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Effects of Scaffolding Instruction on EFL Students' Awareness of Metacognitive Reading Strategies: From a Socio- Cultural Perspective

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Abstract

This study investigated the effects of scaffolding instruction on students' awareness of metacognitive reading strategies using a quasi-experimental research design. The participants were freshman students in two classes at University of Gondar, so intact groups were chosen using simple random sampling techniques, and the lot method was employed to select both groups, with one assigned as an experimental group (n = 61) and the other as the control group (n = 61). The experimental group was taught using scaffolding instruction based on O'Malley and Chamot's (1996) Cognitive Academic Language Learning Approach strategy training model. The intervention was carried out for three months in 2022 academic year. The control group received the conventional way of teaching reading. Data were collected through survey of reading strategies and semi-structured interviews. The quantitative data were analyzed using independent and paired samples t-test. The pretest results revealed that both the experimental and control groups were homogeneous in their awareness of metacognitive reading strategies. However, after the treatment, the experimental group improved significantly ($p<.05$) better than the control group. Correspondingly, the qualitative findings indicated that scaffolding instruction had a positive impact on learners' awareness of metacognitive reading strategies. Hence, the study recommends that EFL instructors should employ scaffolding instruction at the university level for teaching metacognitive reading strategies in reading lessons.

Keywords: scaffolding instruction, awareness of metacognitive reading strategies, EFL, Effect

Introduction

The importance of reading strategies in English has reached new heights in the present context of the globalized world (Hamidur, 2007). Students can use reading strategies to monitor their comprehension while reading and employ effective fix-up strategies if and when comprehension breaks down (Sahardin et al., 2015). However, studies in Ethiopia have shown that first-year and senior students in higher institutions cannot understand explicit and implicit information in reading texts (Ambachew, 2003 & Motuma, 2019). Similarly, van Wyk (2001) underscores that many students enter higher education un-

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derprepared for reading demands, which is often due to their low level of reading strategy knowledge and lack of metacognitive control.

Many EFL students faced difficulties in understanding information presented in written texts (Freese, 1997). Research has shown that successful comprehension does not happen automatically and depends mostly on directed cognitive effort, which includes knowledge about and regulation of cognitive processing (Bazerman, 1985). Although successful reading comprehension requires one to tap upon a variety of skills, it has been suggested that the process of comprehension occurs at the metacognitive level in which planning before reading, monitoring of understanding during reading and evaluating the reading experience after reading (Paris and Myers,1981 as cited in Carol, Willy & Renandya, 2014).

The concept of metacognition is most commonly understood as cognition about cognition or simply thinking about thinking (Flavell, 1979). Pragmatic to reading research, metacognitive awareness is conceptualized as the "knowledge of the reader's" cognition relative to reading process and self-control mechanism they use to monitor and enhance comprehension" (Sheory & Mokhtari, 2001, p. 423), which is a critical component of skilled reading.

When students engage in reading lessons, they often struggle due to a lack of essential reading strategies needed to tackle comprehension difficulties (Abebe, 2012). Studies on reading have shown that proficient readers possess the ability to employ various strategies effectively and adaptably (Garner, 1987). However, it has been noted that many classrooms neglect explicit instruction on reading comprehension strategies (Duke et al., 2002). Teachers can bridge the gap by providing guided strategy instruction, enabling students to overcome issues with metacognitive awareness of reading strategies. This involves teaching a small set of flexible reading strategies, empowering students to become independent readers without constant teacher guidance (Bernhardt, 1991).

To solve EFL learners' reading difficulties, recent instructional approaches have emphasized learning by engaging learners in knowledge construction (Reiser,2004). One way of constructing knowledge is through independent problem solving under adult guidance or in collaboration with more capable peers/ teachers in which actual development level can be enhanced (Vygotsky, 1978 cited in Poorahmadi, 2009). In support of this, Mahmoud (2007) confirms that in order to overcome language barriers, students should learn how to construct their knowledge and comprehension through interaction. The conditions of meaningful learning require an appropriate instructional strategy, where students need to elaborate, or generate activities, such as predicting, self-questioning, summary writing, monitor learning, and construct meaning from a reading text.The inclusion of these strategies in strategy instruction is considered effective in reading comprehension (McGriff, 1996).With such concerns in mind, from socio-cultural perspective, it is under guidance or in collaboration with more knowledgeable person which causes movement of learners from lower level to a higher level (Hammond, 2001). This guidance or assistance is called scaffolding in Vygotskian terminology.

The concept of scaffolding was initially coined by Wood et al (1976), deriving from Lev Vygotsky's sociocultural theory and his idea of the zone of proximal development (ZPD). ZPD is defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p.86). In Vygotsky's view, learning does not occur in isolation. Instead, it is robustly influenced by social interactions in meaningful contexts. Most researchers would

concur with Vygotsky's (1978) assertion that students require assistance to work within their zone of proximal development. Furthermore, scaffolding is not just any form of support that is offered to students. It has to be the support that helps learners construct knowledge and thinking rather than remembering simple facts (Hammond, 2001).

In Ethiopia, EFL learners tend to read "word by word" and demonstrate low achievement levels in reading comprehension (Chanyalew & Abiy, 2015 as cited in Simeneh, Wubante & Belsti, 2018). Similarly, numerous researchers have validated the limited reading proficiency among Ethiopian university students (Tsegay, 1982; Dubale, 1990 & Motuma, 2019). Congruently, based on the current researcher's teaching experience of reading courses for English majors and Communicative English Skills I and II for other students at the University of Gondar, it's evident that many students struggle significantly with understanding English written texts. They face challenges in grasping the main ideas and discerning the author's intent in the text. Accordingly, the majority of students struggle to comprehend since they don't know when or how to apply reading strategies.

The problems of students' awareness of metacognitive reading strategies may be caused by various factors. A study by Dubale (1990) indicated that low reading ability of students negatively affected their performance on content area studies, and suggested that one of the factors was the instruction these students were given. This finding appears to corroborate the present researcher's observation of the low scores that students at University of Gondar achieve in reading comprehension. These students' academic success has been undermined by their poor reading comprehension skills. As a result, to enhance the student's awareness of metacognitive reading strategies, effective teaching of reading should be taken into account.

Effective instruction in reading is one of the most powerful means of developing reading comprehension skills and of averting awareness of metacognitive reading strategies problems (Tomlinson, 1995). In teaching reading, different instructions can be applied in the reading classrooms. Clark and Graves (2004) indicated that scaffolding instruction is the most recommended and appropriate to develop students reading ability. .

Despite the effectiveness of scaffolding instruction in raising awareness of metacognitive reading strategies, as evidenced by studies (Royanto, 2012; Aghaie & Zhang, 2012 & Dabarera et al., 2014), this vital aspect has yet to be investigated within Ethiopian higher education institutions. Prior to the current study, the researcher conducted a preliminary assessment of EFL teachers' actual classroom practice in teaching reading lessons at the University of Gondar to gain a better understanding of the problem under investigation in terms of its depth and magnitude. The preliminary assessment revealed that EFL instructors lacked the way how scaffolding instruction implemented in teaching reading lessons. In light of this, the ground reality is that scaffolding instruction in teaching reading lessons is largely overlooked, despite the plenty of theoretical claims and empirical evidence supporting the significance of scaffolding instruction to enhance students' awareness of metacognitive reading strategies. Hence, the preliminary study before this study indicated that there was a gap between the theory of scaffolding instruction and the actual classroom practice in teaching reading lessons.

In Ethiopian context, there are some experimental studies indicating that scaffolding intervention develops students' reading comprehension skills in primary and secondary schools. For instance, Chanyalew and Abiy (2015) carried out a study on effects of teacher scaffolding on students' reading comprehension with a focus on grade four students. Their findings revealed that scaffolding reading strategy instruction is effective in improv-

ing students' reading comprehension. Other studies (Chanyalew, Abiy & Mesafint, 2015) which investigated the effects of teacher scaffolding on students' oral reading fluency at Dona Berber Primary School, Ethiopia found that scaffolding reading strategy instruction was effective in enhancing students' oral reading fluency of grade four students. Teacher's scaffolding on students' reading comprehension of grade nine were also found to have been effective in improving students' reading comprehension(Zerihun et al., 2017).

As far as the knowledge of the researcher is concerned, there is no research conducted on the effects of scaffolding instruction on students' awareness of metacognitive reading strategies by university students in Ethiopia. All of the above local studies have limited their investigation into the effects of scaffolding instruction on students' reading comprehension at elementary and secondary schools. In terms of scaffolding training framework, the present research differs from other local studies in that it employed the cognitive academic language learning approach (CALLA) model to train the selected strategies to the research participants. This study also differs in terms of scaffolding strategies, level of students, methodological issues and setting. In addressing the aforementioned gaps, the researcher has designed this study in order to examine the effects of scaffolding instruction on students' awareness of metacognitive reading strategies. Therefore, the study is designed to answer the following two research questions:

1. What effect does scaffolding instruction have on EFL students' awareness of metacognitive reading strategies?
2. What are the reflections of treatment group students towards the practice of scaffolding instruction?

Methods and Techniques

This study employed a quasi-experimental, pretest-posttest design using two intact classes. One intact class was assigned as experimental group and the other as the control group. In this study, the researcher employed a pragmatic research paradigm. The main assumptions include the belief that pragmatism is a deconstructive paradigm that advocates the use of mixed methods in a single study (Morgan, 2007). From a pragmatist stance, investigators use both quantitative and qualitative methods to provide the best understanding of a research problem. This method is used in a study for two reasons: either when a single data set that is qualitative or quantitative data alone is not able to sufficiently answer all the research questions (Creswell & Plano Clark, 2007) and/ or when it is necessary to examine "how participants in the treatment condition are experiencing the intervention." (Creswell, 2012, p.54).

Correspondingly, the quantitative approach overlooks social aspects in the research process, and the qualitative approach does not produce knowledge that can be generalized in all contexts; as a result, the mixed research approach emerged to overcome the shortcomings of the two research approaches (Maarouf, 2019). As such, mixing quantitative and qualitative approaches is a means of comprehensively understanding the issue being investigated (Creswell, 2014).

Research Site

The study was carried out at the University of Gondar. The researcher conducted a preliminary study at the University of Gondar and attested that students faced difficulties in using metacognitive reading strategies and showed poor reading comprehension achievement. Moreover, the University was purposefully selected, for it is the workplace of the researcher which makes it convenient to do the experiment. Taking this into account, the researcher selected university of Gondar as a research site.

Participants and Sampling Techniques

The participants for the study were freshman students from University of Gondar in 2022. First-year students have taken the courses Communicative English Language Skills I and II in the first and second semesters, respectively. The course Communicative English Language Skills I is suitable to study the effects of scaffolding instruction on students' awareness of metacognitive reading strategies. Since the course Communicative English Language Skills I (EnLa101) mainly focuses on reading and listening skills (Tekle, Yinager, & Geremew, 2019), the course has adequate reading lessons to implement the intervention properly. Thus, the researcher decided to conduct the experiment on Communicative English Skills I. Therefore, the course is purposefully taken for the study.

Two intact groups of Freshman University of Gondar students were chosen to participate in the study. The total number of students in the two groups was 122 (n = 61 for the experimental group and n = 61 for the control group).

In order to control for the "teacher quality" variable, both groups were taught by one EFL instructor who was teaching Communicative English Language Skills I. Thus, after getting permission from the Department of English Language and Literature, University of Gondar, one English Language instructor who has MA in TEFL was selected using random sampling techniques to a void a researcher bias. With regard to the training of the experimenter instructor, two weeks before the commencement of the study, adequate training on scaffolding instruction was given to the experimenter-instructor by the researcher. The teacher was expected to teach the experimental group using scaffolding instruction via the model of CALLA and the control group using the usual way of teaching reading lessons based on the communicative English Skills I module. To check the implementations of the two instructions, the researcher observed some sessions of the experimental and control groups to monitor whether the scaffolding and the conventional instruction were implemented as per the plan of the researcher. From the observations, the instructional programs in both the experimental and control groups were able to be carried out as intended by each instructional activity.

Data Collection Instruments

To achieve the purpose of the study, a survey of reading strategies and a semi-structured interview were used.

Survey of Reading Strategies (SORS) (Pre and Post)

The Survey of Reading Strategies is an instrument developed by Mokhtari and Sheorey (2001) to measure adult ESL/EFL learners' awareness of metacognitive strategies and use of reading strategies while reading for academic purposes. The SORS was used to measure ESL/EFL high school, college and university students' awareness of metacognitive reading strategies (Mokhtari & Sheorey, 2002). In this regard, SORS was used to obtain insight into first-year university of Gondar EFL students' awareness of metacognitive reading strategies before and after the intervention. The authors granted permission to the researcher to use this survey.

The SORS comprised 30 -items which measure three broad categories of reading strategies: global reading strategies, problem-solving strategies, and support reading strategies. According to Mokhtari and Sheorey (2002), students use global reading strategies to work with text directly or to manage and monitor their reading intentionally and carefully. Problem-solving strategies are used for solving problems of understanding that arise during the reading of a text. Support reading strategies are used as basic mechanisms intended to aid reading comprehension, for example through note-taking, underlining and highlighting textual information (Mokhtari & Sheorey, 2002).

The survey used a five-point Likert scale. Participants were asked to respond to each statement by selecting one of the following five choices: 1 (I never or almost never do this), 2 (I do this only occasionally), 3 (I sometimes do this, about 50% of the time), 4 (I usually do this) and 5 (I always or almost always do this).

The validity and reliability of the adapted survey of reading strategies were also checked in this study. To check the validity of the adapted survey of reading strategies, the content and face validity of the instrument were assessed by professional judgments. The adapted questionnaire was given to experts: EFL instructors, psychology experts, colleagues, and supervisors for comments. They were informed to assess the questionnaire based on the following criteria: Is the questionnaire instruction clear for freshman university students? Is the language of the items acceptable? Does the content of the questionnaire appear to be suitable for its aims? Moreover, they were also asked to evaluate each question in terms of language appropriateness, structure, accuracy, correctness of the question level, and relevance to purpose. Furthermore, they were requested to write any notes or suggestions that they thought needed to be considered and to underline any word they thought to be ambiguous, unclear, or confusing to the respondents. Based on their comments and feedback, the researcher administered the survey to participants.

Regarding reliability, Cronbach's Alpha coefficient was used to determine the internal consistency reliability of the survey. Thus, using SPSS 25, the reliability of the SORS was checked in the pilot study and it was above the minimum threshold of 0.7. In line with this, Pallant (2007) suggested that coefficients of Cronbach's alpha greater than 0.70 are considered to be reliable indicators of the constructs under study. Moreover, several kinds of research in EFL context reported the validity and reliability of survey of reading strategies. According to Mokhtari and Sheorey (2002), the internal consistency reliability coefficient (as determined by Cronbach's alpha) was 0.92 for the global reading strategies, 0.79 for the problem-solving strategies, and 0.87 for the support-reading strategies. Based on this, the researcher used the survey of reading strategies which was designed by Sheorey and Mokhtari (2002) to measure first year university of Gondar EFL students' awareness of metacognitive reading strategies.

Semi-structured Interview

A semi-structured interview with participants in the experimental group was used to gather qualitative data in order to support the quantitative data obtained through the survey of reading strategies to address a research question about the participants' experience and reflection of the intervention that was not addressed by the quantitative data. A semi-structured interview with the selected participants was conducted to obtain the necessary information by actually talking to the participants of the study. Semi-structured interview provides an opportunity for the researcher to obtain an immediate elucidation about an action or response from the participants (Cohen, Manion & Morrison, 2000). In a

similar vein, Richardson (2004) indicates that interviews obtained immediately after task completion may be considered to give an accurate reflection of on-line cognitive processing. Therefore, in order to back up the data obtained quantitatively through the questionnaire and to answer a research question related to the participants' experience and view of the intervention that was not addressed by the quantitative one, qualitative data were collected through semi-structured interview with participants in the experimental group. Accordingly, three participants in the experimental group were selected and interviewed after the post-test. To do this, the participants were chosen based on their post-intervention results as higher achiever (1 student), average achievers (1 student), and low achievers (1 student). Before conducting the interview, the researcher informed the interviewees the purpose of the interview and got their consent. Later on, after arranging the place and time, the interview was conducted in one of the classrooms in the University at the end of the treatment. The participants' responses were audio recorded by the researcher using a digital recorder. After recording the interview, the researcher transcribed the respondents' replies. To check the validity of the interview guide, the instrument was given to three experienced TEFL PhD holders in teaching reading skills and two TEFL PhD candidates to obtain necessary feedback in terms of language appropriateness, the sequence of questions, and relevance to purpose. With regard to the reliability of the interview guide, the interviewees were asked to read the transcription to determine whether the ideas were theirs or not, and all of them agreed with the transcription. To protect the privacy of the participants, a pseudonym was given to each participant.

Data Collection Procedures

The study was carried out in the following manner. First, permission to conduct the study was obtained. Second, the participants of the study were identified and assigned as experimental and control groups. Third, pre- tests were administered to check if the two groups were homogenous. After checking the homogeneity of the participants, the intervention followed. The intervention sessions were conducted for 12 weeks, three sessions each week and three hours per week (one hour in one session). After 12 weeks intervention, the post test was administered to the experimental and the control groups. Following the post test, the researcher selected three interviewees (one high-achiever, one average-achiever, and one low-achiever) from the experimental group to get their views and experiences about the intervention. Finally, all the quantitative and the qualitative data were analyzed.

Training and Implementation Phases

According to Turnbull et al. (2004), instructional scaffolding requires developing instructional plans to lead the students from guided learning to self-regulated learning to execute these plans, where the teacher provides support to the students at every step of the learning process. This study integrated the selected scaffolding reading strategies in a systematic frame that presents instructional scaffolding through three main scales (interactive, cooperative and supportive) and six main features (continuity, contextual support, inter-subjectivity, contingency, handover and flow).

In addition to the above, the researcher used the six scaffolding reading strategies (modeling, schema building, developing metacognition, bridging, text representation and contextualization) from Aida Walqui (2006) to teach the experimental group of students. Based on the selected scaffolding strategies, the researcher prepared the scaffolding instructional program from the course communicative English language skills I. To implement the intervention, the researcher changed all the five reading passages into scaffolding instruction lessons to investigate the effect of scaffolding instruction on students' awareness of

metacognitive reading strategies. For further information, table 1 below clearly shows the selected scaffolding strategies of the current study.

Scaffolding Strategies	Why to use it?	Examples
Modeling	• Provides for students why, how, when and where they use the scaffolding reading strategies in reading texts. • Provides clear examples. • Provides explicit guidelines about the scaffolding reading strategies.	• Introducing procedures, process, tasks, and products.
Bridging	•Linking new knowledge to prior knowledge. •Establishes a personal link between students and the material taught.	•Anticipatory guides. •Brainstorming and KWL charts.
Schema Building	•Provides students with a conceptual map. •Helps to process information top-down. •Helps students to establish the connections that exist between and across concepts.	• Activating background knowledge • Previewing, brainstorming, pre questioning and graphic organizer.
Developing Metacognition	•Makes the scaffolding reading strategies explicit. •Fosters student to plan, monitor and evaluate the reading texts.	• Students are expected to plan, monitor and evaluate reading texts.
Text representation	•Transform the linguistic constructions they have already been presented to into forms of other genres. •Makes reading texts more comprehensible.	•Think aloud •Learning logs •KWL Charts
Contextualization	•Makes reading texts accessible and engaging by bringing complex ideas closer to the students' own experience.	•Sample videos •Using analogies derived from students' experiences.

In the experimental group, the Cognitive Academic Language Learning Approach or CALLA (O'Malley & Chamot, 1996) was utilized as the model of scaffolding strategy training. Chamot and O'Malley (1996) suggested that strategies should be taught explicitly by the teacher; thus scaffolding is an important aspect of teaching strategies within this model. The model has five basic phases. These phases are the following:

Phase1: Preparation. The teacher assists students in activating background knowledge. This helps align with the subject being taught, develops awareness of the current and available strategies. This can involve small group or whole class discussion and even for the teacher to model the think aloud technique to identify strategies.

Phase 2: Presentation. The teacher presents and explains new information using explicit instruction: naming the strategy, showing how it is used with specific, multiple tasks or classroom activities – to show students the task is not limited is just in one example; and, explaining the importance of the selected scaffolding reading strategies.

Phase 3: Practice. Students will be able to practice using the strategies with the task or

activities under the guidance of the teacher. The level of assistance required will depend on student familiarity and proficiency with the strategy and the teacher must ensure it is being used effectively.

Phase 4: Evaluation. In a whole class discussion, students check their performance to assess the effectiveness of the scaffolding reading strategy and to understand what has been learned. Students will be actively encouraged to record their findings in a checklist to enable them to both manage an increase their repertoire and use of strategies.

Phase 5: Expansion. In the final stage of strategy instruction (according to the CALLA model), learners are shown how to transfer the new strategy to different situations or tasks, and given opportunities to practice it. Students try to expand and transfer their learned scaffolding reading strategies to other similar contexts and reading tasks.

On the other hand, the control group was taught three months through the conventional way of instruction using the same amount of time, instructor and contents with the experimental group of students. The difference was the way the lessons were organized and presented. Thus, in the control group the students were taught based on the prescribed communicative English Skills I module. In the module there are pre-reading, while reading and post reading stages.

Methods of Data Analysis

In this study, both quantitative and qualitative data analyses were employed. The quantitative methods of data analyses were used to analyze the survey of reading strategies. In order to analyze the data obtained from survey of reading strategies statistical analysis was computed using SPSS version 25. In this regard, descriptive statistics, such as means, and standard deviations; and inferential statistics, such as independent sample t-test and paired sample t-test were employed. Independent samples t-test was employed to check if there is a significant difference between the pre- and post-intervention of both groups of awareness of metacognitive awareness of reading strategies scores, whereas paired samples t-test was used to determine whether there is a statistically significant difference between the pre intervention and post intervention scores within each group (experimental and control group) in awareness of metacognitive reading strategies. In this regard, all the assumptions of the independent and paired sample t-test were checked before analyzing the data. The semi-structured interview data were analyzed qualitatively using thematic analysis.

Ethical Considerations

Research ethics are the set of ethical guidelines that guide researchers on how scientific research should be conducted and disseminated (Cohen, Manion, & Morrison, 2000). Thus, the investigator is supposed to take into consideration each possible element of ethical concern before, during, and after the study.

From the outset to keep the ethical protocol of the research, the researcher submitted the proposed research to the University of Gondar Institutional Review Board. Since the Institutional Review Board (IRB) reviews whether the research is ethical enough or not to protect the rights, dignity and welfare of the respondents. In this respect, after securitizing the proposed research in line with the Research code of Ethics of University of Gondar, official permission was granted. Likewise, to smoothly implement the experiment; per-

mission was also obtained from University of Gondar Common Course Coordinating Office and Department of English Language and Literature at University of Gondar.
In a similar view, one of the ways to avoid ethical problems in conducting research is obtaining informed consent from the participants before the beginning of the research. Therefore, all participants were informed of the study's objectives, their role in research, anonymity and confidentiality of the participant, freedom to not answer any question/ withdraw from the research and who to contact if the participant need additional information about the research.

Results

Results on Students' Awareness of Metacognitive Reading Strategies

To investigate the difference in awareness of metacognitive reading strategies before and after the intervention between the students in the control and experimental group, independent samples t-tests were conducted. The descriptive and inferential statistics are shown in Table 2.

Table 2: Results of independent samples t-test for students' SORS scores in the two groups in the pre and post –intervention

	Pre- intervention							Post- intervention						
Dimensions	Groups	N	M	SD	Df	T	Sig. (2)	N	M	SD	Df	T	Sig. (2)	ή2
Global reading strategies	Experimental	61 61	2.87	.718	120	-1.8	.062	61	4.10	.507	120	11.595	.000	0.52
	Control	61	3.13	.562				61	3.18	.388				
Problem solving strategies	Experimental	61	2.95	.784	120	-.70	.484	61	4.28	.488	120	12.974	.000	0.58
	Control	61	3.05	.762				61	3.07	.544				
Support reading strategies	Experimental	61	3.10	.700	120	-.91	.362	61	4.20	.477	120	10.360	.000	0.47
	Control	61	3.21	.686				61	3.31	.467				
Overall	Experimental	61	2.96	.521	120	-1.9	.055	61	4.41	.338	120	13.172	.000	0.99
	Control	61	3.16	.591				61	3.29	.424				

Table 2 shows that prior to intervention, there was no significant difference in the overall scores between the experimental group (M = 2.96, SD=.521) and control group (M =3.16, SD = .591, (t) =-1.937, p>.05. In addition, an appraisal of the groups' performance in the three subscales of SORS (GLOB, PROB, and SUP) showed that there was no significant difference between the experimental and control groups as well. Thus, the two groups of students were comparable before intervention.

After the intervention (see Table 2), the experimental group (M=4.41, SD =.338) was significantly different from the control group (M =3.29, SD=.424), (t) =13.127, p< .05.The three subscales also showed a significant difference in means in the post intervention scores of the experimental and control groups. For the GLOB subscale, there was a significant difference in the means between the experimental group (M=4.10, SD =.507) and the control group (M=3.16, SD =.373), (t) =11.595, p<.05. Similarly, for the PROB subscale, a significant difference was found between the experimental group (M =4.28, SD = .488) and the control group (M =3.07, SD=.544), (t) =12.974, p< .05. In addition, the experimental group (M =4.20, SD =.477) was significantly different from the control group (M =3.31, SD =.467), (t) =10.360, p<.05, for the subscale of SUP.

To investigate the difference in awareness of metacognitive reading strategies prior to and after the intervention for each group of students, paired samples t-test was conducted. The following table shows the paired sample t-test results each group in the pre and post intervention.

Table 3: Paired sample t-test within-group comparison on SORS scores before and after intervention

		Pre test		Post test		Paired difference				
Group	**Dimensions**	**M**	**SD**	**M**	**SD**	**MD**	**T**	**Df**	**Sig. (2)**	**ή2**
Experimental	Global reading strategies	2.87	.718	4.10	.507	1.230	10.649	60	.000	0.65
	Problem solving reading strategies	2.95	.784	4.28	.488	1.328	10.419	60	.000	0.64
	Support reading strategies	3.10	.700	4.20	.477	1.098	8.927	60	.000	0.57
Control	Overall SORS	2.96	.521	4.14	.338	1.176	13.481	60	.000	0.75
	Global reading strategies	3.13	.562	3.16	.373	.033	.389	60	.698	-
	Problem solving strategies	3.05	.762	3.07	.544	.016	.123	60	.902	-
	Support reading strategies	3.21	.686	3.31	.467	.098	.830	60	.410	-
	Overall SORS	3.16	.591	3.23	.424	0.66	.681	60	.498	-

Table 3 shows that there was an increment of mean scores in each dimension of metacognitive reading strategies and the overall measure of SORS from pre intervention to post intervention in the experimental group. For example, the experimental group global reading strategies post intervention score was increased by1.230 as compared to their global reading strategies pre-intervention scores. In proving the significance of these changes, the paired sample t-test computed for the experimental scores asserts significant improvement in global reading strategies from pre to post intervention, (t)= 10.649, p<0.05. There were similar findings for the problem solving and support reading strategies. The above table also shows that for the experimental group, the score for the overall measure of SORS was significantly higher at the posttest (M=4.14, SD =.338) than at the pretest (M=2.96, SD =.521), (t) =13.481, p<.05. These results imply that the significance change seen in the experimental group from pre to post intervention results because of the treatment.

Results of Interview Data

In the study, three students were interviewed using semi-structured interview. The main purpose of the interview was to investigate students' reflections towards the effects of scaffolding instruction on students' awareness of metacognitive reading strategies. To get relevant data, eight semi-structured interview questions were used and analyzed thematically. In the next sections, the interviewees' responses are presented. For the sake of confidentiality, the analysis of the interview was made using pseudonyms.

• Insights/outlooks of students towards scaffolding instruction

The participants were asked to a question regarding their outlooks towards scaffolding instruction. Thus, the three interviewees made it clear that they liked learning metacognitive reading strategies through scaffolding instruction. This is because scaffolding instruction in reading lesson sessions was very interesting for them. Accordingly, these students asserted that they benefited much more in learning reading comprehension skills through scaffolding instruction. Recognizing the importance of scaffolding, for instance, Sendu explained as follows:

Yes, I am interested because of our instructor advises favorable and interesting idea about reading comprehension and give tasks to do from simple to complex and to encourage our social interaction and ask our prior knowledge and improve our critical thinking and our analysis skill.

Thus, the interview data indicated that participants' response towards learning metacognitive reading strategies through scaffolding instruction was positive.

• Perceived Benefits of Scaffolding Instruction on Students' Metacognitive Reading Strategies and Reading Comprehension Skills

Students were also asked about the benefits of learning metacognitive reading strategies through scaffolding instruction. Gebru asserted that "The instruction improves our reading comprehension skills, social interaction, motivation and critical thinking skills." Chalachew also remarked that "The instruction simplify words and helps us to socially interact and motivates us and it helps us to evaluate texts and to use our previous knowledge."

From the above interviewees' responses, it can be understood that scaffolding instruction can play a significant role in enabling students to comprehend texts. Moreover, the reciprocity between students and teacher will enable learners to be competent enough in comprehending and analyzing texts independently. In connection to this, all the interviewees acknowledged the benefits of scaffolding instruction in learning metacognitive reading strategies in reading lessons.

- **Teachers' instructional procedure**

Students were also asked about the procedures the classroom teacher followed in the teaching of reading comprehension skills through scaffolding instruction. With regard to the interviewees' data, Chalachaw explained as follows:

First, he gave us assessments like reading practice and first he asked questions based on our background knowledge and after that he gave us the reading context and finally, we discussed each other.

Likewise, Sendu also remarked that "Our instructor first asked our background knowledge and then he explained the questions and generally he encouraged to use different techniques to read inside and outside the classroom." Similarly, Gebru pointed out that "Our instructor first activates our background knowledge and based on our background knowledge he employed different reading strategies then we practice and evaluate the reading texts based on the strategies." This implies that to foster students' awareness of metacognitive reading strategies a teacher must possess not only in-depth subject matter knowledge, but also sound pedagogical knowledge or explicit steps to develop students' awareness of metacognitive reading strategies.

- **The nature of interaction in the lessons of scaffolding instruction**

With regard to the nature of classroom interactions in scaffolding instructions, Sendu indicated that the classroom interaction was really smooth and there was good interaction with her classmates who were doing reading tasks. Similarly, Chalchew pointed out that the nature of interaction while they were learning metacognitive reading strategies was smooth and interactive. Moreover, he indicated that they had their roles presenting and leading the group discussion.

Moreover, Gebru also pointed out that:

> *Ok, there was a good relationship or interaction between our classmates as well as our instructor; we were positively discussing each other when problems and questionable issues appeared, and the instructor was also encouraging us to discuss cooperatively.*

Thus, the above extracted data implies that the scaffolding instruction employed by the teacher helped students to interact, cooperate and enhances students 'metacognitive reading strategies.

Discussions

It is worth reminding that the experimental group was those treated with scaffolding instruction and the control group was not provided with such treatment. The first research question was intended to answer: "what effects does scaffolding instruction have on EFL students' awareness of metacognitive reading strategies?" The effect of scaffolding instruction on student's awareness of metacognitive reading strategies was tested by using independent and paired sample t-tests. The independent sample t-test at the pretest phase showed that there was no significant difference in the overall scores between the

experimental group and control groups. Moreover, an assessment of the groups' performance in the three subscales of SORS in the pretest showed that there was no significant difference between the experimental and control groups. Thus, there was no significant difference between the two groups of students prior to the intervention.

After the intervention, the experimental group enhanced significantly different from the control group. Thus, scaffolding instruction improved the awareness of metacognitive reading strategies for the experimental group participants when compared with their counterparts in the control group. The magnitude of the difference in the experimental group overall SORS mean score was large (eta squared =0.99), with the intervention explaining 9% of the variance in the posttest scores. The three subscales' (global, problem solving and support reading strategies) post intervention mean score of the experimental groups also showed a statistical significant difference. The findings of Dabarera et al (2014) also ascertained that scaffolding instruction improves students' awareness of metacognitive reading strategies. From this, it can be understood that scaffolding instruction brought positive significant changes on students' awareness of metacognitive reading strategies. This explanation concurs with the findings of Walqui (2006) and Mahmoud (2007).

To investigate the difference in metacognitive awareness prior to and after the intervention for each group of students, paired samples t-test was conducted. In proving the significance of these changes, the paired sample t-test computed for the experimental scores asserts significant improvement in global reading strategies from pre to post intervention. There were also similar findings for the problem solving and support reading strategies. These results imply that the significance change seen in the experimental group from pre to post intervention results because of the treatment. This supports the suggestions in earlier research (Royanto, 2012; Clark & Graves, 2004). On the other hand, the control group did not show statistical considerable improvement from pre to post intervention on the three dimensions of SORS and the overall measure of SORS.

The second research question sought to answer: "what are the reflections of students towards the practice of scaffolding instruction?" In order to find an answer to this research question, semi-structured interview was used. The analysis of the participants' interview responses concerning the effect of scaffolding instruction showed that all of the participants improved their awareness of metacognitive reading strategies. This finding is congruent with the quantitative results stated in the first research question. These results coincided with previous research findings (Chanyalew & Abiy, 2015 & Zerihun et al., 2017).

Generally, scaffolding instruction had a positive effect on students' awareness of metacognitive reading strategies. This implies that the scaffolding instruction which was employed in this research was flexible enough to apply in EFL classroom contexts, and it was appropriate to engage students in teaching metacognitive readings strategies in reading classes.

Conclusions

The study aimed to investigate the effect of scaffolding instruction on students' awareness of metacognitive reading strategies. The structured intervention programs on scaffolding instruction can bring better awareness of metacognitive reading strategies than the conventional teaching methods. The same is evident from the differences in awareness of metacognitive reading strategies between the experimental and control groups after the intervention. Thus, students who were taught through scaffolding instruction improved

their awareness of metacognitive reading strategies. That means the three subscales of metacognitive reading strategies (global, problem solving and support reading strategies) improved significantly in favor of the experimental group. Besides, the students responded positively towards the use of scaffolding instruction. In general, it can be concluded that scaffolding instruction can improve the students' awareness of metacognitive reading strategies if the principles, guidelines and procedure are appropriately implemented in the reading lessons.

Recommendations

Based on the results of the study, the following recommendations were drawn. EFL instructors in the university should use scaffolding instruction principles, steps, strategies, techniques and training models to enhance students' awareness of metacognitive reading strategies while they teach reading skills. In this regard, curriculum designers and course material developers should include scaffolding strategies and principles in the course materials with a view to enhancing awareness of metacognitive reading strategies as effectively and authentically as possible. Other researchers should also conduct longitudinal studies to examine the effect of scaffolding instruction on developing the awareness of metacognitive reading strategies in different contexts.

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