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 EFL Reading Comprehension of 9th Graders with Reading Disabilities

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International Journal of psycho-educational sciences

The Effectiveness a Self Regulated Learning- Based Training Program on Improving Cognitive and Metacognitive EFL Reading Comprehension of 9th Graders with Reading Disabilities

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Abstract

The Purpose of this study was to explore the effect of a self regulated learning intervention program on cognitive and metacognitive EFL reading comprehension of 9th graders with reading disabilities.. The participants in this study were 40   9th Graders with Reading Disabilities, selected from two schools located in Baltim Educational Edara . A pre- post design was used to examine the effectiveness of the phonological awareness intervention program on cognitive and metacognitive EFL reading comprehension of the target students . Findings from this study indicated the effectiveness of the a self regulated learning intervention program on cognitive and metacognitive EFL reading comprehension of 9th graders with reading disabilities On the basis of the findings, the study advocated for the effectiveness of of a self regulated learning intervention program on cognitive and metacognitive EFL reading comprehension of 9th graders with reading disabilities.

Keywords : *self regulated learning , cognitive reading comprehension metacognitive reading comprehension, 9th graders with reading disabilities*

Introduction

Reading comprehension is defined as the active process of ''simultaneously extracting and constructing meaning through interaction and involvement with written language'' (Oliver, 2009,P.402). There are too many students who struggle to read and have difficulty completing literacy assignments(Mohammed , M. Fatah Allah,2014).   Research has shown that good readers use various meta-cognitive strategies to monitor and overcome reading problems (Mayer, 1996). If readers know when and how to apply the meta-cognitive strategies, they can easily construct meanings from the text. That is, the students should ask themselves why, how, when, where, and with whom they will learn these skills. The answers for these questions depend on their motivational beliefs (Eccles & Wigfield, 2002) or broadly on their self-regulation practices (Abiy & Adelahu, 2013).

Self-regulation refers to "...the self-generated thoughts, feelings and actions that are planned and cyclically adapted to attain personal goals" (Zimmerman, 2000,P. 14). It can also be said that self-regulation is a self-directive process of transformation in which students change their mental ability to acquire academic skills (Zimmerman, 2002,P.65).

SRL implies learning regulated by the students themselves, and is not motivated and regulated by external factors and people. The students' management of their own learning, the steering and directing of cognitive activities and motivation to the attainment of learning goals, are the main features of SRL (Woolfolk, 2010). Thus, SRL refers to the high involvement of the individuals themselves in their learning, and is characterised by the meta-cognitive, motivational and behavioural processes that enhance learning (McCaslin, Bozack, Napolean, Thomas, Vasquez, Wayman & Zhang, 2006). Meta-cognitively, self-regulated students are students who plan, set goals, organise, self-monitor and self-evaluate their learning at different points in the process of the acquisition of knowledge. Motivationally, self-regulated students report high self-efficacy, self-attribution and intrinsic interest, while behaviourally they select structure and create an environment which contributes to optimum learning (Zimmerman, 1990).

There are a number of different models offering alternative perspectives about how learning is self-regulated (e.g., Boekaerts, 1997, 1999; McCaslin & Hickey, 2001; Pintrich, 2000; Winne & Hadwin, 1998; Zimmerman, 1989). Although each model puts emphasis on different constructs about regulation and learning, they possess several features in common. In this study, the authors selected Pintrich's model mainly because it synthesizes the common frameworks of previous studies and offers a comprehensive model of SRL. The Pintrich's model of self-regulation includes 3 general categories of strategies: (a) cognitive learning strategies, (b) metacognitive or self-regulatory strategies to control cognition, and (c) resource management strategies. The model includes such cognitive strategies as rehearsal and elaboration and organizational strategies connected with academic performance. Rehearsal strategies cover repeating the learned knowledge or words and underlining important parts in a text. Rehearsal strategies help students select the important knowledge and keep them in short-term memory. Elaborative strategies include paraphrasing or summarizing the learned knowledge, correlating, asking and answering questions himself. Organizational strategies include selecting and underlining important information in a text, and using techniques to select and organize ideas in a material (Zeki Arsal, 2009). According to Boekaerts (1999), cognitive strategies include the strategies necessary for data processing such as attention, coding, elaboration and organization.

Pintrich (2000) proposed a theoretical framework based on a socio-cognitive perspective; its objective is to classify and analyze the different processes which play a part in self-regulated learning, as asserted by scientific literature. In this model, regulatory processes are organized according to four phases: a) planning; b) self-monitoring; c) control; and d) evaluation. Within each of these phases, self-regulation activities are in turn structured into four areas: cognitive, motivational/affective, behavioral and contextual.

For Pintrich, these four phases represent a general sequence which the student steps through as he or she carries out the task, but they are not hierarchically or linearly structured. The phases can occur simultaneously and dynamically, producing multiple interactions among the different processes and components included therein. Furthermore, Pintrich indicates that not all academic tasks explicitly involve self-regulation: sometimes, the performance of certain tasks does not require the student to strategically plan, control and evaluate what he or she is going to do; rather, the execution can be performed more or less automatically (or implicitly), as a function of the students' prior experience with the same.

Self-regulating processes begin in the planning phase, where we find such important activities as: setting of desired goals or the specific objective being sought after with the task (target goal setting), activation of prior knowledge about the material and of metacognitive knowledge (recognizing the difficulties involved in the different tasks, identifying knowledge and skills needed for addressing them, knowledge about resources and strategies that can be helpful in addressing the task, etc.) (cognitive area); the activation of motivational beliefs (self-efficacy, goals, value given to the task, personal interest) and of emotions (motivational/affective area); planning the time and effort to be used in the tasks (behavioral area) and the activation of perceptions regarding the task and the class context (contextual area).(Fermín and María ,2010).

Within the self-monitoring phase, we find activities that help the student become aware of his or her state of cognition, motivation, emotions, use of time and effort, as well as conditions of the task and of the context. For example, those activities related to self-observation of comprehension (mecognitive awareness) are included here. These activities are manifest when students are aware that they have not understood something they have just read or heard, when they are aware that they are reading too quickly for the type of text involved or for the goals they have set (e.g, understanding the main ideas), or when they actively observe their own reading comprehension, asking themselves questions to see whether they have understood . (Fermín and María ,2010). Likewise, this phase encompasses processes the students put into play in order to be aware of their motivational pattern (whether they feel competent for performing tasks, whether they value them, or what goals guide and direct their academic behavior), aware of their own behavior ("I have to put in more time and effort in order to understand this chapter", "I need to get help"), as well as characteristics of the tasks and the classroom context (what class rules exist, how performance will be evaluated, task requirements, reward and punishment systems, teacher behavior, etc.).

On the other hand, in light of results from the previous phase, control activities are put into play, encompassing the selection and utilization of thought control strategies (use of cognitive and metacognitive strategies), motivation and emotions (motivational strategies and strategies of emotional control), as well as those related to regulating time and effort and to control of diverse academic tasks, and control of the atmosphere and structure of the class. (Fermín and María ,2010)

At this point we wish to point out that it is very difficult to differentiate the phase of self-observation from that of cognitive control, as it appears in some self-regulation models, where both aspects are conceived of as separate processes. Although at a conceptual level it is possible to differentiate processes involved in self-observation and in cognition control, empirical studies in this area do not support such a separation, since most of the time both processes occur simultaneously . (Fermín and María ,2010)

Finally, the reflection or evaluation phase includes judgments and evaluations that the student makes regarding his task execution, comparing it to previously established criteria (his or her own, or the teacher's); attributions made regarding the causes of successes or failures; affective reactions experienced due to the results, as a consequence of attributions made; choice of behavior to be followed in the future, as well as general assessments about the task and the class environment. (Fermín and María ,2010).

Metacognitive Reading Strategies

Strategies specific to reading can be classified in the following three clusters of metacognition: planning, monitoring, and evaluating strategies (Israel, 2007). Planning strategies are used before reading; activating learners' background knowledge to get prepared for reading is an example of planning strategies (Almasi, 2003). Also, previewing a title, picture, illustration, heading, or subheading can help readers grasp the overview of the text. Readers may also preview the general information in the text and its structure (Paris, Wasik, & Turner, 1991). Learners may check whether their reading material has a certain text structure, such as cause and effect, question and answer, and compare and contrast. Further, setting the purpose for reading can also be categorized as a planning strategy (Pressley, 2002).

Monitoring strategies occur during reading. Some examples of monitoring strategies are comprehension of vocabulary, self-questioning (reflecting on whether they understood what they have read so far), summarizing, and inferring the main idea of each paragraph (Pressley, 2002). Readers may also identify and focus on key information or key words, including but, however, on the other hand, in addition, also, and in conclusion. Determining which part of the passage can be emphasized or ignored based on the purpose of the task is another monitoring strategy (Hudson, 2007). Evaluating strategies are employed after reading. For example, after reading a text, learners may think about how to apply what they have read to other situations. They may identify with the author, a narrative, or main character, and may have a better perspective of the situation in the book than they did at first. (Yuko Iwai ,2011).

Research has depicted that self-regulation facilitates reading ability (Nash-Ditzel, 2010; Swalander & Taube, 2007). Nash-Ditzel's (2010) study showed that teaching techniques based on self-regulation and reading strategies could significantly promote improved reading abilities in college students. Using interviews, think-aloud protocols, informal observations, and document analysis, Nash-Ditzel found that the knowledge and ability to use reading strategies contributed to the students' ability to self-regulate while reading. Swalander and Taube (2007) investigated the effect of self-regulated learning on reading ability. The results showed that family-based prerequisites, academic self-concept, and reading attitude significantly influenced reading ability. Academic self-concept showed a direct and strong influence on goal-oriented strategies and on reading ability in the eighth grade Swedish students.

Parviz and Mahshad(2014) investigated the effect of self-regulation on EFL learners' reading comprehension. To fulfill the purpose of this study, 149 Iranian EFL language learners studying at Islamic Azad Universities of Qazvin and Tehran (North, and Science and Research branches) were selected from a total number of 200 based on their performance on TOEFL PBT test and randomly put into two experimental and control groups. The experimental group received direct teaching along with task-based instruction on self-regulation in reading in ten sessions. The tasks/activities were designed based on self-regulation strategies proposed by Zimmerman (1989). The results showed the rejection of the null hypothesis, thus concluding that self-regulation has a significant effect on reading comprehension of Iranian EFL learners

Further research is necessary to build on the vast amount of research into self regulated learning with learning disabled students. This will allow researchers to determine how self regulated learning can be best used as an intervention with learning disabled students as there is a dearth of research with this population. . Thus the present study seeks to give answers to the following questions.

1- Are there differences in post-test scores between control and experimental groups on Cognitive Reading Comprehension Test ?

2- Are there differences in post-test scores between control and experimental groups on Metacognitive Reading Comprehension Test ?

Methods
Participants

40 students participated in the present study. Each student participant met the following established criteria to be included in the study: (a) a diagnosis of RD by teacher's referral. Neurological scanning results indicated that those individuals were neurologically deficient (b) an IQ score on the Mental Abilities Test (Mosa, 1989)

between 90 and 118 (c) reading performance scores at least 2 years below grade level (d) absence of any other disabling condition. Students were   randomly classified into two groups: experimental (n= 20 boys) and control (n= 20 boys).

The two groups were matched on age, IQ, cognitive reading comprehension ,and metacognitive reading comprehension. Table 1.shows means, standard deviations, t- value, and significance level for experimental and control groups on age (by month) ,IQ , cognitive reading comprehension ,and metacognitive reading comprehension (pre-test).

Table 1. *means, standard deviations, t- value , and significance level for experimental and control groups on age (by month),IQ, cognitive reading comprehension ,and metacognitive reading comprehension (pre-test).*

Variable	Group	N	M	SD	T	Sig.
Age	Experimental	20	118.35	3.169	0.494	Not sig.
	Control	20	117.90	4.124		
IQ	Experimental	20	178.80	1.00	0.267	Not sig.
	Control	20	178.70	1.34		
cognitive reading comprehension	Experimental	20	20.55	1.93	0.743	Not sig.
	Control	20	21.15	2.01		
metacognitive reading comprehension	Experimental	20	18.50	3.77	0.433	Not sig.
	Control	20	18.00	3.52		

Table 1. shows that al t- values did not reach significance level . This indicated that the two groups did not differ in age (by month),IQ, cognitive reading comprehension ,and metacognitive reading comprehension. (pre-test).

Instruments

Cognitive Reading Comprehension Test. The test was developed to assess reading disabled children 's skills in reading comprehension . It was based on the features of comprehension skills recognized by Mourad Ali (2005). The test consists of (60) items assessing word recognition , and comprehension ,30 items each , with score ranging from 0-1 on each item and a total score of 60. The test has demonstrated high internal consistency with Cronbach's α ranging from 0.86 to 0.89.

Metacognitive Reading Comprehension Test. (Mourad Ali, 2005). The test was developed to assess reading disabled children 's skills in metacognitive reading comprehension .It consists of three subcsales; namely Self- Monitoring, planning of task parameters and Assessment of Strategy . with score ranging from 1-4 on each item and a total score of 64. The test has demonstrated high internal consistency with Cronbach's α ranging from 0.80 to 0.82.

Procedures

Screening : Third year prep students who participated met the following established criteria to be included in the study: (a) (a) a diagnosis of RD by teacher's referral. Neurological scanning results indicated that those individuals were neurologically deficient (b) an IQ score on the Mental Abilities Test (Mosa, 1989) between 90 and 118 (c) reading performance scores at least 2 years below grade level (d) absence of any other disabling condition.

Pre-intervention testing : All the forty students in grade three prep completed Cognitive Reading Comprehension Test, which assesses reading disabled children 's skills in reading comprehension ; Metacognitive Reading Comprehension Test, which assesses reading disabled children 's skills in metacognitive reading comprehension. Thus data was reported for the students who completed the study .

General Instructional Procedures: In this phase, the experimental group received direct teaching of self-regulation strategies in reading, along with task-supported instruction, in 21 sessions. To implement the treatment, each session, the researcher first introduced the topic of the reading text to activate the students' schemata. Then, he gave the students a sense of purpose for reading by informing them that self-regulation process would help them to be an active reader, and that they would be able to control the reading process, their behavior, and their environment better by applying self-regulation strategies while reading. Eight strategies had to be applied in the form of the designed tasks/activities. The tasks/activities in the environmental structuring category required the students to pay attention to the environment and find the distractions, such as their classmates' whispering and noise from outside the room. Then they had to write if they could have adjusted the situation for the better results, or they should have tolerated the distractions. Organizing and transforming tasks/activities, however, helped the students to take a quick look at the text before reading to see how the text is organized in terms of title, heading, sub-heading, and paragraphs. The tasks/activities in goal setting and planning category got students to guess how much time they needed to read the text and do the activities. Therefore, they learned to budget their time in advance.

The tasks/activities in the next category focused on keeping records and monitoring, as well as organizing and transforming strategies. Here, the students were required to read the text paragraph by paragraph, draw an outline, and highlight the ambiguous words, phrases, or sentences for further investigation. The tasks/activities in the fifth category assisted the readers to seek information and social assistance. To do so, they specified which ways they would like to use to remove the ambiguities they had encountered in the previous phase. Rehearsing and memorizing tasks/activities drew students' attention to the strategies that helped them to memorize unfamiliar words. So, they were required to check the strategies that seemed most useful to them. Tasks/activities related to reviewing record strategy asked students to go back to the previous phases and check if they had taken all the steps, and they had to remove any unclear points before going to the next phase.

Finally, there were self-evaluation and self-consequating tasks/activities that required students to self-evaluate themselves by answering some questions about their performance, such as how they scored themselves and how they did the activities. Students received 3 training sessions a week, lasting between 40 and 45 min . Instruction took place in the regular classroom in order to naturalize the situation.

Post-intervention testing: Having practiced twenty-one sessions of reading, the participants in both groups took the Cognitive Reading Comprehension Test and Metacognitive Reading Comprehension Test as post-test.

Design and Analysis

The effects of implementing self regulated learning- based training program on improving cognitive and metacognitive EFL reading comprehension of 9th graders with reading disabilities were assessed using pre- post testing.

Results

. Table 2. shows T. test results for the differences in post- test mean scores between experimental and control groups in cognitive reading comprehension test. The table shows that (t) values were (21.03) for comprehension ,(22.11) for word recognition , and(33.20) for the composite score . These values were significant at the level (0.01) in the favor of experimental group . The table also shows that there are differences in post- test mean scores between experimental and control groups in cognitive reading comprehension test in the favor of experimental group .

Table 2. *T- test results for the differences in post- test mean scores between experimental and control groups in cognitive reading comprehension test*

Variables	Groups	N	Mean	Std. deviation	T	Sig.
comprehension	Ex	20	21.75	1.40	21.03	0.01
	Cont.	20	12.65	1.44		
Word recognition	Ex	20	24.55	2.06	22.11	0.01
	Cont.	20	12.70	1.21		
Composite	Ex	20	46.30	1.17	33.20	0.01
	Cont.	20	24.95	2.62		

Table 3. shows T. test results for the differences in post- test mean scores between experimental and control groups in metacognitive reading comprehension test. The table shows that (t) values were (9.92) for Self- Monitoring (10.85) for planning of task parameters, (6.91) for Assessment of Strategy and(9.32) for the composite score. These values were significant at the level (0.01) in the favor of experimental group .The table also shows that there are differences in post- test mean scores between experimental and control groups in metacognitive reading comprehension test in the favor of experimental group .

Table 3. *T- test results for the differences in post- test mean scores between experimental and control groups in metacognitive reading comprehension test*

Variables	Groups	N	Mean	Std. deviation	T	Sig.
Self- Monitoring	Ex	20	12.80	1.10	9.92	0.01
	Cont.	20	7.25	2.24		
planning of task parameters	Ex	20	13.15	1.03	10.85	0.01
	Cont.	20	7.25	2.12		
Assessment of Strategy	Ex	20	11.00	1.07	6.91	0.01
	Cont.	20	6.75	2.25		
Composite	Ex	20	36.95	2.66	9.32	0.01
	Cont.	20	21.25	6.79		

Discussion

The Purpose of this study is to explore the effect of implementing self regulated learning- based training program on improving cognitive and metacognitive EFL reading comprehension of 9th graders with reading disabilities .Participants were selected, then all the forty students in grade three prep completed Cognitive Reading

Comprehension Test, which assesses reading disabled children 's skills in reading comprehension; Metacognitive Reading Comprehension Test, which assesses reading disabled children 's skills in metacognitive reading comprehension.

The results of this study as revealed in tables 2 and 3, show that the self regulated learning- based training program was effective in improving cognitive and metacognitive EFL reading comprehension of 9th graders with reading disabilities in experimental group, compared to the control group whose individuals were left to be taught in a conventional way .

Participants of this study fall into IQ of 115 or more, nevertheless, they are at - risk for learning disability in reading . Thus IQ score cannot account for learning disabilities. The results of the present study support that conclusion with evidence that students who participated in the study do not fall into the low IQ range, however they are at reading disability. When designing a program based on self regulated learning-, they had statistical increase in cognitive and metacognitive EFL reading comprehension of 9th graders with reading disabilities. This goes in line with what Mourad Ali et al (2006) notes that there is one problem " students who are identified as learning disabled often cover any special abilities and talents, so their weakness becomes the focus of their teachers and peers , ignoring their abilities. Mourad Ali (2007) , however , notes that " learning disabled , as well as gifted students can master the same contents and school subjects ", but they need to do that in a way that is different from that used in our schools .

Experimental group gained better scores in cognitive and metacognitive EFL reading comprehension tests than did control groups in post-tests though there were no statistical differences between the two groups in pre- test. This is due to the program which met the experimental group's needs and interests. On the contrary, the control group was left to be taught in a conventional way. This goes in line with our adopted perspective which indicates that traditional methods used in our schools do not direct students as individual toward tasks and materials , and do not challenge their abilities. This may lead students to hate all subjects and the school in general. On the contrary, when teachers adopt a strategy (such as self regulated learning intervention) that suits students interests and challenge their abilities with its various modalities .

This indicates that " as we learn more about the scope and complexity of individual differences and how they affect academic progress, we become increasingly convinced that many individuals who do not do well at school do not because the instructional methods used to teach them does not complement preferred styles to learn, thus ,we should seek strategies that help these students and match their strengths.

Future Research Recommendations

Further research is still required to explore the potential benefits of self regulated learning intervention for children with reading disabilities .Such research may include large scale studies, and a further exploration of the exact influence of student attendance, teacher training, classroom conditions and treatment duration and intensity.

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