



05-4506832



pustaka.upsi.edu.my



Perpustakaan Tuanku Bainun  
Kampus Sultan Abdul Jalil Shah



PustakaTBainun



ptbupsi

**THE EFFECTS OF INFERENCING STRATEGY INSTRUCTION ON STUDENTS'  
ABILITY TO MAKE AND JUSTIFY INFERENCES WHILE  
READING NARRATIVE TEXTS**



05-4506832



pustaka.upsi.edu.my



Perpustakaan Tuanku Bainun  
**ZURAISHAH BT ZUKRI**



PustakaTBainun



ptbupsi

**DISSERTATION SUBMITTED IN FULFILLMENT OF THE REQUIREMENT  
FOR THE DEGREE OF MASTER OF EDUCATION (MASTER BY MIXED MODE)**

**FACULTY OF LANGUAGE AND COMMUNICATION,  
UNIVERSITI PENDIDIKAN SULTAN IDRIS**

**2016**



05-4506832



pustaka.upsi.edu.my



Perpustakaan Tuanku Bainun  
Kampus Sultan Abdul Jalil Shah



PustakaTBainun



ptbupsi



## ABSTRACT

This quasi-experimental study was aimed to analyse the effects of inferencing strategy instructions on the students' ability to make inferences and justify reasons while reading narrative texts. This study used two types of inferencing strategies which required students to work in two different conditions. The first strategy was the Key-Infer-Support (KIS) strategy involving students to work individually. The second strategy was the Think-Pair-Share (TPS) strategy which allowed students to complete tasks in pairs. The samples of this study consisted of 120 form four students of two secondary schools in the district of Temerloh, Pahang and they were assigned to two treatment groups and two control groups. The treatment groups were inducted with the strategy lessons and the control groups were inducted with the traditional presentation-practice-production (PPP) teaching method. The instruments used in this study were pre-test and post-test scripts. The scores from the pre-test and post-test were analysed quantitatively and qualitatively using one-way ANOVA to determine the effects of direct strategy instruction on the students' ability to make inferences, to justify inferences and the different sentence patterns students made when they justify inferences. The effects of direct strategy instruction on the treatment groups were compared to the control groups by examining the significance of mean scores before and after the treatments were carried out. The research findings showed that direct instruction of strategies improved the ability of students in making inferences and justify reasons. However, it was discovered that different types of interactions, individual and pair collaboration did not significantly influence the students' ability in making inferences and justify reasons. Different patterns of justifying reasons sentences as either contributing to the success or failure in making appropriate inferences were also identified. Direct strategy instruction provides an option for learners to learn and improve at mastering specific skills in reading.





## KESAN STRATEGI INFERENSI TERHADAP KEUPAYAAN PELAJAR MEMBUAT DAN MENJUSTIFIKASI INFERENS SEMASA MEMBACA TEKS NARATIF

### ABSTRAK

Kajian berbentuk kuasi-eksperimen ini adalah bertujuan untuk menganalisis kesan pengajaran secara langsung teknik membuat inferens ke atas kebolehan pelajar membuat dan menjustifikasi inferens semasa membaca teks naratif. Dua jenis strategi membuat inferens yang menggunakan pendekatan berbeza iaitu *Key-Infer-Support* (KIS) yang menggunakan interaksi secara individu dan *Think-Pair-Share* (TPS) yang menggunakan pendekatan interaksi kolaborasi berpasangan telah diajar kepada pelajar. Sampel terdiri dari 120 orang pelajar tingkatan empat dari dua buah sekolah menengah di daerah Temerloh, Pahang. Sampel telah dibahagikan kepada dua kumpulan rawatan dan dua kumpulan kawalan. Kumpulan rawatan telah diajar menggunakan strategi inferens dan kumpulan kawalan diajar menggunakan teknik mengajar secara konvensional. Instrumen yang digunakan adalah skrip pra-ujian dan pos-ujian. Skor dari pra-ujian dan pos-ujian telah dianalisa menggunakan ANOVA sehala untuk mendapatkan maklumat mengenai kesan pengajaran strategi secara langsung terhadap kebolehan pelajar untuk membuat inferens, membuat justifikasi terhadap inferens dan struktur ayat yang dihasilkan oleh pelajar apabila mereka membuat justifikasi terhadap inferens. Kesan teknik pengajaran ini ke atas kumpulan rawatan telah dibandingkan dengan kumpulan kawalan dengan menggambarkan perbezaan signifikan markah min sebelum dan selepas pengajaran dijalankan. Dapatan menunjukkan bahawa pengajaran strategi secara langsung dapat meningkatkan kebolehan pelajar untuk membuat inferens dan justifikasi. Walaubagaimanapun, perbezaan jenis interaksi iaitu individu atau kolaborasi berpasangan tidak mempengaruhi kebolehan pelajar membuat inferens dan justifikasi. Beberapa jenis struktur ayat yang boleh menyumbangkan kepada kejayaan atau kegagalan membuat inferens juga telah dikenalpasti. Pembelajaran strategi secara langsung memberikan satu pilihan kepada pelajar untuk menambahbaik kemahiran membaca mereka.





## TABLE OF CONTENTS

	<b>Pages</b>
<b>DECLARATION OF ORIGINAL WORK</b>	ii
<b>APPRECIATION</b>	iii
<b>ABSTRACT</b>	iv
<b>ABSTRAK</b>	v
<b>LIST OF TABLES</b>	xi
<b>LIST OF FIGURES</b>	xiv
<b>LIST OF ABBREVIATIONS</b>	xv
<b>LIST OF APPENDICES</b>	xvi
<b>CHAPTER 1 INTRODUCTION</b>	
1.1 Introduction	1
1.2 Background of the study	2
1.3 Statement of the problem	5
1.4 Rationale of the study	9



1.5	Objectives of the study	10
1.6	Research questions	11
1.7	Research hypotheses	13
1.8	Theoretical framework of the study	15
1.9	Significance of the study	17
1.10	Operational definition of terms	18
1.11	Summary of the chapter	21

## CHAPTER 2 LITERATURE REVIEW

2.1	Introduction	22
2.2	The literature review	23
2.2.1	The schema theory in relation to reading	23
2.2.2	The socio-cultural theory in second language acquisition	29
2.2.3	The automatic information processing theory	37
2.3	Summary of the chapter	39

## CHAPTER 3 RESEARCH METHODOLOGY

3.1	Introduction	40
3.2	Research design	41



3.3	Research variables	42
3.4	The sampling	43
3.4.1	Sampling techniques	43
3.4.2	The samples	45
3.5	School teacher participation as the lesson instructor	46
3.6	The instruments	47
3.6.1	The pre-test and post-test	47
3.6.2	The process of designing the pre-test and post-test instruments	50
3.7	The data analysis	75
3.7.1	Inferential analysis of the 3-choices answers	75
3.7.2	Inferential analysis of the open-ended responses	76
3.7.3	Inferential and descriptive analysis of the sentence patterns	77
3.8	The data collection procedures	82
3.9	Reliability and validity	84
3.9.1	The construct and content validity for the items in the pre-test and post-test	84
3.9.2	The construct and content validity of the lesson plans	84
3.9.3	The content validity of the stories used in the teaching and learning sessions and the pre-test and post-test scripts	89
3.9.4	Ensuring inter-coder reliability	90





3.10	The ethical considerations	97
3.11	The limitations of the study	97
3.12	Summary of the chapter	98

## CHAPTER 4

## PRESENTATION OF FINDINGS

4.1	Introduction	100
4.2	Meeting the assumptions of a parametric test	101
4.3	Analysis and findings based on the 3- choices answers and open-ended responses	103
4.3.1	Hypothesis 1	104
4.3.2	Hypothesis 2	107
4.3.3	Hypothesis 3	110
4.3.4	Hypothesis 4	112
4.4	Analysis and findings based on the sentence patterns	115
4.4.1	Sample of students' answers	124
4.5	Summary of the chapter	129

## CHAPTER 5

## SUMMARY OF FINDINGS, PEDAGOGICAL IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

5.1	Introduction	130
-----	--------------	-----





<b>5.2</b>	<b>Summary of the findings</b>	<b>131</b>
<b>5.2.1</b>	<b>Findings based on the 3-choices answers and open-ended responses analysis</b>	<b>131</b>
<b>5.2.2</b>	<b>Findings based on the sentence patterns analysis</b>	<b>133</b>
<b>5.3</b>	<b>Pedagogical implications of the findings</b>	<b>135</b>
<b>5.4</b>	<b>Recommendations for further research</b>	<b>137</b>
<b>5.5</b>	<b>Conclusion</b>	<b>139</b>

## REFERENCES

## APPENDICES





## LIST OF TABLES

Table No.		Pages
3.1	The research design	41
3.2	Types of data expected to gather and types of data analysis used	49
3.3	The Taxonomy of Inferences by Chikalanga (1992)	52
3.4	Pre-test items difficulty index	60
3.5	Pre-test items discrimination index for pilot study 1	63-64
3.6	Comparison of the pre-test items discrimination index for pilot study 1, 2 and 3	67
3.7	Post-test items difficulty index	69
3.8	Post-test items discrimination index for pilot study 1	70
3.9	Comparison of the post-test items discrimination index for pilot study 1 and 2	71
3.10	Types of inferences and corresponding item numbers	74
3.11	The summary of the sentence patterns based on "True" and "False" inferences.	79
3.12	The summary of the sentence patterns based on "Not Stated" inferences.	80
3.13	The data collection procedures	82 – 83
3.14	The summary of the lesson plans	85
3.15	The differences between CALLA lesson plan format and PPP format	86



3.16	Schedule for the pilot study for the lesson plans	87
3.17(a)	The original version of the explanation of inference thinking by Wagner (2006)	90
3.17(b)	The original version of the clue selection descriptor by Wagner (2006)	91
3.18	The first adapted version of the inference thinking and clue selection descriptor	91
3.19	The second adapted version of the inference thinking and clue selection descriptor	93
3.20	Inter-coder reliability analysis	94
3.21	The third adapted and final version of the inference thinking and clue selection descriptor	96
4.1	One-way ANOVA of the inference making ability of KIS – TPS – CG 1 – CG 2	105
4.2	Post-hoc test result for the inference making ability of KIS – TPS – CG 1 – CG 2	106
4.3	One-way ANOVA of the justification making ability of KIS – TPS – CG 1 – CG 2	108
4.4	Post-hoc test result for the justification making ability of KIS – TPS – CG 1 – CG 2	109
4.5	One-way ANOVA of the inference making ability of KIS – TPS	111
4.6	One-way ANOVA of justification making ability of KIS – TPS	113
4.7	One-way ANOVA analysis of the sentence patterns of KIS-TPS-CG1-CG2	116
4.8	Post-hoc test of the pre-test for sentence pattern 2	117
4.9	Post-hoc test of the post-test for sentence pattern 2	117





05-4506832



pustaka.upsi.edu.my

Perpustakaan Tuanku Bainun  
Kampus Sultan Abdul Jalil Shah

PustakaTBainun

ptbun  
xiii

4.10	Post-hoc test of the pre-test for sentence pattern 4	118
4.11	Post-hoc test of the post-test for sentence pattern 4	118
4.12	Post-hoc test of the pre-test for sentence pattern 5	119
4.13	Post-hoc test of the post-test for sentence pattern 5	120
4.14	One-way ANOVA analysis of the sentence patterns of KIS – TPS groups	121
4.15	Descriptive analysis of the sentence patterns of KIS – TPS groups	123
4.16	KIS group: Student 14 sentence pattern types in the pre-test and post-test	124
4.17	TPS group: Student 27 sentence pattern types in the pre-test and post-test	126



05-4506832



pustaka.upsi.edu.my

Perpustakaan Tuanku Bainun  
Kampus Sultan Abdul Jalil Shah

PustakaTBainun



ptbupsi



05-4506832



pustaka.upsi.edu.my

Perpustakaan Tuanku Bainun  
Kampus Sultan Abdul Jalil Shah

PustakaTBainun



ptbupsi



## LIST OF FIGURES

Figure No.		Pages
1.1	The theoretical framework of the study	16
2.1	The six stages of CALLA framework	34
3.1	The correlation between the research variables	43
4.1(a)	The box-plot of the pre-test	102
4.2(b)	The box plot of the post-test	103





## LIST OF ABBREVIATIONS

<b>CALLA</b>	<b>Cognitive Academic Language Learning Approach</b>
<b>KIS</b>	<b>Key-Infer-Support</b>
<b>TPS</b>	<b>Think-Pair-Share</b>
<b>PPP</b>	<b>Presentation-Practice-Production</b>
<b>CG 1</b>	<b>Control Group 1</b>
<b>CG 2</b>	<b>Control Group 2</b>
<b>MKO</b>	<b>More Knowledgeable Others</b>
<b>TESL</b>	<b>Teaching English As A Second Language</b>
<b>ANOVA</b>	<b>Analysis of Variance</b>





## LIST OF APPENDICES

- A Instrument validation letters**
- B Sample texts used in the test administration procedures**
- C The pre-test script**
- D The post-test script**
- E The pre-test and post-test answer score and answer guide**
- F The lesson plans for the treatment groups (KIS & TPS strategies)**
- G The lesson plans for the control groups (CG 1 & CG 2)**
- H Lesson plan validation letters**





## CHAPTER 1

### INTRODUCTION



#### 1.1 Introduction

The ability to use higher order thinking skills like making and justifying inferences are important aspects in becoming good readers or comprehenders. This chapter provides the background of the study which entails discussions on the relationships between reading comprehension and the higher order thinking skills such as inference making and justifying reasons, and strategy instruction. The objectives, research questions and research hypothesis map out the focus of this research and guided the actions to be taken in order to determine the effect of direct teaching of strategies like making and justifying inferences. The statement of the problem and the rationale provides an explanation for the basis for carrying out this research. The theoretical framework of the study presents an overview of the theories related to reading, making inferences and direct instruction. This study is significant as it provided





insights into the thought processes of students when they were reading English texts especially with regards to understanding the meaning of the texts.

## 1.2 Background of the Study

This study explores the relationship of three teaching and learning issues which are reading in second language, the ability to use higher order thinking skill such as making inferences and provide justifications, and strategy instruction in the context of Malaysian secondary school students.



The English language subject is one of the core subjects at both primary and secondary level of education in Malaysia. This means that all students who undergo mainstream education starting at the age of seven until seventeen years old would have to learn the English language subject. Since the national language of Malaysia is Bahasa Melayu, English is considered as a second language to a large portion of the population and could be a third language to the population which comes from other ethnic backgrounds besides the Malays. So, as second language learners, the students come into classrooms with varying levels of proficiency. Thus, planning for teaching and learning instructions which could cater to the different levels of abilities and proficiency are sought after from teachers and educators alike.



One of the academic skills required of students in any part of their schooling life is the mastery of the reading skill. At the secondary level, it is stated that students should be exposed to a variety of texts and they should be able to carry out tasks that





are specified in the learning outcomes of the curriculum specifications (Ministry of Education, 2000). Among the list of learning outcomes or what students are expected to do when they read texts as specified in the secondary English language syllabus are students should be able to process information by getting the explicit and implicit meaning of various oral and written texts, discerning cause-effect relationships, predicting outcomes, drawing conclusions, deducing the meaning of unfamiliar words and identifying different points of view (Ministry of Education, 2000). From the outcomes expected of students, we could surmise that students are required to perform activities which engage them in using their higher order thinking abilities such as predicting, inferencing, reasoning and stating opinions.



students regardless of age and level of education. Without the ability to think

critically, one could be lead into making the wrong decisions in life, thus jeopardising the chances for possible success in life. Devoid of the ability to think critically, one could be put in disadvantageous positions. This is because in facing the challenges of the world, we constantly have to evaluate, judge, decide on our actions and others' actions.

Recognising the importance of equipping and familiarising students with the ability to use higher order thinking skills, the Malaysian education policy makers had included the aspect of higher order thinking skills in the planning of the primary, secondary and tertiary education curriculum. The reason is to ensure that the future Malaysian citizens are balanced individuals who are intellectually, emotionally, spiritually and physically adept at becoming adapting values in their daily living and



thinking (Ministry of Education, 2012). In 2003, the revised edition of the secondary English language curriculum specifications had incorporated the thinking skills “to enable learners to analyse information, make decisions, solve problems and express themselves accurately and creatively” (Ministry of Education, 2003, p. 3). The teaching and learning of strategies which stressed on the higher order thinking had also been emphasised in the Malaysian Secondary School Integrated Curriculum (ISSC) or in Bahasa Melayu, known as KBSM or *Kurikulum Bersepadu Sekolah Menengah*, which aimed at enhancing a learners’ development in cognitive ability (Habsah Ismail & Aminuddin Hassan, 2009).

Higher order thinking skills are to be integrated into everyday teaching and learning sessions. Thus, it becomes the responsibility of the teachers to develop and train students to become deep thinkers. In order to do this, teaching and learning instructions should be designed to encourage students to be able to think critically and reflectively so as at the end they are able to solve the problems that come in their way effectively (Habsah Ismail & Aminuddin Hassan, 2009). At the end of the process, students should be able to make meaningful connections between what is taught and learnt instead of just absorbing routines without being able to make connections between the different disciplines learnt (Habsah Ismail & Aminuddin Hassan, 2009).

There are no boundaries when it comes to making investigations into appropriate approaches or techniques in the teaching of reading skills. This study aims to look at one such teaching and learning investigation. By taking a closer look at two components of higher order thinking, which were making inferences and providing

justification in reading specifically in narratives, it is hoped that this study would contribute positively to the field of research in teaching and learning.

### 1.3 Statement of the Problem

Reviews of several studies concerning the current teaching of reading in the Malaysian classrooms have revealed two prominent classroom practices which are contributing to low level reading comprehension among students. The first is classroom methodology mainly focussed on skill based approaches to the teaching of reading and many times, comprehension assessment takes place instead of comprehension instruction during reading lessons (Normazidah Che Musa, Koo &

Hazita Azman, 2012). The teaching of reading in the classroom using skill-based approaches is a practice widely used by teachers in the Malaysian classroom. Through skill-based approaches, reading is taught by teaching grammatical aspects, textual structures, phonics and pronunciation or reading skills as separate skill to be mastered (Pandian, 2006). This often resulted in students engaging in linear and passive activities where engagement in reading has not been represented in its true nature (Kaur, 2012). This resulted in a non-interest in the meaning making itself on the part of the readers as they are pressed to achieve the intended goal of the lesson instead of enjoying attaining comprehension of the text itself. This scenario is not made any better due to the strong emphasize on the importance of national examinations where they test on grammatical, structures and vocabulary skills, thus seeing the importance being



placed on the skill-based approaches in learning to read (Ambigapathy, 2002). Hence, in reading lessons, teachers tend to perform comprehension assessment (Gersten & Carnine, 1986) by asking students to read and answer sets of questions without really teaching how to read and understand the text itself. This is a vicious cycle which results in students who have very low ability to perform higher order thinking, inability to think critically or are underutilized or underdeveloped in using effective reading strategies.



Due to the gap in the current practices in the teaching of reading identified previously, the main concern addresses by this study is the students' lack in their ability to perform higher order thinking skill while they are reading. Fong (2012) conducted a study to examine the basic literacy rate and critical literacy rate in three subjects, namely, Bahasa Melayu, English and Mathematics among the secondary school students in Malaysia. Based on her findings, it was discovered that the basic literacy rate of English was 93.20 percent but the critical literacy rate was at 27.20 percent. She thus, suggested that there was dire urgency to improve secondary students' critical literacy rate as this would enable students to be better equipped in continuing their secondary education. This was because the secondary curriculum was more diverse in content and skills taught as compared to the curriculum at primary level (Fong, 2012).



One of the factors for the low level of critical literacy rate could be attributed to findings made by Nagappan (2001). In his study of teachers' perception of the teaching of higher order thinking skills, it was discovered that while the teachers showed better preparedness and understanding in terms of knowledge, pedagogical



skills and ability to teach the subject matter, English, 78.1 percent of the teachers stated that they allocated less or none class time for the teaching of higher order thinking skills either as separate instruction or integrated into lessons (Nagappan, 2001). This was due to a mixture of inter-related factors such as the lack of teachers' training on how to teach the skills, the teachers' understanding of the concept of higher order thinking itself and also, the urgency of teachers in completing the content syllabus that inhibited them from infusing the teaching of higher order thinking skills into their lessons.



Thus, due to students' low ability to perform higher order thinking while reading, they would not be able to achieve maximum comprehension of what they read. Their interpretation of reading materials could be limited only to those meanings at surface level without having a deeper understanding of the written piece. If this problem was not addressed appropriately, the effort of the Ministry of Education in pushing for the integration of the teaching of higher order thinking skills in order to develop the human intellect (Nagappan, 2001) would be futile.



The next issue is the students' awareness level of strategy use in performing higher order thinking was still quite low. In a study on learning approaches carried out by Fung (2010), it was discovered that in relation to English acquisition, Malaysian students were determined and bold in achieving their academic target (Fung, 2010). However, they were identified as surface achievers or rote learners. They preferred to be engaged in academic activities which did not require them to be involved in deep thinking or making reflections. They tended to memorise and regurgitate information or accepted lecturers' or friends' ideas without much judgement indicating the lack of

critical and reflective thinking ability (Fung, 2010). This showed that the students may have specific strategies in learning but those strategies could be limited to learning skills that do not involve deep thinking. They need to be shown or trained on how to complete tasks using higher order thought processes so as to increase their awareness level of the importance of having not just the surface level skills but also those that require deep thoughts or judgements.

The last issue concerns the teaching and learning instructions in schools which showed low level of systematic integration of strategy use. Majdi Abdullah Ahmad AD-Heisat, Syakirah Mohammed K.A., Sharmella Krishnasamy & Jenan H. Isa (2009) carried out a research among primary school teachers on the use of reading strategies in helping to develop reading competency. They discovered that even though teachers were aware and showed knowledge of reading strategies, their use in the classroom were limited. The teachers tended to use the same strategies which promoted surface understanding of texts such as lexical meaning acquisition or literal level comprehension. Higher order reading strategies such as relating the text to students' schemata and interacting with the text were less frequently used (Majdi Abdullah Ahmad AD-Heisat et al., 2009). This showed that the teachers played an important role in developing and training their students in using the higher order thinking skills. They may need to reassess their classroom instructions to integrate more quality thinking time activities.

Thus, the three main problems identified are namely students' lack of ability to perform higher order thinking process when reading, low awareness of strategy use

and the issue of strategy use integration in classroom instruction. These have become the basis for the focus of the current study.

#### 1.4 Rationale of the study

The rationale of the study is to search for methods in which higher order thinking strategies could be taught to students through direct instructions.

This is because the proponents of research in learning strategies such as Chamot & O'Malley (1994), Cohen (2003) and Oxford (2003) had all written about the influences of strategies in both L1 and L2 language learners. They acknowledged that good language learners exerted the use of diverse effective strategies in helping them to learn. Likewise, the ability to use strategies had also been identified as one of the criteria of being a good learner.

In the Malaysian context, studies had been carried out discussing on the benefits of strategy instruction or intervention. Philip & Tan (2006) and Marimuthu, Muthusamy & Veeravagu (2011) had investigated on different approaches of strategy training in reading. Philip & Tan (2006) adapted the instructional framework of Metacognitive Strategy Instruction (MSI) and discovered that explicit strategic instruction that high proficiency learners received reinforced their ability to become strategic readers, thus preparing the learners in becoming autonomous readers.



On the other hand, Marimuthu et al. (2011) adopted the Cognitive Academic Language Learning Approach (CALLA) by Chamot & O'Malley (1994) as the framework for their investigation. They discovered that the learners who underwent training using the CALLA approach showed better use of metacognitive strategies compared to the control group via improved reading comprehension performance in the post test. Mohd Sahandri Gani Hamzah & Saifuddin Kumar Abdullah (2009) compared the metacognitive strategies in reading and writing in four educational institutions and discovered that teacher training institution and polytechnic students' view of metacognitive strategies were different and better than matriculation and form six students. This is due to the differences in maturity of thoughts of the learners in teacher training institutions and polytechnics as compared to those in matriculation and form six.

Therefore, it is hoped that this study would further enlighten the perspectives concerning the teaching of higher order thinking strategies with specific reference to the teaching of reading in the secondary education context in Malaysia.

### 1.5 Objectives of the Study

This study is intended to investigate:

- i) the effects of the Key-Infer-Support (KIS) and Think-Pair-Share (TPS) strategy intervention on inference making ability as compared to the traditional presentation-practice-production (PPP) lessons.