Metacognitive Strategy Training and Vocabulary Learning in an "Input-poor" Environment

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Abstract

There still exist lacunae in our understanding of howness and the effectiveness of metacognitive strategy training for various language skills in most EFL contexts; most notably in input-poor environments. The present study sought to investigate the possible effects of metacognitive strategy training on vocabulary strategies awareness and vocabulary knowledge among Iranian EFL learners. The experimental group received metacognitive strategy training for vocabulary learning while the control group was taught through usual teaching practice for vocabulary in this context. Vygotsky's metaphor of Zone of Proximal Development (ZPD) (1986) with its concomitant notion of scaffolding have been applied as the conceptual framework. The data demonstrated that metacognitive strategy instruction influenced positively the learner's awareness of vocabulary strategies in the experimental group. Results from the descriptive statistics and one way ANOVA also indicated that the experimental group outperformed the control group on the researcher-made vocabulary tests at the significance level of .05. To conclude, the metacognitive strategy training proved to be highly effective in enhancing EFL learners' vocabulary knowledge in an input-poor environment where focusing consciously on learner strategies undoubtedly warrant closer consideration and is more critical than unconscious acquisition occurred through exposure to ample foreign language input outside the classroom.

Keywords: Metacognition, Metacognitive Strategy Instruction, Skill-based Instruction, Language Learner Strategies, Zone of Proximal Development, Scaffolding, learner autonomy, Input-poor environment

1. Introduction

Learner strategies can be defined as "actions, behaviors, steps, or techniques students use, often unconsciously, to improve their progress in apprehending, internalizing, and using the L2" (Oxford, 1990, p.1). Chamot (2004) defines these strategies as "the conscious thoughts and actions that learners take in order to achieve a learning goal" (p. 14).

Successful language learners are strategic (O'Malley & Chamot, 1990; Green & Oxford, 1995, Oxford, 2008). That is, more proficient language learners not only ten d to have and exploit a variety of strategies than less proficient language learners, but also are typically aware of strategies at their disposal, can evaluate the effectiveness of the strategies, and can choose strategies appropriately (Chamot & O'Malley, 1996; Cohen, 1998; Chamot & El-Dinary, 1999).

It has been postulated that learning environment does influence the strategy use (Oxford, 1990). According to Mahdavi (2013), the English language learning environment in Iran can be characterized as an "*input-poor*" environment defined by Kouraogo (1993) as "language learning contexts where learners have little opportunities to hear or read the language outside or even inside the classroom" (p. 167). In relation to the importance of learner strategies in foreign language learning in input-poor environments, Kouraogo (1993) maintains that "[l]earning strategies deserve in fact more attention in these contexts where unconscious acquisition caused by exposure to an abundant second language input outside the classroom is likely to be less critical than conscious strategies in influencing gains in linguistic and communicative competence" (p. 169).

Early studies in language learner strategies focused on classifying strategies into different categories. For example, O'Malley and Chamot's (1990) have classified language learner strategies into three primary categories: Metacognitive, Cognitive, and Affective or Social strategies. In a more comprehensive and detailed classification model, Oxford (1990) made a distinction between *direct* and *indirect* strategies. On the one hand, direct strategies are subdivided into three groups of Memory, Cognitive, and Compensation strategies which contribute directly to learning. On the other hand,

indirect strategies contribute indirectly but effectively to learning and also subdivided into three groups of Metacognitive, Affective, and Social strategies.

Ample empirical evidence stresses the centrality of metacognitive and cognitive strategies to language learning process because they are frequently used by successful language learners   (Abraham & Van, 1987; Park, 1997; Wharton, 2000; Bruen, 2001; Peacock & Ho, 2003).

Cognitive strategies are those strategies which assist a person in accomplishing a particular goal (e.g., comprehending a text) while metacognitive strategies refer to control or regulatory process, planning, monitoring, and evaluation, which individuals use to ensure that the particular goal has been met (Livingston, 1997; Rubin, 2005; Garner; 1987).

Metacognitive strategies have an indispensible part to play in effective language learning. O'Malley and Chamot (1990) emphasized the crucial role that metacognition plays in learning in that

Students without metacognitive approaches are essentially learners without direction or opportunity to plan their learning, monitor their progress, or review their accomplishments and future learning directions. (p. 561)

2. Literature review

This section of the paper addresses key issues concerning the research topic as discussed in some relevant literature.

2.1. Vocabulary learner strategies (VLS)

As a subset of general learner strategies, vocabulary learner strategies have come to the fore as an important area of research into vocabulary. A surge of researchers' interest in learner strategies first began to develop in the 1970s with the idea of the quest for finding the truth and secrets behind the success of good language learners (Naiman et al., 1978; Rubin, 1975). Learning strategies are "special thoughts or behaviors that individuals use to comprehend, learn, or retain new information" (O'Malley and Chamot, 1990, p.1). This broad view on defining learner strategies has been also taken by Schmitt (1997) about vocabulary learner strategies in that he articulated learning is "the process by which information is obtained, stored, retrieved and used... therefore vocabulary learning strategies could be any which affect this broadly defined process" (p. 203).

2.2. Importance of Vocabulary Learning Strategies "Give a man fish and he eats for a day. Teach him how to fish he eats for a life time."----(A Chinese proverb)

The research findings inside the field of LLS have corroborated the teachability of learner strategies, including strategies for vocabulary learning, to less successful language learners in order to help them become better and active language learners (Chamot, 2005; Oxford, 1990; Wenden, 1987; Hsiao and Oxford, 2002; Nation, 2001). "The use of strategies embodies taking active, timely, coordinated responsibility for learning. This is both learnable and teachable" (Oxford, 2008, P. 52). She also adds that "learning strategies are generally signs of learner autonomy" (p. 52). Hsiao and Oxford (2002) acknowledged that "[l]earning strategies for L2s help build learner autonomy, which requires the learner to take conscious control of his or her own learning process" (p. 369). What seems to be quite clear is that proficient L2 learners show strong tendency to possess and employ a wide array of strategies than less proficient learners (O'Malley and Chamot, 1990; Oxford, 1990, 2008).

As to the importance of learning strategies in FLLIPE (foreign language learning in input-poor environments), Kouraogo (1993) maintains that

Learning strategies deserve in fact more attention in these contexts where unconscious acquisition caused by exposure to an abundant second language input outside the classroom is likely to be less critical than conscious strategies in influencing gains in linguistic and communicative competence.

Possessing a variety of strategies (metacognitive knowledge) and the ability to employ them appropriately in suitable contexts (metacognitive regulation) can facilitate the process of learning new words for learners (Ranalli, 2003). Similarly, Nation (2001) contended that developing a large amount of vocabulary could be made possible with the help of vocabulary learner strategies. Learning how to use vocabulary learner strategies is not inherited, nor does it happen naturally and overnight, yet it necessitates specific instruction of basic vocabulary skills and strategies. Yet, success in the strategy instruction heavily depends upon a clear understanding of students' awareness of strategies prior to strategy instruction. That is, teaching strategies that they know would be of little help. A clear understanding of what strategies learners deploy and what they don't would help teachers devise or choose a suitable instructional model for teaching as well as guiding learners into deploying those efficient strategies they are not aware of them.

2.3 Metacognition

"Hardly does anyone question the reality or the importance of metacognition" (Schraw and Moshman, 1995, p. 351). O'Malley and Chamot (1990) emphasized the crucial role that metacognition plays in learning by noting that "students without metacognitive approaches are essentially learners without direction or opportunity to plan their learning, monitor their progress, or review their accomplishments and future learning directions (p. 561).

To put it simply, metacognition refers to "thinking about thinking" and regulation of this thinking or our

ability to know what we know and what we don't know (Flavell, 1979; Livingston, 1997) and it is comprised of metacognitive knowledge and metacognitive regulation. Metacognition was also characterized by Flavell as a "promising new area of investigation" (1979, p. 906).

Metacognition nurtures independent thinkers and lifelong learners who are able to grapple with new situations and learn how to learn and continue to learn throughout their lifespan in this hectic pace of life (Eggen and Kaucbak, 1995; Papaleontiou-Louca, 2003). However, learning how to be mindful and manager of one's own learning is not inherited, nor does it happen naturally and overnight, it necessitates specific instruction of basic metacognitive skills and strategies.

Metacognition "has the potential to empower students to take charge of their own learning and to increase the meaningfulness of students' learning" (Amado Gama, 2005, p. 21), it also encourages learners to 'learn what to do when they don't know what to do' (Wade, 1990; Claxton, 2002). Similarly, Chamot et al. (1999) stated that "metacognition or reflecting on one's own thinking and learning is the hallmark of the successful learner" (p. 2). In the metacognitive approach to teaching, the teacher models and provides guided practice in some specific strategies employed by skilled readers.

2.4. Theoretical frameworks

The current research adopted Flavell's model of cognitive monitoring (1987) for analyzing and interpretation of learners' strategies from a broad metacognitive perspective. This model has been widely used in L2 studies by various researchers such as Wenden (1991a, 1998), Goh (1998), and Zhang (2001) for interpretation of learners' metacognitive knowledge of language learner strategies.

For raising metacognitive awareness of strategies among learners, Vygotsky's metaphor of Zone Proximal Development (1978) with its concomitant scaffolding notion, which both ZPD and scaffolding are parts of his Dialogic model) have been applied as the conceptual framework. This model is considered as "the best-known sociocultural model of self-regulation and strategy instruction" (Oxford and Schramm, 2007, p. 52) and it has been noted in many writings on L2 language and language learner strategies (for example, Chamot et al., 1999; Scarcella and Oxford, 1992).

This *experimental* study is an attempt to establish the possible effects of metacognitive strategy training for vocabulary strategies on strategy awareness and use. It also examined whether metacognitive strategy training enhanced the students' vocabulary knowledge in an input-poor environment. The research endeavors to address the following questions:

Research question 1: Does metacognitive strategy training increase learners' metacognitive awareness vocabulary strategies as well as strategy use in an input-poor environment?

Null hypothesis 1: There is no relationship between metacognitive strategy training and learners' metacognitive awareness vocabulary strategies as well as strategy use in an input-poor environment.

Research question 2: Does metacognitive strategy training enhance L2 vocabulary development in an "input-poor" environment?

Null hypothesis 2: There is no relationship between metacognitive strategy training and L2 vocabulary development in an "input-poor" environment.

3. Methodology and design

This section briefly explains the design of the study from the outset and then provides information about the participants, instruments, procedures, and data analysis methods.

3.1 Design of the study

This experimental study was concerned with the examination of the possible effects of the metacognitive strategy training for vocabulary on EFL university level students' vocabulary knowledge. For this investigative and experimental research to be undertaken, *a Pre-test Post-test Equivalent-Groups Design* served to complement the objectives of the present study (figure 3.1). This experimental design (*Pre-test Post-test Equivalent-Groups Design*) is illustrated graphically as follows, where R indicates random assignment, X represents exposure of the group to an experimental variable with measurable effects (metacognitive strategy training), C refers to the teaching method used in the control group (Skilled-based instruction) and O represents a measurement recorded on an instrument (O1 and O3= Pre-tests, and O2 and O4= Post-tests).

Group 1   R O_1 X O_2
Group 2   R O_3 C O_4

Figure 3.1 Pre-test Post-test Equivalent-Groups Design

3.2 Participants

The students who took part in the study consisted of 60 (25 males and 35 females), 18-24 year-old university students majoring in biology at Islamic Tonekabon Azad University, Iran. Selection of the participants for the study was based on a simple random sampling from the five hundreds freshmen university students enrolled in biology faculty. Through the Michigan Language Proficiency test, the participants were divided into two homogeneous groups of thirty subjects of whom one was randomly assigned as the experimental group and the other as the control group for the study.

3.3 Instrumentations

Three instruments were used in this study. Michigan Language Proficiency test was used for the purpose of homogeneity of two groups prior to the instruction. The researcher also used an adapted version of the vocabulary strategy questionnaire proposed by Gu and Johnson (1996) to gain insight into the learners' metacognitive awareness of vocabulary strategies both prior and after the instruction. A 20 item multiple-choice test of Vocabulary was developed by the researcher. The vocabulary items were mainly selected from the new lexical items taught and given exposure during the course to both groups. The validity and reliability of the test was checked against a standardized test (Nelson Test). The value for coefficient alpha was .83 and the value of the split half coefficient was .90, each indicating a very satisfactory reliability. The validity of the test was also .83.

3.4 Procedures

The study was conducted in three phases: 1) *Before* the instruction phase (Pre-test), 2) *During* the instruction phase (the experimental interventions), and, 3) *After* the instruction phase (Post-test).

In the first phase, after laying the ground for the study, the participants in both groups were pre-tested on the vocabulary strategy questionnaire and the researcher-made vocabulary test by the researcher. In the second phase, metacognitive strategy instruction was carried out. Both the experimental and the control groups were instructed by the researcher for two times per week (totally 180 minutes per week) over a 14-week period. While the experimental group was trained through rather a new method of instilling strategies of improving vocabulary knowledge into EFL language learners in an input-poor environment, namely metacognitive strategy instruction (*Transactional Strategy Instruction model*), the control group was taught through the *skill-based teaching method* for developing vocabulary knowledge which is the widespread method of teaching applied in Iran. And in the final stage, both the experimental and control groups were post-tested on the same measures which were used in the pre-test, namely the vocabulary strategy questionnaire and the researcher-made vocabulary test, immediately after the instruction.

3.5 Treatment and Strategies used in the intervention

The researcher in the present study made use of a widely used pedagogical model of metacognitive strategy instruction, namely Transactional Strategy Instruction (TSI) in an input-poor environment due to its generally confirmed effectiveness and its flexibility in choosing various strategies for strategy training. He also applied features of another instructional model proposed by Philip (2005) to teach strategies of vocabulary learning,

that is to say, Self-regulated Approach to Strategic Learning (SRSL). The classroom process was divided into three phases: pre-instruction, instruction, and post-instruction phases. Each phase was also subdivided into three Quadrants. The teacher and learner's roles and responsibilities are explained in the context of all the three phases of instruction.

Pre-Instruction Phase

In the Pre-Instruction Phase, in Quadrant I, the learner strategies were explicitly modeled to the learners by mode of *Direct Explanation*. Features of each strategy were clearly explained to the learners following the recommendations proposed by Winograd and Hare (1988) as a complete teacher explanation. They suggested the five elements of *what* the strategy is, *why* a strategy should be learned, *how* to use the strategy, *when* and *where* the strategy should be used, and *how* to evaluate the use of the strategy as the basis of a complete teacher explanation.

In an attempt at contextualizing the strategy training within the classroom process, the researcher applied strategies in his teaching in the context of actual applications applying general-English materials. Modeling strategies explicitly and appropriately was the main role of the researcher in this phase while simultaneously motivating students explicitly through encouraging feedback was his other responsibility which required the devotion of a small amount of his effort. The descending arrow in Figure 3.2 (dotted line) is indicative of the degree of researcher's effort at modeling and explaining the strategies or at giving explicit motivation as well as encouragement on strategy use. As the lesson proceeded from pre-instruction towards instruction and to post-instruction, the amount of effort at modeling and explaining of strategies decreased while the amount of effort on giving explicit motivation and encouragement on strategy use increased.

In Quadrant II, at the Pre-Instruction phase, the researcher provided the learners with the constructive scaffolding. With the purpose of assisting learners to move in their Zone of Proximal Development of strategy knowledge and use, he further continued to explain the various features of the strategies explicitly and also opened up a window of opportunities for the learners to practice the taught strategies under his guidance. As showed by the descending arrow that cuts through Quadrant II, the proportion of effort on the part of the researcher at the constructive scaffolding gradually decreases and ultimately reduces into conceptual scaffolding. On the other hand, the learners' role at this quadrant was to attend to the researcher's explanation and at the same time to make the most of the given freedom to participate in the instruction process with questions, clarifications and confirmations of understanding. As the lesson unfolded, the learners were given ample opportunity to gain efficacy and confidence

and eventually they could regard themselves as being self-efficacious. Quadrant II laid the groundwork for the internalization of strategy knowledge by the learners in Quadrant III in that both the researcher and the learners co-regulated and co-determined the process of the strategy internalization by the learners. What seems to be at the heart of this process is the transactional nature of the strategy instruction.
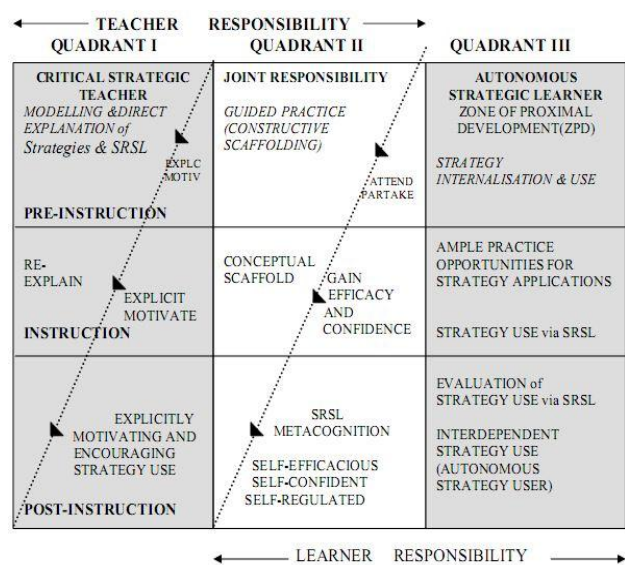

Figure 3.2 Instructional Framework (Philip, 2005, p. 165)

By and large, the learners were already explicitly taught strategies in actual contexts of applications at the Pre-Instruction Phase. At this phase, the learners were afforded the opportunity to consider and explore the merits of strategy use so that when they began to move to the next step they were already well equipped with strategic knowledge.

Instruction Phase

At the Instruction Phase in Quadrant I, the learners would be ready to employ strategies they learned at the Pre-Instruction Phase according to expectations. However, re-explanation of the strategies was provided by the researcher as and when needed by the learners, and it decreased as the learners gained more efficacy in strategy use. In lieu of re-explanation, the researcher accorded more considerations to motivate the learners explicitly for and boost their confidence in strategy use.

In Quadrant II, at the Instruction Phase, the researcher re-explained the strategies through conceptual scaffolding by capitalizing on the learners' contributions in the process of understanding a particular strategy. The researcher not only shared his understanding of strategy use with the learners but also focused his attention on and evaluated the learners' understanding of strategy deployment via dialogical interactions. As a source of inspiration, the researcher also afforded the learners ample opportunities to voice their attitudes and understandings of the strategies to assist them in gaining confidence. The researcher's role which was more re-explanation of the strategies than the explanation itself decreased and gradually faded over time, and he, instead, focused his efforts more on explicitly motivating the learners. Likewise, constructive scaffolding decreased while conceptual scaffolding continued to exist in order to give an assurance that the learners gained efficacy and confidence both in strategy applications and in comprehending meaning from the text.

Post-Instruction Phase

In Quadrant I, at the Post-Instruction Phase, the researcher persevered with his task in motivating the learners in their strategy applications. It is not out of place to say that the researcher's undivided attention was given to encouraging and motivating the learners to utilize strategies appropriately and effectively. In Quadrant II, at the Post-Instruction Phase, conceptual scaffolding was beginning to fade away at this point in the belief that the learners must have already developed adequate metacognitive knowledge to be characterized as self-efficacious, self-confident and self-regulated learners in reality. As depicted in Figure 3.2, the finished product of this complex yet worthwhile process is a strategic and self-regulated learner who has "attained the efficacy of an independent strategy user" (Philip & Hua, 2006, p. 15) and can exert a conspicuous control on his or her own reading comprehension and vocabulary learning.

3.6.3. *After* the instruction phase

At this phase, both the experimental and control groups were post-tested on the same measures which were used in the pre-test, namely Vocabulary test and Vocabulary Strategy Questionnaire (VSQ) immediately after the instruction was implemented. The vocabulary test was conducted at the same time with the VSQ in another session where both groups were tested simultaneously on both measures. One day after the reading test, both the experimental group and the control group participated in the vocabulary test which had been developed by the researcher before the instruction and had also been used in the pre-test. The allocated amount of time for Vocabulary test was 25 minutes. Then, the students were post-tested on the VSQ. They completed the survey in 45 minutes. Once again the researcher read and translated each statement on the questionnaire from English to Persian, and the students chose the number they had been thought being more appropriate. Finally, after the post-testing process the data was collected and prepared for statistical analysis, and the results of the tests were compared to find the effects of the training.

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Strategies were taught in the treatment are as follows: analyzing the word structure (prefix, root and suffix), Dictionary use, guessing words from context, keeping a vocabulary notebook (noting down meanings, pronunciations, examples, and linking with synonyms)

3.6 Data analysis

The data gathered through reading test was analyzed by using the *Statistical Package for the Social Sciences* (SPSS) for Windows version 19.0. Descriptive statistical procedures and analysis of variance (ANOVA) were used to ascertain the extent to which metacognitive strategy instruction influenced the learners' vocabulary knowledge.

4. Results and Analysis

The experimental study was designed to unveil the possible effects of contextualized metacognitive strategy training for vocabulary on the students' metacognitive awareness of vocabulary strategies and vocabulary knowledge. This section deals with the results and offers interpretations for the various findings.

Research question 1: Does metacognitive strategy training increase learners' metacognitive awareness vocabulary strategies as well as strategy use in an input-poor environment?

To determine the vocabulary strategy use of the students of both the experimental and control groups before and after instruction the data were analyzed through paired samples statistics and the results of the mean scores, standard deviations, t-critical values and p-values of both groups for each category of the VLSQ have been incorporated into table 4.1.

4.1. Overall metacognitive strategy awareness of both EG and CG before and after instruction

	tests	Experimental Group	Control Group
Overall Awareness of strategies	Pre-test	**2.98**	**3.02**
	Post-test	**3.35**	**3.13**
Standard Deviation	Pre-test	**2.85**	**2.89**
	Post-test	**3.83**	**2.87**

The mean values for the overall vocabulary strategies of EG before and after the strategy instruction were 2.58 and 3.35, respectively. The difference in the mean values shows the improvement in the students' awareness of the overall vocabulary strategies from the period before to after the strategy instruction. The results indicate that the students in the experimental group made considerable gains in strategy awareness from the metacognitive strategy training which is clear from the differences in the mean values of the two groups before and after the instruction. Therefore, metacognitive strategy training for vocabulary learning improved students' awareness of these strategies.

Research question 2: Does metacognitive strategy training enhance L2 vocabulary development in an "input-poor" environment?

In order to show the efficacy of the intervention, the students' pre- and posttest scores on a criterion-referenced vocabulary test were analyzed to see if there was a statistically significant difference between the two groups. Means and standard deviations for pre- and posttest scores can be found in Tables 4.2.

Despite the fact that the mean values for both groups' vocabulary knowledge prior to the instruction was almost the same, the EG outperformed the CG in the post-test. Table 4.2 shows that the mean value for vocabulary knowledge of the EG in the post-test (14.66) is higher than that of the CG (10.53).

4.2. Means and (standard deviations) for Vocabulary test

Tests	Experimental group (30 students)		Control group (30 students)	
	Mean	Std. Deviation	Mean	Std. Deviation
Pretest	8.40	2.98	8.22	3.57
Posttest	14.66	2.96	10.53	3.31

In order to test the differences between mean values of these two groups in terms of vocabulary knowledge and show that the differences between two groups are due to metacognitive strategy training for vocabulary and not due to chance effects, the analysis of variance (ANOVA) was conducted. The results are shown in Table 4.3.

4.3. Tests of Between-Subjects Effects

Source	Sum of squares	df	Mean square	F	Sig	Error	Total
Vocabulary	214.25	1	214.25	97.24	.000	125.58	10356.00

The significance value of .000, which is less than 0.05, indicates that there is strong evidence of a difference between control and experimental groups regarding vocabulary tests. Because the obtained *F* ratio (97) with 1 *degree of freedom* is greater than critical *F*, it is significant at the .05 level, and the null hypothesis is rejected at that level. Therefore, the metacognitive strategy training process can be said to be highly effective for learners' vocabulary development in an "input-poor" environment.

5. Conclusions and Discussions

This section represents the results of the study; these will be followed by implications and suggestions for EFL teaching and learning as well as further research.

Concerning the students' awareness of vocabulary learning strategies, both groups reported to have means close to each other (EG= 2.58 and CG= 3.02), and there is no big difference between two groups before the training while after the training, the mean of the EG was 3.35 and the mean of the CG was 3.13. Big differences exist between the two groups in terms of their awareness of reading and vocabulary strategies after the training indicative of the effectiveness of the metacognitive strategy training for heightening students' metacognitive awareness of vocabulary as well as reading strategies. Increased awareness of the reading and vocabulary strategies would probably lead to increased reading comprehension and vocabulary knowledge. Effective and self-regulated readers are metacognitive, and metacognitive readers know what strategies to apply, how, when, and why to apply them, in addition; they

plan, monitor, evaluate, and regulate their own reading (Block, 1992; Salataci and Akyel, 2002).

Ahmed (1989) found that good vocabulary learners employed a wide range of strategies than poor vocabulary learners. Sanaoui (1995) also concluded that effective vocabulary learners used a wide array of strategies which helped them take responsibility of their own vocabulary learning, seek and use different opportunities for learning, and practice L2 words. Therefore, the most effective vocabulary learners show a strong tendency to deploy a wide range of vocabulary (Klapper, 2008). As it is true with proficient readers, however, it is unwise to assume that all these proficient vocabulary learners already and automatically employ these skills. Thus, proven reading and vocabulary strategies, especially metacognitive and monitoring strategies, should be provided to guide EFL learners in input-poor environments in managing their own learning experience and become more independent which deems a necessity in these contexts. However, it is safe to say that incidental learning of vocabulary from context remains an essential co-requisite of deliberate and strategic vocabulary learning and in vocabulary instruction a balanced approach of explicit and implicit vocabulary learning should be adopted (Klapper, 2008).

Various learning environments are most likely to impact upon both the nature and effectiveness of strategy learning and use (Gu, 2003). Klapper (2008) draws on Kouraogo's notion of "input-poor" environments and states that direct instruction of vocabulary is highly valuable in such environments and also added the value of such an approach which increases "not just recognition but also retention and active vocabulary use" (p. 173). This study showed that metacognitive instruction for vocabulary learning was phenomenally successful in an "input-poor" environment where "learning strategies deserve in fact more attention" (Kouraogo, 1993, 169).

The present study concludes with what has been put forward by Rausch (2000) that a critical and basic part of achieving mastery in a language is mastering learning. The study investigated the success of metacognitive strategy training for enhancing the students' metacognitive awareness of vocabulary strategies and vocabulary development. Thus, such awareness of strategies which is central to learners' language learning not only is important in aiding them to improve their reading vocabulary learning but such awareness and mastery of the strategies puts the learners in active control of their own learning process and moves them one step forward toward the *learner autonomy* which seems essential for successful language learning in input-poor environments. This idea is in perfect harmony with an often-quoted proverb in the field of education, "Providing a person with a fish will feed him for a day but teaching him how to fish would provide food to last him a life time".

The findings of this study offer many vital pedagogical implications for teachers, researchers, curriculum designers, policymakers and educators in an EFL environment where "unconscious acquisition caused by exposure to an abundant second language input outside the classroom is likely to be less critical than conscious strategies in influencing gains in linguistic and communicative competence" (Kouraogo, 1993, 169). With regard to the importance of metacognitive strategy training, he contends that there are learners who succeed in reaching a high level of proficiency in input-poor environments notwithstanding the small amount of exposure to the language input and widespread low level of achievement. He treated the use of the efficient learner strategies as one of the main determining factors for such a phenomenon. As a result, gaining insights into EFL learners' awareness of vocabulary and reading strategies would be a major goal which is worth further pursuit. A clear understanding of what strategies learners deploy and what they don't would help teachers instruct and guide learners those efficient strategies they are not aware of. Strategic learners actively control and regulate their own learning process independently.

Strategy instruction should provide a lot of opportunities for the readers practicing these strategies to deepen their understanding of them and to make them aware of howness, whyness, whenness, and whereness of their use (Winograd and Hare, 1988). In the long run, placing emphasis on as well as devoting energy and attention to teaching strategies which enhances self-regulation empowers learners to become active learners.

If classroom teachers incorporate metacognitive strategy instruction into their L2 reading and vocabulary instruction, it would yield in positive results. This study may be considered as a valuable reference for practitioners who seek to develop their student's reading ability and vocabulary knowledge. Teachers should weave metacognitive strategy training into everyday lesson, motivate learners to plan, monitor, and evaluate their own reading and vocabulary learning, and provide a supportive environment where strategies can be applied best putting emphasis on independent learning at the end of every reading lesson. They should scaffold the strategy training processes where scaffolding implies the teacher support. Teachers provide supports for students with guided practice in using strategy before applying them independently. After mastery of strategies by learners, teachers should descaffold them. It is also expected to assist the teacher to select strategies that fit their students' needs.

When it comes to metacognitive strategy instruction, especially regarding vocabulary, it seems that researchers in most input-poor environments face much uncharted territory. This study is thought to increase public awareness on the significance of vocabulary learning strategies in foreign language learning and teaching. This study also holds much potential and promise for not only expanding our horizons of learners' awareness of the strategies and possible effectiveness of metacognitive strategy training for language skills but also opening several avenues for further research. Metacognitive

strategy training in this input-poor environment is still in its early days, and this study made an attempt to clear the way for other researchers to explore some other unexplored areas of research on strategy training in this context.

The following recommendations are made for further study:

1. More research is needed to be undertaken in order to achieve a far better understanding of language learning strategies which learners make use of in such environments. This understanding would be of great help for teachers to provide learners with more effective strategy training programs.
2. The findings of the study suggested that metacognitive strategy training was highly influential in heightening the students' metacognitive awareness of vocabulary and vocabulary knowledge. Since the number of the participants was rather small, further studies should be conducted with a greater number of participants.
3. This study focused on teaching vocabulary. It is worth investigating whether metacognitive strategy training could be effective for teaching other skills such as reading, writing, listening, and speaking.
4. Other studies should be conducted with participants from different levels of learning in input-poor environments. It would be fascinating to see if metacognitive strategy training would still be beneficial to all other groups.

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