The purpose of this research is to study the effect of phonemic segmentation through interactive whiteboard on word recognition among remedial students.

1.7 Objectives

The five objectives to achieve the main purpose are identified as follow:

1. To identify the module needs in word recognition for remedial students.
2. To measure the content validity of Interactive Whiteboard Elkonin Box Module among remedial students in word recognition.
3. To measure the reliability of Interactive Whiteboard Elkonin Box Module's among remedial students in word recognition.
4. To measure the improvement in word recognition among remedial students after using Interactive Whiteboard Elkonin Box Module.
5. To measure the effectiveness of Interactive Whiteboard Elkonin Box's Module in improving word recognition skills among remedial students.



1.8 Research Questions

According to the objectives, five research questions are listed below:

1. Is there a need for module in word recognition among remedial students?
2. What is the content validity of Interactive Whiteboard Elkonin Box Module among remedial students in word recognition?
3. What is the reliability of Interactive Whiteboard Elkonin Box Module among remedial students in word recognition?
4. Is there any improvement in word recognition among remedial students after using Interactive Whiteboard Elkonin Box Module?
5. Is Interactive Whiteboard Elkonin Box Module effective in improving word recognition among remedial students?



1.9 Hypothesis

Hypothesis is the temporary conclusion for problem statements to be tested and depended on the researcher's understanding towards the previous researches that had been made on the research title (Raja, Noraini Mohamed Hassan, & Chong, W.L., 2016). A null hypothesis states that the test mean score of students taught by discussion method is equal to the test mean score of students taught by lecture method (Lay, Y.F. & Khoo, C.H., 2016). In this study, the researcher states null hypothesis instead of alternative hypothesis because null hypothesis is the focus of hypothesis testing since the null hypothesis will be tested directly, not the alternative hypothesis.

Two null hypotheses in this study are:



H₀₁ : There is no significant difference between the means of the pre-test and the post-test for the treatment group.

H₀₂ : There is no significant difference between the means of the post-test for the treatment and control groups.

1.10 Significance of the Study

There are four basic skills in the literacy, which are reading, writing, speaking and listening. Reading and speaking became the toughest skills to be mastered and it is also very important in our daily lives. It is important to carry out the study and the significance for the study can be viewed from different perspectives.





The introduction of Interactive Whiteboard Elkonin Box Module is a modification from the Elkonin method. It could be placed in the syllabus as a fun way to learn reading skill. The visualisation of the abstract word recognition skills could raise the pupils' interest in the learning activities. Traditional method on reading can be helpful but above all, the pupils must understand the concept of reading through letter and sounds and this can be explained by the Elkonin box. Hence, the construction of this module is believed to give a helping hand for the teachers in order to help the remedial students with low achieving to understand the concept of word recognition in an easier way.

For the policy makers, the findings could give some suggestions in revising the syllabus by adding alternative method on emphasize reading in the textbooks. Refer to Primary School Standard Curriculum (KSSR) English textbook, pupils are encouraged to read different types of interesting texts and words. The pupils can obtain the solution not by only one method, but more than one method can be accepted. Additionally, findings on the contribution of Interactive Whiteboard Elkonin Box Module from this study can be utilised by the Curriculum Development Division, Ministry of Education in helping them to objectively select the right and suitable technology tools as critical enablers to improve the delivery of the English curriculum.

On the other hand, the syllabus of English in KSSR is also claimed to be tougher if compare to the syllabus of English in Integrated Curriculum for Primary School (KBSR). This is due to the integrating of secondary school elements into the





primary school syllabus. Higher order thinking skills (HOTS) are highlighted in the curriculum caused the remedial students to lose their interest in this subject. In order to prevent the consequences as mentioned, educators should implement the basic reading skills among the pupils at the same time fulfil their desire and motivation to learn in an interesting way. In this case, Interactive Whiteboard Elkonin Box Module provides a step-by-step learning to make sure pupils are able to understand about the abstract concept of reading skills.

1.11 Limitations of the Study

Limitations are matters and occurrences that arise in a study which are out of the researcher's control (Simon & Goes, 2013). In this research, limitations of the study are made to ensure its validity. There are 11 National-Type Primary Schools (SK) in Muar district involved in this study. As such, the results obtained do not generalise the population of the Malaysian pupils especially in other districts or states, nor can the results be a fair representation of pupils from other school types.

The SK schools in Muar district are chosen, instead of all other districts available in Malaysia. The reason for choosing the sample from this certain schools is because there are pupils who meet the criteria for the research. The researcher targeted Year Two remedial students which had failed in the previous English assessment, and have not mastered in word recognition. Hence, the researcher had done a needs survey in Muar district and found that there are a need to carry out the research in this district to enhance the reading skills on word recognition among the remedial students.





The sample is confined to remedial students, thus the small sample size of the purposive sampling does not generalize the population of the Malaysian pupils. In Malaysia, the learning of reading skills begins since pre-school level or in Year One. According to KSSR syllabus, pupils are required to understand and able to read fluently since Year One. During pre-school period, the pupils learn reading skills with basic methods, one of them is active reading of text. In other words, the pupils need to master in reading skill of word recognition, or else they will be left out. Thus, the researcher limited the sample of this study to remedial students of year two to help these pupils to master the basic skills of reading.

The scope of the module contents is limited to the reading skill of word recognition. One and two phonemes are being chosen because they are the basic words for all the other phonemic of the words. The intervention in this study requires pupils listen the word, pronounce the word, slide the colour to Elkonin Box, recognize the word, and repeat the word. The researcher chose Elkonin box in Interactive whiteboard with sound instead of printed words because it is an easier form for the pupils to read and word recognition. Pupils in primary school are taught to do active reading according to text. In this case, Interactive whiteboard Elkonin Box are more suitable instead of the printed words.

Last but not least, the research targeted SK schools which is Malay- Medium National Schools in this study, despite of National-Type Tamil Primary School (SJKT), National-Type Chinese Primary School (SJKC) and other school types. The researcher is teaching in SK and encounter the problems in this school type, hence it urge the researcher to find out the solution. Besides, the researcher also has more understanding





about the culture and background of SK compare to the other school types, which is useful in designing the module suitable for the target group. Thus, the findings of this study do not generalise the population of Malaysian pupils especially in the other school types.

1.12 Operational Definitions

An operational definition outlines a metric for quantifying something of interest (Church, 2016). There were variety definitions of the terms from the experts. However, the key terms used in this study are most appropriate for the content of this study were listed out. The operational definitions of the five key terms to be listed out in this study are word recognition, phonemic segmentation, interactive whiteboard's Elkonin Box, remedial students, and traditional teaching.

1.12.1 Word Recognition

In education, reading in English has become one of the most important element to be learnt in school. If the pupils do not mastery reading, then they will struggle to learn all others topics in future. Due of the reasons, the researcher thought it is crucial that innovative ways should be explored in the teaching of reading in English. It is important to note that a specific component of the reading processes is word recognition (Rohaiza Ramli, 2015). Another reason for choosing this skill is the fact that pupils need to master the skill in order to get a better result in English examination, especially in the Primary School Evaluation Test (UPSR) that they will face.





In the context of this study, English as a subject indicates that it is one of the core subjects in SK. Considering that the KSSR syllabus had been introduced since year 2011, the emphasis on HOTS questions with hard type of words had caused many pupils to obtain low marks in the examinations, especially the remedial students. In this case, the process of word recognition occurs when the learners are able to get back a word from memory, decode the letters and combine the phonemes to make the intended word. Further, word recognition skill involves recognizing what a word mean and sounding it out. According to Vaughn and Linan-Thompson (2017), sounding out words includes the idea that learners can convert the printed words into speech sounds. All of this skills must be mastered by the pupils in order for them to master in word recognition. Hence, the researcher had selected word recognition in this study as to improve the Year Two remedial students' achievement in the subject.



1.12.2 Phonemic Segmentation

Phonemic segmentation plays an effective role in helping children acquire the skills of reading and spelling. Thus, it can be concluded that the English subject that are being taught in primary school are mainly focus on reading (Hickey, Ju, & Van Emden, 2017). Reading skills can be trained by means of interactive activity, especially with young children (Castellar, All, Marez, & Looy, 2015). More training time may be needed to master reading and word recognition skill. Follow-up research on the specificity of children's reading skill is needed to further evaluate these possibilities (Walker, Bajic, Mickes, Kwak, & Rickard, 2016).



Table 1.1

The Four Different Levels of Segmenting the Word “pony”

Progressive Level	Student Reaction	Demonstration
Level 1	/pony/	There is no segmentation of the word
Level 2	/po/-ny	Words are divided by syllables
Level 3	/p/-o/-ny/ or /po/-n/-y/	Students separated one syllable into segments
Level 4	/p/-o/-n/-y/	Students segmented all phonemes

(Adapted from Manning, 2015)

In the context of this study, phonemic segmentation skill demonstrated in four different levels. The first level involves no segmentation of the word but the student repeats the word being heard instead. In the second level, the students are required to divide the word by syllables. Third level requires a student to separate one of the syllables into segments. Table 1.1 shows the fourth level is accomplished when a student segments all of the phonemes in the word. Thus, in order to help educators improve the development and success of each single student when practicing segmentation skill, they should be able to identify the progressive level of student in segmenting words into phonemes.

The researcher had selected phonemic segmentation because these four operations are the basic of reading for the pupils in primary school, in order to mastery word recognition skill. Besides, the pupils in primary school are learning the reading skills in through out the English syllabus. The contents of reading and word recognition skills are continually integrated in Year One till Year Six.



1.12.3 Interactive Whiteboard's Elkonin Box

Interactive whiteboard is a effective tools for initiating and facilitating the learning process, especially where pupil participation and use of the board is utilized (Wall, Higgins and Smith, 2015). There is a relationship between the interactive whiteboards and students views of learning, especially in visual and verbal-social learning. Students were motivated by the color and movement that reflected their attention and concentration.

Reading is hardly interpreted by the learners, especially the remedial students. Thus, the researcher thinks it is better to visualize the concept by using some teaching methods and interactive activity to make the concept easier for the pupils. The above statements provide a clear indication that the interactive whiteboards as instructional tools have a noticeable impact on learning process. In short, interactive whiteboards offer what students actually need to promote and develop their thoughtfulness which will positively reflect on their performance. Students can then make relations between what they hear and what they see (Smith et al., 2015).

Hence, the researcher designed Interactive Whiteboard's Elkonin Box Module using five systematic steps to assist the remedial students. In short, the five steps are listen, pronounce, slide, recognize and repeat. In the context of this study, reading skill is an ability to recognize word by following the five steps in Interactive Whiteboard's Module. After completing the module, the pupils should be able to read the words by listen, pronounce, slide, recognize and repeat the words in Interactive Whiteboard's Elkonin Box.





In this module, teachers carried out the teaching and learning activities based on the lesson plans in Teacher's Manual. The pupils are given interactive activity of reading in Interactive Whiteboard's Elkonin Box. Then, they are also given activity in Pupil's Activity Book so they can do the activities during every lesson. Overall, these activities led the pupils with a sequence of listen the word, pronounce the word, slide the colour to Elkonin Box, recognize the word, and repeat the word.

1.12.4 Remedial Students

Remedial students are pupils who have difficulty in meeting educational standards. These pupils failed in their learning subjects and meets difficulty to understand the content in the normal classrooms and they are in early reading level (Wang, 2015). However, the remedial students are yet not qualified for special education services, so the regular teachers are responsible for teaching them in the mainstream classrooms. In the context of this study, the researcher targeted remedial students in English subject only. Besides, the English remedial students in this study are the Year Two pupils in SK. These pupils failed in their English assessment, in which they obtained the marks below 40.

Since the focus of this study is on reading skills, the researcher needs to specify these Year Two remedial students into those who have not mastered reading skills even though they have been taught during preschool and Year One using other methods. Therefore, the pupils are screened through a pre-test, to ensure that they have not acquired the skills of word recognition. These remedial students needed guidance





from the teachers by using an alternative method, technique or materials which are more suitable with their learning level (Konza, 2016). Hence, the researcher had designed a module to increase the achievement of these Year Two remedial students in reading skills.

1.12.5 Traditional Teaching

In experimental research, the researcher could perform a new teaching approach with one group of participants and perform the traditional teaching approach with another group of participants (Johnson & Christensen, 2016). The traditional teaching is teacher-centered instead of pupils-centered. The pupils in traditional teaching classroom are usually passive as the teachers are using one-way communication. Hence, in Information and Communication Technology era, traditional teaching and learning methods are less attractive to the young generation as they have been exposed to all kinds of technologies (Muhamad Hafizhuddin Abdul Rahman, 2016).

In the context of this study, traditional teaching for control group is the teaching of word recognition skills using a traditional method. The method used in teaching word recognition for control group is by printed papers. For example, the word bee is shown in paper and asked pupils to read it. The teachers in the control group demonstrated the solution by drawing squares in each phonemes. Then, the pupils are required to read the word in according to word recognition. All the teachers involved in control group were reminded to teach the same content of word list. In short, this is to control the extraneous variables and to ensure that both treatment and





control groups had learned the same content within the three months intervention period.

1.13 Summary

Teachers have to encounter with different challenges and problems in everyday life. In English subject, pupils may undergo difficulties if they have not mastered the basic literacy skills in their learning. The teachers must find or develop a new strategy or method in order to improve the abilities and skills of the pupils. This study targeted the remedial students because this category of pupils is often being left out. In the school, these pupils are usually being labelled as lazy as they cannot perform as the normal



children at the same age and class.

English has become one of the most important subjects as it helps us in conversations. A good achievement in English is a requirement for every pupil in the schools. In this case, pupils need to master the four basic literacy skills during primary education. The researcher designed Interactive Whiteboard Elkonin Box Module in order to help the remedial students in learning reading skills in a interesting way. The pupils will be divided into treatment group and control group. Traditional teaching is conducted towards the control group. Meanwhile, intervention using Interactive Whiteboard Elkonin Box Module is conducted towards the treatment group. After the intervention using this module, the pupils should be able to master in word recognition skills involving word recognition.

