

Introduction

In the EFL learning context, poor readers always meet unknown words when they read text, either in pleasure reading or academic course work. Researchers indicated that many ESL /EFL learners lack the skill to infer the meaning of unknown words effectively (Tomesen & Aarnoutse, 1998). This further implied that the problem for poor readers is not only knowing fewer words than good readers but also having no strategies for deriving the meaning of an unfamiliar word. There is a general agreement that ESL /EFL students need skills, using various strategies acquired in a training program, for coping with unknown words encountered while reading. Thus, it is of great importance for teachers to teach learners strategies for deriving the meanings of unfamiliar words.

While contextual guessing instruction was found successful for L1 and L2 learners (Baumann, Edwards, Font, & Tereshinski, 2002; Buikema, & Grave, 1993; Fukkink & de Glopper, 1998; Goerss, 1999; Jenkins, Matlock, & Slocum 1989; Ward-Lonergan, Liles, & Qwen, 1996), little empirical research investigated how the learners' process of word inferencing could be enhanced. Most of the literature on this field dealt with what to teach and how much the learners have learned, while the less capable learners remain a silent body in the classroom. In spite of the positive results, however, the previous studies involving the instruction in deriving word meaning from context have not always been those likely to promote our understanding of the less capable learners' learning process. After all, we need to know if the struggling students can be successfully supported from the large. Moreover, although there has been research investigating the strategies L1 or L2 expert learners employed to understand unknown words (Fukkink & Block, 2001), little attention has been paid to investigating the struggling learners' strategy use and examining the thoughts about what they have learned.

This study thus aimed to look into the struggling learners' changes over time in terms of on-going assessment such as word inferring ability, strategy use, and their thoughts about what they learned.

Specifically, the research questions are:

1. Does the low achievers' ability change over time in terms of inferring word meaning after the instruction of contextual inferencing strategies?
2. What are the low achievers' difficulties in the process of inferring word meaning from context?

Literature Review

Word Inferencing from Context and Language learning

According to Oxford (1990), contextually inferencing for unknown words serves as a compensation strategy for EFL reading. Guessing intelligently in reading, sometimes called "inferencing," involves using a variety of linguistic and nonlinguistic clues to guess the meanings when the learner does not know all the words. Compensation strategies enable students to make up for missing knowledge in the processes of comprehending the target language. "Guessing intelligently" (Oxford, 1990, p. 91) helps learners to overcome knowledge limitations in other skills. Overcoming limitations is definitely a valuable strategy in learning.

The research in the past twenty years supported the potential value of instruction in deriving word meaning from context was found as follows (Jenkins, et al. 1989; Fukkink, et al., 1998; Chin, 1999; Goerss, 1999; Robb, 2000; Watts, S., & Truscott, D, 1996; Ying, 2001; Baumann, et al., 2002). They showed that instruction in the use of contextual clues to significantly improve the capacity of pupils to derive word meanings.

For example, Jenkins, et al. (1989) examined the treatment effect on the fifth-grade students in terms of their abilities deriving word meanings from context. Results indicated that experimental outperformed controls who received word definition instruction on measures requiring them to infer the meanings of untaught words from context. They implied that with direct teaching, more teaching resulted in substantially stronger knowledge and found that the medium training group performed better on guessing from context post-test than the high or low training groups. In their study, we find another positive support proposing that when students are taught a strategy for deriving word meaning from context, they tend to outperform students who are directly taught individual word meanings on tests of comprehension. However, in general, the scores on deriving meanings were low.

Buikema and Graves (1993) reported that seventh and eighth-grade students taught to use descriptive context clue outperformed students who followed the standard language art curriculum on measures that evaluated the ability to infer the meanings of uninstructed words. The training introduced the learners to the idea of using clues to guess and the value of looking for many clues. They found positive effects for training teenaged native speakers in guessing from context. Different from the other studies, Buikema and Graves further described the

strengths of the instruction as being: planned, focused, concentrated, explicit, motivating, involving transfer of responsibility. Those characteristics are important to be considered before implementing a training program.

Fukkink & Glopperø (1998) is the most cited work to support the importance of instruction with respects to the instruction of deriving word meaning by using context clues. Following a meta-analysis of 21 intervention research involving native speakers on contextual analysis, Fukkink & Glopper concluded that it makes sense to teach students how to derive word meaning form context. As this meta-analysis shows, deliberately deriving word meaning from context is amenable to instruction and the effect ($M=0.43$) of even relatively short instruction is rewarding. This meta-analysis found that training resulted in better guessing, particularly if learnersøattention was directed to clues in the context. Fukkink and Glopperø meta-analysis also suggested that ðclue instruction appears to be more effective than other instruction types or just practiceö (p. 450).

The effect of instruction in deriving word meanings was found to expand to investigate the immediate and delayed effects. Baumann et al (2002) explored the effects of instruction in morphemic analysis (select prefixes) and contextual analysis (selective context clue types) on four classes of fifth-grade students. Results indicated that there was an immediate and delayed effect of morphemic and contextual analysis instruction for lesson words; there was an immediate effect of morphemic and contextual analysis instruction for transfer words. However, there was no evidence that instruction in morphemic or contextual analysis, either in isolation or combination, enhanced studentsøtext comprehension.

In sum, research during the past twenty years has evidenced the effectiveness of instructing contextual clues. All the reviewed studies involved groups of students in the experimental and control groups, without paying attention to those less capable ones. There has been relatively little research on whether low achievers can be trained with word inferring strategies and to what extent whether their learning process (i.e. ability and belief) can be enhanced by an instruction is still unknown.

Methodology

Subjects

The subjects for this study were seven less-skilled freshmen at a technical-oriented university. Since the focus of this study was to trace changes

in students' processes of inferring word meaning, the data should be in-depth and over time. Therefore, a small number of subjects will be preferred to examine the changes in approaching to the unknown words. The scores on the GEPT¹ elementary level and the Word Detective Test were used as a screening device to locate appropriate subjects. Seven students scoring the lowest² on this screening device were classified as low achievers because of poor word inferencing ability. They were designated as students A, B, C, D, E, F, and G.

Assessment Instrumentations

This study was designed to look into the learners' changes over time. The instruments included word inferencing tests, retrospective reports, introspective think-aloud protocols, and learning reflective journal entries.

1. Word Inferencing Tests & retrospective reports:

The Word Inferencing Tests involved four reading passages for pre-assessment, and four for post-assessment. The stories, adopted from Multiple Reading Skills (2nd edition), Book D (Boning, 1995), contained approximately 250 words in each. The stories for pre-assessment were paralleled with those in the post-assessment in terms of the genre, namely a description of an animal, the origin of a kind of fast food, a heart-warming story, and a description of an invention. This reading book is about 6th to 7th grade difficulty level according to Fry's Readability Graph (Fry, 1968). The subjects were first required to define the unknown words without context. Then they read the text with four underlined words in each, and defined the words again with the context. They also retrospectively described how they guessed the word meaning. The task was conducted before instruction to examine what difficulties they revealed in dealing with unknown words. The data were collected after instruction and then compared with those before instruction to trace the changes in ability of learning word inferencing strategies.

2. Think-aloud protocol:

The present study conducted a think-aloud procedure, which is considered to produce a concurrent report cognitive action and not to change the sequence of thoughts (Ericsson and Simon, 1993), when compared with self-reported procedure

¹ GEPT refers to General English Proficiency Test, a national- standardized language test in Taiwan.

² The low achievers were defined as each had low percentage of correct guess far below 50 (Table 1).

and questionnaire. It also intended to help uncover the reading procedures in depth. Think-aloud protocol, if elicited and interpreted with care, is a valuable and a thoroughly reliable source of information about cognitive processes. It is believed to reveal the learners' self-revelational data for what they actually do and about the dynamics of comprehension difficulties (Cohen, 1999).

In this study, think-aloud method was conducted before and after instruction to collect the learners' inferring process (i.e. how they deal with the unknown words, what strategies they will use). The data collected before and after instruction were analyzed to trace changes in strategy use during the instructional period.

3. Learning Reflective Journal Entries:

Strategy instruction should provide opportunities for the learners to reflect on the success of their strategies (Gagne, & Yekovich., 1993). To monitor their learning process and help them improve the process of word, inferencing should be a meaningful task in EFL reading class. By examining the students' learning journals, I was given more insight into their beliefs and difficulties about strategy training, with which I was able to conduct a more effective program.

The subjects were required to write their reflective journal after each lesson. Each had eight journal entries during the intervention. The emerging themes were analyzed and compared to trace their growth in sensitivity to the learning process. Students' learning journal entries in terms of their awareness of the instructional content, their perceptions about learning, their reactions to the instruction of context and the use of strategies in deriving unknown words became the descriptive data for analysis.

Data Collection Procedures

The subjects met together with the investigator for the explanation of the whole intervention as well as the training for pre-instruction think-aloud task. Then, they met individually with the investigators for the pre-instruction on word inferencing test and the think-aloud task in the following two weeks. The former was conducted in group and the latter was administered individually and tape-recorded for subsequent transcription. There was no time limit to reduce the learners' anxiety and help them reveal their cognitive process as best as possible. One-semester instruction of word-solving strategies was designed and conducted an hour a week after the learners' regular classes.

Upon completion of the treatment program, a post-test and post-think-aloud

were administered to each subject again on reading another four reading passages with the same difficulty level as those before instruction. The use of the different passages with the same readability level was to truly compare the subjects' changes by eliminating some other possible text variables. The method of introspective think-aloud on deriving word meaning and retrospective learning reflective journals was adopted to collect the subjects' verbal and non-verbal protocols in this study.

The Instructional Program

The instruction was based on Winograd and Hare's (1988) explicit instruction model consisting of six dimensions of good strategy instruction: what and why to learn, what the strategy is, how and when to use, and practice. This model is an excellent way to teach contextual analysis in a metacognitive approach, which makes students aware of the purpose of the strategy and how successful they can use it to activate, monitor, regulate, and make sense out of text (Roehler & Duffy, 1991). A modified instructional procedure, combining Clark and Nation's (as cited in Schmit, & McCARTHY, 2000) inductive procedure and knowledge and strategy use, was conducted for the students to practice contextual inferencing strategies. The instructional program taught the inferring procedures and the use of strategy and knowledge, as shown in Table 1.

Table 1

The inferencing strategies and procedures in the instructional program

Strategies	Procedures
<i>*Lexical Knowledge: Using feature analysis to figure out word meaning based on its similarity with other words (i.e. similar spelling) or word parts (i.e. verb, noun, or adjectives)</i>	Step 1: Decide on the part of speech of the unknown word.
<i>*Monitoring: Elaborating the meaning by talking to themselves, such as "Let me think," "well..." "Oh-oh" "Is this right?"</i>	Step 2: Look at the immediate context surrounding the unknown word, simplifying it grammatically if necessary. Examine the relationship between the unknown word and the known words surrounding it.
<i>*Repeating: Repeating a word or a phrase either to show their difficulties in decoding the meaning or to allow</i>	

<i>themselves sufficient time for processing.</i>	
<i>*Syntactic Knowledge : Using knowledge of grammatical function within or between sentences & Monitoring</i>	Step 3: Look at the wider context of the word; that is, the relationship with adjoining sentences or clauses. Examine the relationship between the unknown word and the known words before or after the sentences with the unknown word.
<i>*Prior Knowledge: Associating a word together with another word based on background knowledge of the real world.</i>	Step 4: Make connections between prior knowledge and text information.
<i>&* Self-inquiring: Asking oneself questions about the words already inferred</i>	Step 5: Guess.
<i>Self-inquiring, Monitoring & *Evaluating: Evaluating and judging themselves on their accuracy when inferring the meaning of a word.</i>	Step 6: Check the guess by arousing metacognitive knowledge. For example, substitute the guess for the unknown word. Monitor the guess by asking yourself: "Does it fit comfortably into the context? Does it make sense?" Evaluate the guess to decide whether to accept the idea or reject it and then try again or seek outside assistance.

The teaching materials consisted of the selections from the learners' textbook, *ACTIVE: Skills for Reading*, Book One, (Anderson, 2003). Multiple choice type questions, jumbled sentences, matching, diagramming, cloze, and substitution were used to promote the learners' awareness of contextual word inferring skills and general reading skills. In addition, some specially prepared texts were provided as supplementary materials. They included sample sentences, mini-texts and longer texts of four to five paragraphs from some other articles. Some authentic reading texts were also used during the review lessons, showing students the constraints when using context clues and analysis.

Data Analysis

1. Assessment of Learners' Changes Over Time:

The learners' changes over time were evaluated by a word inferring test, pre- and post-instruction think-aloud tasks and learners' reflective journal entries over time. Word inference scores were calculated from the numbers of words each student guessed correctly. Each correct answer received one point. The researcher

gave a partial credit for semantically related and approximate meanings in Chinese, because this encouraged the students to deliberately and actively derive the meaning for unknown words. Two raters calculated the scores and resolved issues of ambiguous meaning. The final decision was made after the mutual agreement was reached. The comparisons between the two assessments were presented in a table to reveal the subjects' changes in terms of the ability of inferring word meaning.

Further analysis of the subjects' strategy use for unknown words before and after instruction was another approach to reveal their changes influenced by an intervention program. Think-aloud protocols on the word inferring task provided the snapshots of the changes that the students interacted with the text and the context clues. The assessment during the instructional program was based on the inferring procedures, as shown in Table 1. The analysis began with transcribing data from the audio recordings. The transcribed verbal behaviors were underlining, highlighting, and making notes. The developed notes were then coded and categorized.

The researcher repeatedly read through the journal entries, identified and noted the recurrent themes and salient reflections in regard to the advantages and constraints the students encountered during the treatment period. The process involved identifying, coding and categorizing (Patton, 1990). The summarized concepts were sorted out and became the emerging themes. The themes and coding categories in this study emerged from the examination of data rather than being determined beforehand and imposed on the data (Bogdan & Biklen, 1992). Another researcher scrutinized the first results and provided questions for further examination. The data were examined and compared several times before final themes were drawn. Member checks heightened face validity by clarifying and confirming intended meanings and behaviors (Guba & Lincoln, 1989).

2. Assessment of the Learners' Difficulties Exhibited in the Process of Inferring Word Meaning:

To analyze the learners' difficulties, the researcher carefully read the data which were guessed incorrectly. The process was the same as that described in the previous section for analyzing journal entries. Initially, dozens of conceptual labels emerged from the data. The process of analysis involves identifying, coding and categorizing (Patton, 1990). These concepts were summarized, grouped and categorized. Then, the major themes emerged from the analyzing process.

Results

Research Question 1: Changes over time in the low achievers' ability of inferring unknown word after the instruction of contextual inferencing strategies

The changes resulting from the intervention were evaluated by (1) comparison

of students' performance on the word inferring test before and after the intervention, (2) the strategies use during guessing process, and (3) analysis of learners' perceptions and attitude over time.

(1) Results of Word Inferring Tests:

As shown in Table 2, each of the seven students improved their abilities of inferring word meaning from contexts. Improvement ranged from student A's modest gain of 8 percent to student F's dramatic gain of 41 percent. It can be observed that student G with a low percent of correct response jumped to the top two, with gain points of 35 percent. Furthermore, each student's percentage of incorrect inferring decreased, suggesting that the students improved their ability of inferring unfamiliar word meaning. In other words, the increasing correct responses and the decreasing incorrect inferring provided evidence that the instruction enhanced the low-achievers' inferring ability for unknown words.

Table 2
Percentage of Inferential Results for Each Student on Pre- and Post-Assessment

Students	Pre-Assessment			Post-Assessment		
	Correct%	Partially correct%	Incorrect %	Correct %	Partially correct %	Incorrect%
A	13	13	74	21	21	58
B	13	7	80	36	7	57
C	6	0	94	23	8	69
D	33	13	54	45	27	28
E	13	19	68	36	29	35
F	13	19	68	54	23	23
G	7	17	86	42	17	41

(2) The Actual Use of Strategies

Table 3 shows the actual use of strategies collected from the think-aloud protocols in the two assessment sections. In each section, repeating (18.1%, 17.1%) and word form (12.5%, 13.9%) were two types of strategic processing that the students used most. However, the percentage for repeating and word form did not seem to change much over time. The students used syntactic knowledge infrequently in each of the two assessment sessions (9.26%, 10.6%). Whereas the students used the prior knowledge, lexical knowledge and repeating more often (12.6%, 22.9%, 17.1%) during the second session, they used the category of monitoring and evaluating less frequently (11%, 11.3%).

The frequency for the strategy categories in Table 3 indicates the gradual change over the assessment sessions. There was a gradually increasing trend in the use of each category. For instance, the frequency of repeating gradually increased from 49 to 53. There was also a gradual increase in the use of prior knowledge, from 30 (11.1%) in the pre-assessment to 39 (12.6%) in the post-assessment.

Table 3

Frequency and percentage of each type of strategic processing for all seven students in the three assessment sections

Type of Strategic Processing		Pre	%	Post	%
<i>Prior Knowledge</i>		30	11.1	39	12.6
<i>Lexical knowledge</i>	-Word form	34	12.5	43	13.9
	-Word Part	27	10	28	9
<i>Syntactic Knowledge</i>		25	9.26	33	10.6
<i>Repeating</i>		49	18.1	53	17.1
<i>Self-Enquiring</i>		33	12.2	42	13.5
<i>Monitoring</i>		31	11.5	34	11
<i>Evaluating</i>		33	12.2	35	11.3
<i>Total</i>		270		309	

(3) Results of analysis of learning reflective journals:

This study also aimed to examine the change in students' thoughts about what they learned. The major themes emerging from the data were their beliefs, self-assessment, the future actions, and suggestions, as shown in Table 4.

Table 4 indicates the students' growth in positive belief, revealing that contextual inferencing strategies were helpful to them. Three of them (A, B, E) had revealed their positive conception of learning contextual inferencing throughout the instructional period. They believed that this strategy was greatly helpful in enhancing their reading comprehension and reading fluency (W1, W4, W5, W6, W7, and W8).

Some excerpts from the students' reflection journal entries demonstrated their development to be positive learners. Student D changed from a hesitant stance to a more assured attitude, although she still believed she could learn better if she practiced more.

"What my teacher taught might be great if I learn it. However, I don't know...because of too many context clues. I still can't do the exercise successfully. So, I don't know if it works." (Student D, W1)

"It is satisfying to apply the strategy to read a new article. But, I looked up all the words at home. Unfortunately, I still couldn't understand how my teacher guesses the words. I believe that practice makes perfect." (Student D, W4)

"I feel great to learn a new skill. Although I didn't understand well, I believe I would improve by my hard work and my teacher's help." (Student D, W7)

"I paid attention to the class today and felt incredible to find my development in reading fluency. I felt relieved to find it's okay when I skipped some word I didn't know and kept reading." (Student D, W8)

The instruction enabled students to improve their ability of deriving word meaning from context. As shown in Table 4, the students' self-assessment shows their gradual improvement in learning. For instance, although revealing her positive attitude toward contextual inferencing strategy, student A did not reflect on assessment of her success until the seventh week.

"So far, I felt okay in learning the contextual inferencing strategies. ... " (Student A, W2)

"My teacher provided us some exercise to practice today. The first two items were easy, but the last two were difficult. I understood after teacher's explanation." (Student A, W5)

"I felt great for not to get stuck in a word but could read more fluently instead." (Student A, W7)

Some other excerpts that typify the improvement came from students C, D, and F, as follows. They all felt frustrated in the beginning, but improved gradually with time.

"I feel that the learning definition clue is one big headache tome!" (Student C; Student D; Student F, W1)

"...The difficulty is that there are always some other unknown words before or after the unknown word." (Student C, W2)

"I feel I learned how to spot the signal words, which helped me understand the meaning. I feel the sense of achievement and feel delighted to keep on reading." (Student C, W6)

"My difficulty in spotting the clues and my lacking of vocabulary made me lose patience to learn." (Student D, W2)

"I feel that I become more efficient than before in guessing word meaning from context." (Student D, W6, W8)

"I feel great to read more fluently when using the clues to derive the approximate meaning. I feel I can be able to get rid of the old habit of relying on e-dictionary for every single word." (Student F, W7)

A sub-theme, *Future Action*, characterizes the students' change, in which the students revealed their capability for planning and self-directing. As shown in Table 3, student E planned to recite more vocabulary (W1, W4). Student B's active solution was to ask for help from peers or teacher (W2, W3, W4) when encountering difficulty. Moreover, more students showed awareness of their learning process and noted their determination to review and practice more (Student A-w5; Student B-w5, w7; Student D-w4, w6, w8; Student A, F-w8).

The learners' development can also be observed from the concern about their learning. Their suggestions for a better learning include slowing the teaching pace (Student D-w2, w6; Student G-w2, w4), more review (Student F-w2, w3; Student D-w5, w6), more practice (Student A-w4, w7; Student B-w6, w7; Student D-w8), and more group discussion (Student A-w4; Student E-w8).

Table 4

Summary of analysis of Reflective Journal Entries Overtime

Week	Belief	Self-Assessment	Future actions	Suggestions
W1	<ul style="list-style-type: none"> ✓ Great help for reading (A, B, E) ✓ Might be helpful if learned (D) ✓ New approach to reading; useful; time-saving (F, G) ✓ More vocabulary necessary (E) 	<ul style="list-style-type: none"> ✓ Difficulty in learning definition clue, but easy in restatement clue (C, E, F, G) ✓ Chaos in my mind; much effort to take (C, D, F) 	<ul style="list-style-type: none"> ✓ Still unable to apply the strategy (B, D) ✓ To recite more vocabulary (E) 	
W2	<ul style="list-style-type: none"> ✓ Great helpful /Easy to understand (A, B, F) ✓ Easy to understand and time-saving (C) ✓ Restatement clue-great! (E) ✓ More vocabulary necessary (G) 	<ul style="list-style-type: none"> ✓ OK (A, B) ✓ Stumble in insufficient vocabulary (C, D) ✓ Able to apply successfully (E) ✓ Still confused in its use (F) 	<ul style="list-style-type: none"> ✓ Ask for help if finding difficulty (B) ✓ Still unable to apply the strategy (D) 	<ul style="list-style-type: none"> ✓ Slow the teaching pace (D, G) ✓ More review (F)
W3	<ul style="list-style-type: none"> ✓ Great to learn a new strategy (A, E, F) ✓ More vocabulary necessary (A) 	<ul style="list-style-type: none"> ✓ Modifier clue is easy (A, B, E, F) ✓ Ok. (C, D) ✓ Read more fluently (E) 	<ul style="list-style-type: none"> ✓ Ask for help if finding difficulty (B) ✓ Go over again (C, D) 	<ul style="list-style-type: none"> ✓ More review (F)

			✓	Not very understand (G)		
W4	✓	Great and helpful in reading (A, B, C, D,E, F,G)	✓	Difficult today; but ok later (A, B, C)	✓	Learn by discussing with classmates and ask for help from teacher (A, B)
	✓	Make class more fun (E)	✓	Feel great to solve word problems in a new article (C,D, G)	✓	Practice (D)
			✓	Need to Improve vocabulary (E, F)	✓	Recite more vocabulary (E)
			✓	Need to improve reading speed (F)		
			✓	Read faster and better (G)		
W5	✓	Useful (B,C,E,F)	✓	Ok after practice and discussion (A,B,D, E)	✓	Practice after class (A,F)
	✓	Get rid of the habit of grabbing the e-dictionary immediately (F)	✓	Learn a lot (C,D,E)	✓	Go over the strategy (B, D)
			✓	Feel improved greatly (D)	✓	Keep learning (F)
			✓	Need to Improve vocabulary (E)		
W6	✓	Improve reading comprehension by context; useful (A,B, D, E, G)	✓	Ok (A)	✓	Go over the handouts; Keep learning (A)
			✓	Improve more than before (B, C)	✓	Try to find context clues or discuss with friends (C)
			✓	A bit frustrated today (D)	✓	Will review & practice(D)
			✓	Feel great to guess all correct; but need more vocabulary (E)	✓	Will review & practice to improve (A, B, D)
			✓	Feel great to find context useful (G)	✓	Build confidence by reading simple article (F)
W7	✓	Great in reading comprehension test(A,B, E, F, G)	✓	Feel great to read fluently (A,B, F)	✓	Will review & practice to improve (A, B, D)
	✓	Helpful if learned (D)	✓	Not very understand but ok (D)	✓	Build confidence by reading simple article (F)
			✓	Feel great to solve the word problems in the test (E,G)		
			✓	Get rid of old habit of looking up every word (F)		
W8	✓	Review: great to read fluently (A, B, C, D,E,F)	✓	Feel great to improve learning (A)	✓	Will work harder and practice more (A, F)
			✓	Get rid of old habit of looking up every word; learn to keep reading (B, D)	✓	Will review & practice to improve. Or turn to teacher for help (D)
			✓	Feel more improved in guessing word (D)		
			✓	Learn a lot from discussions (E)		

Research Question 2: What are the difficulties students exhibit in the process of inferring word meaning from context?

Another purpose of this study was to examine the data in which word meaning was not correctly inferred. The result showed that the students' errors could be attributed largely to two categories of problems: (1) Inattentive to homonyms/polyseme, and (2) Pseudofamiliar with deceptively transparent words. Several

examples are illustrated as follows.

1. Inattentive to homonyms/ polysemes:

The students' incorrect guessing in the data suggested an inattention to words with multiple meanings. Students gave a variety of wrong meanings for the homonyms--words with multiple meanings, as shown in Table 5. Homonyms are words identical in form, but with distinct and historically unrelated meanings (Schmitt & MaCARTHY, 2000, p. 66). For example, the noun *rest* and the verb *rest* are clearly two distinct entries in the mental lexicon, a context being necessary for a reader to determine which is intended.

As shown in Table 5, during the pre-assessment, five out of the seven students guessed that the word *stand* in "By the 1870s, there were stands for selling sausages at New York's Coney Island," meant "put into an upright position," without paying attention to another meaning as noun "a small outdoor shop." Three out of the seven students guessed that *rest* meant "freedom from something tiring," and apparently neglected its new meaning as "what is left" in the context. This case of inattentive homonyms for the word *rest* was more apparent during the post-assessment, in which six out seven revealed such a response. Those cases showed that most of the low achievers lacked vocabulary knowledge about homonyms / polysemes and some context clues seemed not to be helpful to them as they dealt with unknown words. In such a case, most of them mistakenly identified the word meaning, leading to serious problem of comprehension.

2. Pseudo-familiar with words:

Another difficulty in learners' word guessing derived from "pseudo-familiar" words. The learners were not aware of the fact that they did not know the word's meaning. Cases of pseudo-familiarity in this study involved words that look similar to the unknown words. Another example from the pre-assessment involved the word "motion" and "major," "stand" and "start," "thrust" and "trust." For instance, when the context was supplied for the word "motion" on the with-context test, the students still guessed it as "major." ("Scientists took slow motion pictures of chicken running. They studied the pictures very carefully. They found out that the chicken's head does not move back and forth.")

This case of misinterpretations was more apparent on the post-assessment. Several students (45%) confused the word "stray" with "stay," in the following sentence: "The Tree House is different from most shelters for stray animals. It is a two-story house where cats don't stay in cages." Some of them (45%) misinterpreted the word "creature" as meaning "creative" or "created," even though the reference context clue was provided as follows: "The seahorse is also quite small. Its entire body is only four to twelve inches in length. This tiny creature swims upright...." The "tiny creature" is referred to "the seahorse;" however, the context did not lead to correct guessing. Some other examples in Table 5 indicated that the students guessed the word meaning as a presumed word because of its formal similarity with other words

Table 5

Examples of Learners' Inattentive to homonyms and Pseudo-familiar with words.

	Word meaning in context	Incorrect guess inattentive to clue	Number of students ¹ / 7	Percentage
Pre-assessment				
Inattentive to homonyms	<i>stand (n.) (a small outdoor shop)</i>	<i>Put into an upright position</i>	5/7	71%
	<i>rest (n.) (What is left)</i>	<i>freedom from something tiring</i>	3/7	45%
	<i>heat(v.) (to make warm)</i>	<i>high temperature</i>	2/7	29%
Pseudo-familiar	<i>motion</i>	<i>major</i>	1/7	14%
	<i>stand</i>	<i>start</i>	1/7	14%
	<i>thrust</i>	<i>trust</i>	1/7	14%
Post-assessment				
Inattentive to homonyms	<i>rest (n.) (what is left)</i>	<i>freedom from something tiring</i>	6/7	86%
Pseudo-familiar	<i>stray</i>	<i>stay</i>	3/7	45%
	<i>record</i>	<i>report</i>	1/7	14%
	<i>creature</i>	<i>Creative / culture/create</i>	3/7	45%
	<i>ancient</i>	<i>accident</i>	1/7	14%
	<i>serve</i>	<i>several</i>	1/7	14%
	<i>*left over (phrase)</i>	<i>left</i>	2/7	29%
	<i>*stand for (phrase)</i>	<i>stand</i>	2/7	29%

Note: ¹The numbers do not include those who left the item unanswered.

Discussions

The present study supported the previous research that suggested the effectiveness of contextual inferencing, although the impact on the low achievers was gradual. The findings are also important in terms of curriculum and syllabus design because it dispels the myth that strategies can only be taught after students have developed a solid foundation in L2 proficiency.

According to the findings, some possible explanations for the gradual changes in inferring word meanings were adequate training time and practice. The result suggested that adequate training time is one of the important considerations in strategy instruction. As shown in Table 4, all the seven learners improved gradually with time. According to Oxford (1990), the amount of time to be allotted to the training program must be considered in designing any foreign language curriculum for strategy training. The positive result suggests that strategy training must be conducted over a sufficient period of time (Salomon & Perkins, 1989). Correspondent with the previous research, this study suggests that students need training and practice over adequate time to become adept at using word inference strategy to their benefit. Responding to the students' journals, the instructor always provided more practice (e.g. student A-week 4, as shown in Table 4) in class the next week. The improvement was observed in the students' reflections, e.g.,

A,B,D,E, as shown in Table 4. It is worth further research investigating the level of training time and the level of practice for different subjects at different proficiency level.

Another factor lies in the learners' awareness of strategy use. In this study, the learners were required to think about the purpose and value of contextual analysis and also reflect on their difficulties in learning the strategy. By writing the journals, the students had the opportunity to recall what they learned and how well they learned it. As suggested in Fukkink and de Glopper (1998) meta-analysis of 21 research studies, training resulted in better guessing, particularly if learners' attention was directed to clues in the context. Keeping journals directed the learners' attention to the clue and its usage. As Cohen (1999) emphasized, ongoing evaluation and revision of the training program is necessary to ensure its success. This emphasis also echoes Schmitt and McCarthy (2000) proposal of strategic knowledge that involves conscious control over cognitive resources. A successful training program must include instruction aimed at developing the learners' awareness of strategy use (i.e. metacognitive strategies) in conjunction with cognitive learning strategy use (Gagne, et al., 1993).

Of all the knowledge sources, the low achievers in this study used lexical knowledge (i.e. word form and word part) more frequently than the other knowledge types (in Table 3) prior to and after the context-based instruction. The frequent use of lexical knowledge might be ascribed to learners' deficiencies in other knowledge sources (i.e. discourse knowledge, grammatical knowledge). As Huckin and Block (1993) reminded, less proficient students are the learners with incompetent linguistic knowledge, which can lead to serious misinterpretation of word meanings. A further study is needed to examine the relationship between the tendency to use the pseudo-familiarity of lexical knowledge and unsuccessful guessing.

In spite of their gradual but positive development, the learners also expressed their difficulties in using context clues and contextual analysis. Some of them ascribed the limitations to their lack of vocabulary. Obviously, students with limited vocabulary were more likely to encounter word problems. They had greater difficulty inferring the meaning of words from context because they had more words to guess and had less contextual information available for figuring out unknown words. This problem was congruent with what many researchers found in studying the threshold of vocabulary and reading comprehension (Laufer & Sim, 1985; Laufer, 1992a; Qian, 1999) as well as vocabulary knowledge (Quin, 1999; Read, 2000).

The analysis of the incorrect guesses revealed two reasons why the low achievers did not correctly deriving word meaning. The results suggest that misconception of deceptive transparency (DT) words and unawareness of words with multiple meanings were the most serious problems among the learners when inferring the word meanings. Since the readers were unaware of or did not know

those "deceptively transparent words (DT)" (Laufer, in Coady & Huckin, 1997, p.26), they might stick to the false meanings and use them as clues to guess other words. Laufer argued that misinterpretation of DT words is one of the most serious problems among second language readers. The unusable and misleading contextual clues do not aid the word comprehension and might consequently hinder reading comprehension. Huckin and Block (1993), in their L1 study, also found that most cases of unsuccessful guessing among their participants were cases of mistaken ID (words they thought they knew, p.160). The words were mistakenly identified, leading to problems of comprehension.

The Interactive-Activation and Connectionist Models (Gleason & Ratner, 1996), indicating that the presence of misleading clues or linguistic context may also influence activation level, could also be in line with Laufer's findings (Laufer, in Coady & Huckin, 1997) and explain the low achievers' mistakes in this study. That is, the greater the overlap in the spelling, the greater the activation is stimulated by given neighbors. This can be seen from the data, such as *thrust / trust* and *stray/stay* and *creature/creative*. This model can also be used to explain the learners' unawareness of words with multiple meanings. It appears that multiple meanings of a word may be activated in parallel, with the dominant meaning "popping up" first (Gleason & Ratner, 1996, p.207). Additionally, the most frequent interpretations of a word are the first to be activated unless the context strongly steers subjects to the subordinate-biased contexts (Gleason & Ratner, 1996, p. 206). The most important factor might be that they were not aware of words' multiple meanings in different contexts. Laufer (as cited in Schmitt & McCARTHY, 2000) found, in their study of lexical guessing that "words with multiple meanings induced the largest number of errors in comprehension of words. Learners who were familiar with one of the meanings of a polyseme /homonym did not abandon this meaning even though it did not make any sense in context." (p. 152)

Conclusions and Implications

Conclusions drawn from the findings indicate that explicit instruction in the use of contextual analysis had gradual but positive impacts on low achievers' abilities of inferring word meaning from contexts. However, a caution should be taken that change in inferencing ability varied between individuals due to some possible factors such as different proficiency levels and reading motivation. Moreover, contextual clues do not always aid word inferencing for students, particularly the low achievers. The analysis of the incorrect guesses revealed that the tendency to mistakenly identify word meaning and fail to examine the context in these cases led to breakdown in comprehending word meaning.

Some pedagogical implications are addressed as follows:

1. With little exposure in natural language learning environment, EFL learners

should be explicitly taught how to use context intelligently instead of guessing widely. They need repetitive practice with metacognitive awareness (controlled process) in the combination of various processing strategies (automatic process) which leads learners to a better comprehension.

2. It should be necessary to make students aware of polysemy (that is, a word with several different but closely related meanings), a word's prefix or suffix and its limitations in different contexts. When teaching the students how to guess word meaning from contexts, teacher should warn the learners not to rely on word morphology too much and not to draw conclusions about sentence meaning on the basis of individual words---as some of them may be pseudo-familiar that is, they appear to be familiar though they are not. Instead, meaning should be checked against wider context.
3. In grouping new words for presentation, a teacher should beware possible confusion that can be created by form similarity. It would be more effective to introduce each word separately and practice the distinction among them than introduce them together.
4. Guided practice plays an important role in learning strategies, particularly for the low achievers. Most of the learners reflected that they would perform better as long as they had more practice. It is important that a strategy-training program should allow for varied practice on materials. Varied practice includes the range of materials the learners are exposed to as well as the contexts for use.
5. The insights gained from the learners' reflective journals provide a valuable source of information in teaching strategy and a positive challenge to teachers because they are so closely tied to reality: our real world, real classroom, real students and real needs (Grabe & Stoller, 2002). The reflective practice implies the value of empowering students with metacognitive strategies. Self-monitoring is critical for raising consciousness as well as creating independent and competent learners.

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APPENDIX:

Sample Reading Passage for Pre-Assessment:

(1) Have you ever watched a chicken run? Did you notice how it **jerks** its head? Scientists now know why the chicken does this.

Scientists took slow **motion** pictures of chickens running. They studied the pictures very carefully. They found out that the chicken's head does not move back and forth. The head only jerks **forward**--then the body catches up. When the scientists covered the chicken's eyes, the head no longer jerked at all. The scientists had found out that the chicken only **thrusts** its head forward to see better. Wouldn't it be funny if most chickens needed glasses?

Sample Reading Passage for Post-Assessment:

(1) Have you ever seen a fish with a head like a horse and a tail like a monkey? The seahorse is just such a fish. The seahorse has a long head shaped like a horse's head. The small bony spikes on its long, arched neck look much like a horse's mane(鬃毛). The **rest** of this fish's body is completely covered with bony rings. Its long, thin tails can **curl** around seaweed just as a monkey's tail can curl around a tree branch.

The seahorse is also quite small. Its entire body is only four to twelve inches in length. This tiny **creature** swims upright by moving a small fin located about halfway down its back. It can **travel** forward, backward, and up and down.

--adopted from Boning, R. (1995). *Multiple Reading Skills* (2nd edition, Book D).