

ORIGINAL ARTICLE

Effects of Cohesion Analysis-Based Instructions (CABI) on English as Foreign Language (TEFL) Students' Reading Comprehension and Self-Efficacy

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Abstract

This study examined effects of CABI on grade 11 EFL students' reading comprehension and self-efficacy using reading self-efficacy as mediating variable at Azezo Secondary School, Gondar City Administration. The study employed a quasi-experimental design with quantitative approach. Thus, intact groups were selected using simple random sampling technique, and one out of these groups was assigned as an experimental group (n=52) while the other as a control group (=52) by lot; both of them were selected using lot method. Then, the experimental group was taught using CABI, whereas the control one was taught using conventional way of teaching reading. In order to collect the data, reading comprehension test and reading self-efficacy questionnaire were used as data collecting instruments. The data were analyzed using chi square, independent samples t-test and SEM. The results of the study indicated that there was a direct significant difference ($B = 1.781$, $CR = 5.844$ ($>\pm 1.96$), $p < .05$) between the control and experimental group students' reading comprehension posttest scores in favor of the experimental group participants. Besides, the result showed that there is significant effect ($\beta = .533$, $CR = 4.630$ ($>\pm 1.96$), $p < .05$) of CABI on experimental group students' reading self-efficacy beliefs posttest score in comparison to the control one. In the same vein, the result ($\beta = .825$, $CR = 3.855$ ($>\pm 1.96$), $p < .05$) unveil that CABI had positive effect on experimental group participants' reading comprehension posttest score through reading self-efficacy compared to the control group students. Hence, the instruction has a positive effect on reading comprehension both directly and indirectly (through reading self-efficacy). This implies that reading self-efficacy partially mediates the causal relationship between CABI and reading comprehension.

Keywords: cohesion analysis-based instruction, reading comprehension, reading self-efficacy

Introduction

Reading is a fundamental skill in helping EFL learners to attain a high level of academic success since knowledge acquisition is possible mostly through it. As a result, learners should struggle to discover effective ways of reading to developing their reading skills that will empower them to be successful in their academic undertakings (Staller & Grabe, 2002; Koda, 2004, 2005; Nuttall, 2005). In spite of its significance, it is common that EFL learners in the Ethiopian context face problems in comprehending reading texts

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effectively as it is complex processes that involve continual extraction and incremental integration of text information. Different research conducted on this area.

For instance, studies which were carried out on Early Grade Reading Assessment in 2010, 2014 and 2018 gauged that the achievements of students is directly related to their reading ability. These studies revealed that most of the students did not meet the Minimum Learning Competencies (MLC) of the MoE in terms of literacy. Besides, empirical studies consistently revealed that secondary and preparatory students lacked basic reading skills in the target language, in fact, in a deteriorating trend (MoE, 2018). According to these studies, the strategy used in teaching reading is one among the problems students encountered.

In line with this, as to the researchers' experiential knowledge of teaching reading skills both at preparatory school, and university level, it has been realized that learners often fail in comprehending texts effectively. Besides, many EFL teachers have complained that most of their students were poor readers, (Moges, 2011; Desta, 2013; Abera, 2014; Abatyihun, 2018; Berhanu, 2019; and Tafere, 2019). This implies that students' reading ability is below what is expected of them. Therefore, one of the reasons, probably, would be because learners' are not taught through analysis of cohesive devices which are used in the text.

Likewise, local studies with descriptive survey design, such as, Mulu (2007) and Abera (2014) found out that lack of understanding of linguistic elements and the absence of CABI are among the difficulties that impede EFL learners' reading comprehension achievement. Hence, these might be among the cause for students to perform poorly in reading activities.

In addition to these studies, the researchers did preliminary study, and conducted classroom observation on Grade 11 students at Azezo Secondary School, which was selected using simple random sampling technique. In this school, there were 12 sections in 2020/21 academic year. Among these sections, the researchers observed three classes using simple random sampling technique. Before students went through the reading text, they had been instructed to discuss the title of the passage, and some general reading activities printed in the textbook to predict what the text would be about. Then, they went through the reading text. Finally, they were told by their teacher to do the reading comprehension activities. This means, CABI is not practiced in reading classes.

However, contemporary literature show that successful reading comprehension necessitates a set of linguistic knowledge, and the skills which can help to utilize the knowledge for analyzing textual meaning (Schmidt, 1994 and Grabe, 2005, 2009). In this respect, one of the impeding problems in reading comprehension is that second or foreign language learners usually focus on the mere analysis of single words or sentences, whereas reading has a communicative function and the whole text and context must be regarded cumulatively which is possible by interpreting discourse semantics created through cohesion (McCarthy, 1991; Matthiessen & Slade, 2002 & Wenquan, 2009). Thus, it can be argued that learners should be aware of practicing reading through CABI so that they might be able to comprehend a given text effectively.

On the other hand, self-efficacy, the belief that students can complete a specific learning task effectively, is also of vital importance for students studying English as a foreign language. This is because self-efficacy determines how learners feel, think, motivate themselves and behave (Bandura, 1994). Therefore, efficacy is one of the concerns to

foreign language learners on which students should put necessary efforts to complete a task persistently. In this regard, scholars, such as Wigfield & Guthrie (1997) and Wang & Guthrie (2004) agreed that students' efficacy belief is crucial factor in influencing their reading comprehension. As a result, it appears indispensable to examine various reading strategies that may enhance learners' self-efficacy beliefs on reading comprehension.

With respect to this, studies, such as Guthrie et al. (2009); Guthrie et al. (2013); Piercey (2013) indicated that students' perceived self-efficacy is vital for their reading comprehension achievement. In other words, students' reading comprehension is determined by their level of self-efficacy. However, this concern has not been tested empirically in related to the practice of CABI instruction in EFL context. In the same vein, as to the researchers' teaching experiences, most of grade 11 students considered the reading passages difficult to be understood. This might be due to the fact that learners' level of efficacy on their reading ability could have been low.

Furthermore, few local empirical studies were conducted on learners' efficacy beliefs, but their objective is not in line with this study. For example, Niguse (2019) examined effects of integrated reading-and-writing practices on grade 11 students' self-efficacy about their reading comprehension, and about their summary writing employing quasi-experimental study with pretest-posttest design. Zelalem (2019) did a study employing the same design, but aiming at examining effects of formative assessment practices on first year university students' self-efficacy in writing a composition. Hence, the former found that the treatment had a positive effect on the respective skills; whereas, the latter showed that the treatment had negative effect on writing a composition. However, these studies did not examine whether the reading efficacy of EFL students can be enhanced through CABI. Thus, teaching reading through analysis of cohesive devices is expected to fill the gap so that timely remedial measures can be taken.

In addition to this, reading self-efficacy is also used as a mediating variable between causal relationship of CABI and reading comprehension. Studies, which used reading self-efficacy as mediating variable between dependent and independent variables, showed inconsistent results. For instance, Shehzad et al. (2018) conducted a study on the relationship of self-efficacy sources and metacognitive reading strategies using reading self-efficacy beliefs as mediating variable. Similarly, the study done by Shehzad et al. (2019) aimed at identifying the association between self-efficacy sources and reading comprehension employing reading self-efficacy beliefs as a mediating variable. The result indicated that reading self-efficacy beliefs significantly mediated self-efficacy sources and reading strategies and comprehension respectively.

Moreover, Endris (2017) examined effects of rhetoric structure instruction on grade six first language (Amharic) students' reading comprehension and mediating role of reading self-efficacy between the strategy and reading comprehension. In addition, Lau (2009) conducted a research to examine the mediating role of reading self-efficacy between students' reading instruction and reading amount of junior and senior secondary school students in a Chinese educational context. The result of these studies shows that reading self-efficacy did not mediate rhetoric structure-based instruction and reading comprehension, and reading instruction and reading amount accordingly. Therefore, because the result of the aforementioned studies is inconsistent, this study intends to examine if reading self-efficacy mediates causal relationship between CABI and reading comprehension.

When it comes to effect of CABI on students' reading comprehension, there are some global studies conducted using quasi-experimental with pretest and posttest design. For example, Aidonlou et al. (2012); Saljooghian (2012) and Ali and Shakoori (2014) examined the effect of CABI on students' reading comprehension. To this end, the results of these studies showed that CABI had a significant effect on learners' level of reading comprehension. Conversely, other studies, such as Al-Surmi (2011) and Wilawan (2011) revealed that students in the experimental group did not outperform the control one.

Understandably, the findings of the aforementioned studies are inconclusive. Along with this, studies done by Al-Surmi (2011) and Wilawan (2011) do not appear consistent with recent reading theories which assert that the analysis of cohesive features of the reading text is vital for improving EFL learners' level of comprehension of texts (Celce-Murcia and Olshtain, 2000; Kintsch, 2005). In this regard, it is more appropriate to examine if analysis of cohesive features of the text does have effect on EFL students' reading comprehension.

More specifically, in Ethiopian context, as far as the researchers' reading is concerned, there is a research article done by Hawa (2020) aimed at examining effects of discourse analysis-informed instruction on developing grade 10 learners' reading comprehension in Woldia Millennium Secondary School. This study employed quasi-experimental design with quantitative approach. The findings of this study revealed that discourse analysis-informed reading instruction significantly improved high school students' reading skills. However, in the first place, this study did not examine whether students' reading efficacy beliefs would be enhanced as a result of using discourse analysis instruction. Moreover, the aforementioned study did not examine the mediating role of reading self-efficacy between the causal relationship of independent and dependent variables in which this study filled as a gap.

On the other hand, Niguse (2019); Abdurahman (2019) & Meseret (2019) conducted their dissertation papers. For instance, Abdurahman (2019) did a quasi-experimental design study aiming at investigating effects of extensive reading on grade 8 learners' reading comprehension and attitudes. In the same way, Niguse (2019) conducted a study with the same research design to examine effects of integrated reading-and-writing practices on grade 11 learners' performance and self-efficacy of reading comprehension and summary writing. In addition, Meseret (2019) conducted a quasi-experimental one group time series design study to determine effects of discourse markers use instruction on second year English language university students argumentative essay writing in process writing approach. The results of the above studies showed that the treatment had significant effect on the respective skills.

However, none of the aforementioned studies examined if learners' reading comprehension and their reading self-efficacy would be impacted as a result of practicing reading through CABI, and the mediating role of reading self-efficacy between causal relationship of the independent and dependent variables. Concerning this research area, Wu (2017) recommends that rigorous studies need to be conducted on implementing the instruction in reading classes. Hence, it is very vital and inspirational for the researchers to focus on the issue to fill the existing gap of the studies.

Research Hypothesis

The following alternative research hypotheses are formulated:

H1: CABI improves students' reading comprehension.

H1: CABI increases students' perceived efficacy about their reading comprehension.

H1: CABI enhances students' reading comprehension through Reading self-efficacy.

Methods and Techniques

This study employed a quasi-experimental design research because the natural setting of the school does not allow random assignment in which students should be assigned as intact groups (Pallant, 2010; Creswell, 2012; Tabachnick & Fidell, 2013). In the same way, the study employed a quantitative research approach due to the fact that the data were collected by using quantitative (questionnaire and reading comprehension test) sources. Hence, the quantitative data were collected before and after the treatment to examine if CABI does have an effect on learners' reading comprehension, and on their self-efficacy. Besides, this research approach also helps the researchers to examine the mediating role of reading self-efficacy in the causal relationship between CABI and reading comprehension.

Research Participants and Sampling Techniques

In Gondar city administration, there are seven public secondary schools. Among them, Azezo Secondary School was selected using simple random sampling technique since this technique provides each school with equal chance of being selected. As this study is quasi-experimental design, it constituted two groups (control and experimental). For a quasi-experimental study, (Creswell, 2012) existing sections (intact groups) randomization over individual randomization is prioritized for the fact that randomly assigning students to the two groups would disrupt the existing classroom learning. As a result, among 12 sections, the intact groups (section 9 and 12) were selected using simple random sampling technique. After selecting the two sections, one was assigned as an experimental group (n=52) while the other as a control group (=52) using group randomization sampling technique.

Data Collection Instruments

In order to achieve the main objective of the study, reading comprehension test and reading self-efficacy questionnaire were employed to examine learners' level of comprehension and reading efficacy beliefs, respectively. To begin with the reading comprehension test, two equivalent versions of reading comprehension tests were adapted from literature sources by the researchers, and administered before and after the intervention. Each test contains 30 items, and the items of the tests were designed in the form of multiple-choices in a way they can help to assess students' level of skills of inferences, referencing, identifying main ideas of paragraphs and predicting about the reading text. The items were designed by considering the three main levels of comprehension, which are literal, interpretive or inferential and critical.

In related to questionnaire, it was also prepared to determine if there is significant

improvement in students' self-efficacy about the reading comprehension of the experimental and control groups. It was adapted from Henk et al. (2012) and Kosar et al. (2022). The questionnaire contains 34 items designed in the form of objective type scaled from (6) = definitely true of me, (5) = mostly true of me, (4) = a little bit true of me, (3) = a little bit not true of me, (2) = mostly not true of me to (1) = definitely not true of me. Then, the questionnaire was translated into the students' first language (Amharic). Besides, the equivalence of the two versions (English and Amharic) of the questionnaire was checked by two colleagues who have PhD degree in TEFL.

Furthermore, validity and reliability of the instruments were checked. In the case of validity, comments were given for tests and questionnaire from advisors and colleagues, and then the researcher made necessary deletion, modification, and addition accordingly. As the reliability issue is concerned, the researchers checked the internal consistency of the reading comprehension tests. Thus, the two equivalent forms of the reading comprehension tests were calculated by using Pearson correlation, and the result was found to be .75. This indicates that there was a high reliability between the two versions of tests. Besides, internal consistency of reading self-efficacy questionnaire of the Amharic version was also checked. Thus, the coefficient weight reads .941. This indicates that the reading self-efficacy questionnaire is highly reliable.

More importantly, KMO test and confirmatory factor analysis were also computed. The former was used to check how suited the data is to run Confirmatory Factor Analysis (CFA), and the latter was used to indicate the extent of relevance of variables in explaining a construct. Therefore, prior to CFA, KMO test was computed as .80, and Bartlett's Test of Sphericity also read as $\chi^2 = 1910.155$, $df = 561$, $p = .001$ ($p < .05$) indicating adequate sample size at significant threshold.

Therefore, prior to factor analysis, KMO test was computed, and the result was found to be .80, $p = .001$, which is meritorious and significant, and then, the analysis was made for reading self-efficacy questionnaire. CFA loading coefficients were found to be greater than 0.4 for nearly every item, which is acceptable. In line with this, the composite reliability (CR) of the questionnaire items was computed as .924, indicating that the items are reliable. Besides, AVE and discriminant validity were also checked, and the results were calculated as 0.728 and 0.853 respectively, which show that the questionnaire was valid.

The Treatment and Data Collection Procedures

Prior to the treatment, experimental group students were informed about the purpose of the study. In addition, they were informed on how to manage photocopied materials during reading sessions. The treatment was given in the regular classroom, but only in reading lessons. As initial stage, lecture was provided for three periods on basic concepts of grammatical cohesion (reference, substitution, ellipsis and conjunction), and lexical cohesion (reiteration: simple repetition, complex repetition, simple paraphrase, complex paraphrase, homonym and superordinate, and collocation: ordered set, activity-related and elaborative collocation) in order to make students aware of cohesive devices. Each period lasts for 42 minutes. Then, in every reading session, the experimental group participants were familiarized with some types of cohesive devices, and got instruction through identification, analysis and use of cohesive devices in both grammatical and lexical cohesion. In other words, they were exposed to ranges of reading comprehension activities which were designed from students' reading texts by focusing on the target cohesive devices and become obtainable with explicit examples. The instruction was given

for two months (8 periods of reading session) during the regular class. Likewise, the control group students received the same load of instruction and practiced the reading passages for the same duration of time as the experimental group students. Nevertheless, the strategies used were different since the control group participants followed the usual instruction of teaching reading. To this end, they were assigned to read the passages and encouraged to do reading comprehension activities that are written in the textbook.

In the case of data collection procedure, the researchers explained the purpose of the study to the school director and obtained an approval from him. The director recommended one English language teacher who could help the researchers in facilitating in the process of selecting the participants of the study. The researchers also gained consent from him to participate in the process. In doing so, the participants for the study were selected randomly, and requested to take pretests (reading comprehension and reading self-efficacy questionnaire) to gain baseline data. Then, the experimenter teacher was provided with both theoretical and practical training for four sessions (four hours) about the theory of CABI, and about how it could be practically implemented in reading classes. After that, the experimenter teacher implemented the instruction on the experimental group students in reading classes for eight weeks. In the meantime, the researcher observed the lessons in the experimental group to check effectiveness of its implementation. After the intervention was completed, posttests were administered for both groups in order to see effects of CABI in comparison with the control group reading comprehension and their self-efficacy about their reading comprehension.

Data Analysis Methods

In this study, the data were analyzed by using inferential (independent samples t-test) statistics to check mean differences of the control and experimental group students' in their age, reading comprehension scores and their self-efficacy beliefs. Besides, chi-square test was used to check whether there was gender proportion in the control and experimental group students. To this end, the data were computed using the Statistical Package for Social Sciences (SPSS) version 23. Then, applying dummy coded (control group as 0, but experimental group as 1), SEM analysis utilizing AMOS, v. 20 was used to examine whether CABI had a direct effect on students' reading comprehension, and on their reading self-efficacy. Besides, it was also used to confirm whether reading self-efficacy play a mediating role in the causal relationship between CABI and reading comprehension. Likewise, bootstrapping (95% bias-corrected confidence interval) with 5,000 samples substitution was used to examine whether or not CABI had a significant effect on students' reading comprehension through reading self-efficacy. Prior to testing hypotheses, test assumptions such as normality, homogeneity, Levene's test, and linearity were checked and satisfied. Therefore, before performing the data analysis, evaluation of the general assumptions of parametric tests were made. Moreover, the data gained through the instruments fits the proposed model of this study (see Fig. 1).

Ethical Considerations

Ethical issues were considered in this study. A consent letter was gained from the department of English language and literature. Then, the researchers obtained permission from the selected school. After obtaining permission from the school, the researchers obtained consent from the participants.

In this regard, the participants were assured that their participation in the study was voluntary and the information they provided would be confidential. The students were informed that they were participating in a research project. So, the aims, significance, and nature of the activities that they were completing as their course component was also elucidated. Moreover, both the control and experimental groups were treated to practice reading texts incorporated in their textbook. What makes them different in practicing reading, therefore, is the approach used; that is, the control group was treated using conventional way of teaching reading, while the experimental one was treated using CABI.

Furthermore, prior to examining the mean differences between the control and experimental group participants' posttest scores, experimental group students suggested about the strategy employed. Thus, since participants' appraisal of the use of CABI was encouraging, it was also used with the control group participants with the same amount of load that the experimental students received.

Results and Discussions

This section presents discussions, analysis and findings of the study based on the research hypotheses. As discussed earlier, reading comprehension and self-efficacy tests (pretests and posttests) were administered in order to measure the students' reading comprehension, and their efficacy beliefs on reading. The pretests were computed to confirm whether the two groups had the same background in their reading comprehension, and in their self-efficacy scores or not by using independent samples t-test. On the other hand, the participants' reading comprehension posttest were computed to confirm whether there was significant difference between the control and experimental groups in their scores or not by using the same statistics.

Therefore, since it was checked that there was a significant difference between the two groups in terms of their reading comprehension posttest scores in support of the experimental one, SEM analysis was computed to determine whether there was direct, indirect and both (direct-indirect) effects of CABI on students' reading comprehension or not.

Table 1: Independent Samples Test: t-test Statistics for the Control and Experimental Groups on Reading Comprehension and Self-Efficacy Pretest Score

Variables	Group	n	Mean	SD	t	df	p
	Control	52	9.500	1.863			
Reading Comprehension					0.996	102	0.322
	Experimental	52	9.923	2.432			
	Control	52	4.287	0.760			
Reading Self-Efficacy					1.608	102	0.111
	Experimental	52	4.049	0.752			

As depicted in Table 1, the mean score of the control and the experimental groups on the pretest is 9.500 and 9.923 respectively. Moreover, the pretest scores ($t = 0.996$, $df = 102$, $p = 0.322$ ($>.05$)) indicate that there was no significant difference in reading comprehension between the control and experimental groups before the treatment. Thus, it can be inferred that the two groups were not significantly different in their level of reading comprehension before the treatment.

Similarly the result of the same Table revealed that the mean scores of the control and the experimental groups on reading self-efficacy are 4.287 and 4.049 respectively. The results indicate that the two groups have almost similar score in their reading self-efficacy beliefs before the intervention. In a similar vein, the pretest scores ($t = 1.608$, $df = 102$, $p = 0.111$ ($>.05$)) show that there was no significant difference between the control and experimental groups efficacy beliefs on reading before the treatment.

Furthermore, the proportions of gender and age between the control and the experimental group students were computed to determine their influence on their reading comprehension, and on their self-efficacy posttest score. Thus, participants' gender proportion was checked by using Chi square test. The results ($\chi^2 = 5.38$, $df = 1$, $p = .019$) were found to be significant implying that the difference might influence the posttest results. Hence, gender was used as a covariate with reading comprehension, and with self-efficacy posttest score in the path analysis. On the other hand, the proportion of age between the groups was carried out using independent samples t-test. However, the results ($t = 0.727$, $df = 108$, $p = 0.469$) indicates that there was no significant difference between the control and experimental groups in terms of age. For this reason, participants' age was not used as a covariate in the SEM analysis of participants' posttest results.

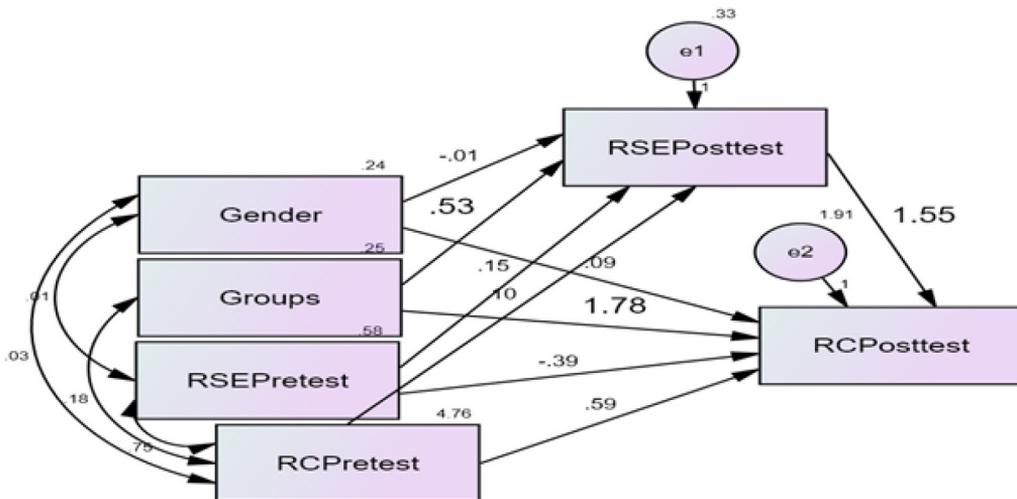
Table 2: Independent Samples Test: t-test Statistics for the Control and Experimental Groups on Reading Comprehension and Self-Efficacy Posttest Score

Variables	Group	n	Mean	SD	t	df	p								
Reading Comprehension	Control	52	9.865	1.837	6.578	102	.001								
	Experimental	52	12.827	2.677				Reading Self-Efficacy	Control	52	4.141	0.716	4.259	102	.001
Reading Self-Efficacy	Control	52	4.141	0.716	4.259	102	.001								
	Experimental	52	4.684	0.577											

As can be seen in Table 2, the mean score of the control and experimental group is 9.865 and 12.827, respectively. This shows that there is a difference between the mean scores of the control and experimental group in reading comprehension posttest. The posttest reading comprehension mean scores ($t = 6.578$, $df = 102$, $p = .001$ ($<.05$)) indicates that there was statistically significant difference between the control and experimental groups, supporting the latter. The difference appears to have been resulted due to the CABI intervention implemented with experimental group participants.

Likewise, as can be seen in the same Table, the posttest mean score of the control and the experimental groups in self-efficacy on reading comprehension is 4.141 and 4.684, respectively. This indicates that there is a difference between the control and experimental group in the posttest reading self-efficacy, favoring the experimental group participants. Similarly, The posttest reading self-efficacy mean scores ($t = 4.259$, $df = 102$, $p = .001$ ($< .05$)) confirmed that there was statistically significant difference between the control and the experimental groups supporting the latter.

In general, since it was checked that there was a significant difference between the groups in terms of their reading comprehension posttest score in support of the experimental one, SEM analysis was computed using AMOS to determine whether there was direct, indirect or both direct and indirect effects of CABI on students' reading comprehension.



Groups = Control & Experimental Participants
 RSEPosttest = Reading Self-efficacy Posttest Result
 RCPosttest = Reading Comprehension Posttest Result
 RSEPretest = Reading Self-Efficacy Pretest Result
 RCPretest = Reading Comprehension Pretest Result

Model Fit Indexes:

- Discrepancy Chi Square (P) = 0.259
- Root Mean Square of Error Approximation (RMSEA) = 0.058
- Goodness of Fit Index (GFI) = .991
- Adjusted Goodness of Fit (AGFI) = 0.910
- Comparative Fit Index (CFI) = 0.996
- Tucker-Lewis Index (TLI) = 0.973
- Normed Fit Index (NFI) = 0.987
- Chi Square/Degree of Freedom (Chisq/df) = 1.349

Fig. 1: Unstandardized Relative Outputs of AMOS

Table 3: Unstandardized Relative Regression Weights of Variables in the Structural Model

Causal Relationships	B	SE	C.R.	95% Confidence Interval		P	Conclusion
				LL	UL		
CABI → RC Posttest	1.781	.305	5.844	1.181	2.445	.000	Partial Mediation
CABI → RSE Posttest	.533	.115	4.630	.288	.758	.000	
CABI → RSE Posttest → RC Posttest	.825	.214	3.855	.447	1.309	.000	

CABI = Cohesion Analysis-Based Instruction; RC= Reading Comprehension; RSE= Reading Self-Efficacy

Effect of CABI on Reading Comprehension

As shown in Table 3, the outcome reveals that the difference in mean scores between the control and the experimental groups on their reading comprehension posttest was statistically significant. This means, as can be seen in the above Table, the regression coefficient and critical ratio were found to be as 1.781 and 5.844 ($> \pm 1.96$), respectively, and the significant threshold of p value is .000, which is less than .05. This proves that there was significant difference on mean score between the control and the experimental groups in reading comprehension posttest in support of the experimental one. The result also shows that there is no zero between the lower (1.181) and the upper (2.445) levels confidence interval confirming that there was significant difference between the groups supporting the latter.

In other words, there was positive direct effect of CABI at 95 % confidence interval threshold. The difference appears to have resulted due to cohesion analysisbased intervention conducted on experimental group participants. Therefore, the instruction has significant direct effect on experimental group students' reading comprehension posttest score. This implies that the instruction helped the students to improve their reading comprehension skills.

This result supports Ammar's (2007); Aidinlou's (2012) and Hawa's (2020) whose research findings showed that CABI improves EFL learners' reading comprehension achievement. Moreover, the result of this study supports the conclusions made from different studies, such as Bahrami's (1992); Akbarian's (1998); Degand's et al. (1999); Pérez and Macia's (2002) and Innajih's (2007) in that interpreting discourse semantics can enhance EFL learners' achievement in reading comprehension tasks, and it can play vital role in developing EFL learners' reading skills.

Contrary to the recent and the aforementioned research findings, different studies revealed that analysis of cohesive devices did not have effect on students' reading comprehension. For instance, Al-Surmi (2011) and Wilawan (2011) reported that there were no significant differences between the control and the experimental groups students' reading comprehension scores. The findings of this study are not consistent not only with the findings of the current study, but also with the theoretical stance of different literature that argues about the theoretical relationship of variables of this study.

For instance, in support of the findings of the current study, contemporary literature, such as Xu and Zhang (2015); Cui (2017); Rong (2017); Wu (2017); Pang (2019) and Fu (2020) state that interpreting connections of discourse semantics which is created through cohesion, improve EFL learners comprehension skills. In other words, analyzing grammatical and lexical devices of the reading passages helps students develop their level of reading comprehension.

Effects of CABI on Reading Self-Efficacy

As it is depicted in Table 3, the result shows that the control and experimental groups' efficacy beliefs mean score difference on their posttest was significant. In the Table, the result indicates that the critical ratio was found to be 4.630 ($> \pm 1.96$), and that the regression weight was calculated as .533 with a significant level of $p = .000$ ($p < .05$). The result, indicated in the table, also shows that there is no zero between the lower level (.288) and upper level (.758) confidence intervals.

This implies that there was a significant difference in reading self-efficacy between the experimental and control groups, favoring the experimental one. This means, there was significant effect of CABI on experimental group participants' efficacy beliefs on their reading comprehension in comparison to the control group students at 5% confidence interval threshold.

The result of this study supports the finding of the study done by Niguse (2019), who reported that integrated reading-and-writing instruction has significant effect on the students' reading self-efficacy. In a similar vein, this study also supports Balc's (2017), whose report showed that implementation of learning-style based activities have significant effect on students' reading comprehension skills, and their self-efficacy perceptions in EFL classes. From this, one can make the argument that use of effective reading strategies can promote students' reading self-efficacy.

Similarly, the result of this study is consistent with different quasi-experimental design studies (Naseri & Zaferanieh, 2012 & Tavakoli & Koosha, 2016) that confirmed experimental group participants show greater achievement in reading self-efficacy than students in the control one as a result of different strategies used in reading classes. This evidences that the use of effective reading strategies improve EFL students' reading self-efficacy. Besides, the finding of this study is also in agreement with the studies (Li & Wang, 2010 & Shang, 2010) that unveiled there is a significant positive relationship between the use of reading strategies and perceptions of reading self-efficacy on reading. This implies that effective use of reading strategy enables EFL learners to be efficacious on their reading comprehension so that they are likely to develop their skills effectively.

Furthermore, the finding of this study is in agreement with the literature, which view self-efficacy as determinant predictor of success and achievement. For instance, students with

high level of self-efficacy can make greater efforts in practicing the required task, and they are more persistent than students with low self-efficacy (Bandura, 1994; Pejares, 2000 & Schunk, 2003). This implies that self-efficacy influences students' emotional reactions on performing the required tasks. With respect to sociocognitive theory, learners' reading efficacy beliefs play a crucial role in learners' level of reading comprehension. In other words, according to this theory, students' reading self-efficacy influences their level of comprehension (Usher & Pajares, 2008 & Guthrie et al., 2013). This means, learners with a high level of reading self-efficacy prefer to perform more challenging tasks, and they spend more time, and they make greater efforts to comprehend the text.

On the other hand, in contrast to the result of this study, Yoğurtçu (2013) found that there was no significant relationship between students' reading comprehension, and their self-efficacy for low self-efficacious students. However, reading comprehension self-efficacy was associated with reading comprehension skills for high self-efficacious students. In connection to this, Asadi (2014) found that there was no significant connection between EFL students' reading comprehension, and their self-efficacy beliefs on reading.

The inconsistency between the finding of the recent study and the findings of aforementioned studies concerning reading self-efficacy might be because of students' low level of background knowledge on their reading self-efficacy belief. As students are engaged in learning the English language in a foreign context, the students, who try to interpret the meaning of a text seeks gradual process in order to develop their comprehension skills, and their self-confidence. In other words, since they may develop their reading self-efficacy beliefs when they understand the text very effectively, the practices may require gradual process so as to let students to be more efficacious in comprehending the text. To this end, students may rate themselves as they are not efficacious in comprehending the reading text.

Effect of CABI on Reading Comprehension through Reading Self-Efficacy

In Table 3 above, the output of AMOS revealed the mean score difference of the control and experimental groups on reading comprehension posttest through reading self-efficacy, which is indirect effect of CABI on students reading comprehension. The Table shows that the mean score difference between the control and experimental groups on their reading comprehension posttest was significant. According to the output shown in the Table, the critical ratio was found to be 3.855 ($> \pm 1.96$), and the regression weight was calculated as .825 with a significant level of $p = .000$ ($p < .05$). Therefore, the outcome indicated in the table, demonstrates that there is no zero in the lower level (.447), and in the upper level (1.309) confidence intervals confirming that there was indirect significant difference in reading comprehension between the two groups in favor of the experimental one. In other words, there was significant indirect effect of CABI on experimental group participants' reading comprehension posttest compared to the control group participants at 95 % confidence interval threshold. Furthermore, as the strategy had significant effect on reading comprehension both directly and indirectly (through reading self-efficacy), this leads to the conclusion that reading self-efficacy partially mediated CABI and reading comprehension.

Accordingly, Shehzad et al. (2018) conducted a study on the relationship of self-efficacy sources and metacognitive reading strategies using reading self-efficacy beliefs as mediating variable. The result unveil that there was significant relationship between self-

efficacy sources and reading self-efficacy beliefs and also between reading self-efficacy beliefs and metacognitive reading strategies. Similarly, the study done by Waleed et al. (2019) which aimed at identifying the association between Bandura's four hypothesized self-efficacy sources and reading comprehension by employing reading self-efficacy beliefs as a mediating variable. The result indicates that reading self-efficacy beliefs mediated self-efficacy sources and reading comprehension.

Moreover, several studies such as Ghafoor et al. (2011), Jia et al. (2015), Yuksel et al. (2019), Pohl et al. (2020) and Rogowska et al. (2022) indicate that self-efficacy acted as a mediating variable. This implies that reading self-efficacy can play a mediating role in the causal relationship between different variables and reading strategies that can be employed in EFL classes. Thus, it seems possible to make the case that reading self-efficacy can be used as predictor variable, and it mediates the practices that can be employed in reading classes to the development of students' reading comprehension.

This appears consistent with the theory claiming that the interest in self-efficacy could be attributed to the consistent claims by Bandura that judgments of capability a person brings to a specific task are strong predictors of the performance that results from that task, and it mediates the other determinants of that performance (Adeyemo, 2007). Moreover, the effect of the treatment will not have direct effect only on the outcome, but there will also be indirect effect. As a result, researchers (Imai et al., 2010) must rely on an additional assumption that the outcome may also be obtained indirectly that is through mediating variables. More importantly, social cognitive theory states that self-efficacy is a multidimensional construct that varies according to the domain of demands (Zimmerman, 2000), and it must be evaluated at a level that is specific to the outcome domain (Bandura, 1986; Pajares, 1996). In other words, since reading comprehension and self-efficacy are correlated each other, the kind of strategy that can be implemented in reading classes may promote students' level of comprehension as a result of their level of efficacy on their reading comprehension. On the basis of the results and discussions of the study, the next chapter deals with summary, conclusions and implications of the study.

On the other hand, there are quasi-experimental design studies whose results are inconsistent with the result of the current study. For instance, Endris (2017) conducted PhD work entitled "effects of rhetoric structure instruction on grade six Amharic first language students' reading comprehension, mediating role of reading self-efficacy and motivation between the strategy and reading comprehension." The result of this study shows that reading self-efficacy did not mediate rhetoric structure-based instruction and reading comprehension. In addition, the study conducted by Lau (2009) in Chinese context indicates that self-efficacy did not mediate reading instruction and reading amount of junior and senior secondary school students. This might happen due to the fact that either the instructions did not suit the needs of the students or the students may not have explicit knowledge about the tenet of the strategies that these studies used.

Conclusions

The findings of this study indicate that implementation of CABI to develop grade 11 EFL students' reading comprehension and self-efficacy beliefs is found to be encouraging. This means that the strategy used enhanced their level of comprehension and self-efficacy beliefs on comprehending the text. Thus, it can be deduced that interpreting discourse semantics, which is occurred through cohesion cannot be ignored because the meaning

of the text depends upon cohesive devices used in it. In other words, to develop students' reading comprehension, analysis of semantic links needs to be deemed. Besides, as to the findings of this study, it is possible to generalize that acquainting students with a strategy that helps to analyze discourse features of the reading passages enable them to develop their comprehension, and self-efficacy beliefs about reading. Likewise, the causal relationship between CABI and reading comprehension is found to be mediated by reading self-efficacy. Moreover, the findings unveil that the strategy has direct significant effect on reading comprehension through reading self-efficacy; that is, indirectly. Therefore, it can be concluded that reading self-efficacy partially mediates the strategy and reading comprehension. From this, one can make the argument that reading self-efficacy as one of affective variables play vital role in mediating reading strategies used in EFL classes in general and students' reading comprehension in particular.

Recommendations

Based on the findings of this study, the researchers suggests that curriculum designers need to play vital role in providing and incorporating procedures that enable students to make analysis of grammatical and lexical devices of the text. Besides, they should play vital role in providing explicit procedures of cohesive analysis instructions in the students' reading texts so that they can have the opportunity to identify, interpret and analyze semantic links to develop their reading skills, and their level of efficacy beliefs about reading comprehension.

In line with this, the findings of this study implies that EFL teachers and students need to focus on how to identify, interpret and analyze cohesive devices of the text to foster reading comprehension and efficacy beliefs on reading comprehension. Since the reading texts are cohesive through grammatical and lexical devices, the focus of the instruction should follow explicit procedures to analyze those devices of the text. This implies that the practices of pedagogy in EFL reading classes of grade 11 students should focus on analysis of semantic links of the text to develop their comprehension skills, and their efficacy beliefs about their reading comprehension skills.

Besides, implication of the findings of this study leads to recommend that researchers need to replicate this study adapting the data collection instruments and the training manual to various EFL contexts. Firstly, since this study might not represent all the secondary schools at large, future research should be done on more student participants in more secondary schools using the same materials conducted with this study. Then, other research works should examine effects of CABI on other aspects of language learning, such as speaking and listening in order to determine its effects on EFL setting at large. Thirdly, future research should investigate effects of the strategy on students' attitude on developing their level of reading comprehension, and the mediating role of it between the strategy and reading comprehension. Finally, future research needs to investigate teachers' practices, beliefs and challenges they face in fostering cohesive analysis-based instructions in reading classes.

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