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Research Article

The Impact of Reciprocal Teaching on Pre-Service English-as-a-Foreign-Language Teachers' Reading Comprehension Skills

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ABSTRACT **ARTICLE INFO** Received 10.01.2021 This quasi-experimental study explored the impact of a seven-week Revised form 20.02.2021 intervention in reciprocal teaching (RT) on improving pre-service Accepted 23.04.2021 English-as-a-foreign-language (EFL) teachers' (PSEFLTs) reading Doi:10.31464/jlere.857504 comprehension skills. The experimental group (N = 56) were subjected to an intervention designed to help them understand and apply the steps in RT while the control group (N = 53) attended to reading classes **Keywords:** taught conventionally. Data was collected from a pre-reading test **PSEFLTs** administered prior to the commencement and a post-reading test quasi-experimental study administered following the intervention, and a semi-structured reading comprehension skills interview. The findings revealed there was no statistically significant reading skills course difference in experimental and control group participants' reading reciprocal teaching comprehension skills in the pre-reading test; nevertheless, the experimental group outperformed the control group in the post-reading test. Analysis of the qualitative data demonstrated the PSEFLTs viewed the RT intervention as effective in developing their reading comprehension skills and would implement it in their future teaching. Acknowledgments **Statement of Publication Ethics** Hatay Mustafa Kemal University Social and Human Sciences Research and Publication Ethics Board stated in its document numbered 21817443-050.99-09 and dated March 6, 2020 that ethical standards were followed in this research. **Authors' Contribution Rate** First author obtained the ethical approval, conducted the intervention and drafted the manuscript. Both authors wrote and proofread the manuscript. Second author reviewed the journal policy. Percentage contributions are as follows: First Author = 60%, Second Author = 40%.

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Conflict of Interest

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Introduction

Developing reading comprehension skills of students at any level of education performs a fundamental role in the success they will achieve in their current and prospective educational lives, which illustrates that enhanced reading skills also underlie the achievements students gain in any course they take at tertiary level. Parallel to this, improving reading skills in a target language adds to the development of skills in using it. The considerable weight carried by reading skills has led to the production of a plethora of research on it thus far (Datta & Ross, 2002, Ersanlı & Çakır, 2017; Ferrer et al., 2017; Huang et al., 2014; Kingston & George, 2014; Moon et al., 2016; Nayak & Sylva, 2013; Sahan, 2012).

Tertiary students are underprepared for fulfilling reading requirements of university education (Feller et al., 2020), which could have its origin in their prior educational lives (Wulfemeyer, 2019). To illustrate, undergraduate students' academic reading proficiency was reported not to vary according to their class level and not to show improvement toward their graduation in the study by Gorzycki et al. (2016). Therefore, taking Reading Skills course is construed to exert a profound impact on underprepared tertiary students' success in college (Cox et al., 2003). Nonetheless, the positive impact to be created by taking Reading Skills course on gaining academic achievement cannot be constrained merely to underprepared tertiary students because its beneficial effect can also be extended to the short- and long-term success to be achieved by pre-service English-as-a-foreignlanguage (EFL) teachers (PSEFLTs). Given the fact that enhancing reading comprehension skills plays a pivotal role in the successful completion of the initial English language teacher education program, reciprocal teaching (RT), developed by Brown and Palincsar (1982) notably with a view to improving reading skills by virtue of promoting the interaction amidst students, could be resorted in the attempts made to hone PSEFLTs' reading comprehension skills (e.g., Slater & Horstman, 2002; Zendler & Reile, 2018). Nevertheless, review of the literature on RT unravels that the relationship between the implementation of it and PSEFLTs' reading comprehension skills in the target language is in need of research to be enlightened. For this reason, the present study has the potential to fill the gap of concern in the literature.

Literature review

Teaching reading to tertiary and EFL students

College students, who are aware of the significance of developing their reading skills (Howard et al., 2018), have been exposed to a variety of treatments such as following a structured reading curriculum (Alamprese et al., 2011), extensive reading programs (Cockerill et al., 2019; Morshedian et al., 2017; Nhapulo et al., 2017; Shore et al., 2015), the provision of critical literacy instruction (Taşpınar & Çubukçu, 2020), and the application of Cognitive Academic Language Learning Approach (Albashtawi, 2019) to help them develop their reading skills. As well as these, improving vocabulary skills (Ari, 2016; Khezrlou et al., 2017) and interventions in reading strategies are exhibited to be useful for enhancing reading proficiency (Okkinga et al., 2018). The effect of the

teaching of strategic reading on tertiary students' reading skills has been the topic of an indispensable number of research, one of which was carried out by Caverly et al. (2004). The study reported the development in tertiary students' reading scores as a result of strategic reading instruction. Training students in metacognitive reading strategies was demonstrated to promote their self-regulation as reading (Ditzel, 2010). A correlation between metacognitive strategy use and reading proficiency was reported in Kim's (2016) paper. In the same vein, Kung's (2019) study revealed that advanced EFL students preferred to use cognitive and metacognitive knowledge as reading English texts. Furthermore, the findings in that study illustrated that authentic texts increased learner motivation. Increasing tertiary students' motivation for reading, and thus, developing their reading comprehension skills can be enabled by placing university students in the center of the teaching of reading (Douglas et al., 2016). To exemplify, giving them a chance to have a say in the choice of texts they will read could foster their reading comprehension (Durmin & Sherman, 2008), which can gain meaning keeping in mind their age and maturity.

Teaching of reading strategies, playing a vital part in improving reading comprehension skills, should be based on a set of criteria like what strategies to teach, when to teach them (Taraban et al., 2004) and how to teach them. Explicit strategy instruction is presented in the literature to be effective in enhancing reading comprehension (e.g., Ghavamnia, 2019). Explicitly taught cognitive and metacognitive reading strategies were demonstrated to lead to improvement in EFL students' reading comprehension in the research undertaken by Aghaie and Zhang (2012). Individual differences among adult learners should be taken into account as examining their reading skills (Macaruso & Shankweiler, 2010) though it was indicated in Song et al.'s (2020) study that English as-a-second language readers utilized similar strategies. The study by Tsai, Ernst and Talley (2010) demonstrated that skilled Chinese EFL readers as against less skilled ones used more strategies in reading English texts. The impact of modified collaborative strategic reading on EFL college students' reading comprehension was examined in the research by Zoghi et al. (2010), which showed the intervention did not result in significant gains in reading comprehension skills. In addition to the investigations into the influence of the implementation of reading strategies on the reading comprehension development, collaborative learning is yielded to contribute to reading achievement (Ghaith, 2003). For instance, the research by Jalilifar (2010) revealed that cooperative learning techniques were more effective than traditional ones in EFL students' reading comprehension.

The effect exerted by technology integration on the development in reading skills is also investigated (e.g., Chen & Chen, 2014; Kuehner, 1999; Wang, 2017). The study by Kealey and Mather (2019) revealed that computer-assisted instruction helped college students develop positive attitudes towards reading and increase their reading gains. Likewise, implementation of blended learning was exhibited to be influential in improving college students' reading proficiency in Yang's (2012) research. In line with that study, the research carried out by Liu (2020) reported that online teaching of reading resulted in more reading gains than traditional way of teaching reading. Additionally, it was indicated that

online teaching of reading motivated students more via stimulating learning conditions. Similarly, mobile assisted online instruction enhanced EFL students' reading comprehension in Chang and Hsu's (2011) study. The research by Chang and Millett (2015) reported that audio—assisted extensive reading produced higher levels of EFL student reading comprehension when compared to silent reading. The level of reading comprehension of students exposed to online-based reading strategy instruction was higher than the one of students receiving paper-based reading strategy instruction in the research by Huang (2016). The use of blogging was shown to increase the interaction amongst tertiary students and to improve retention rate, yet it did not bring about a positive effect on their reading achievement in Hsu and Wang's (2010) paper.

Reciprocal teaching

RT, consisting of four consecutive stages: summarizing, questioning, clarifying and predicting, enhances reading comprehension (King & Johnson, 1998; Seymour & Osana, 2003) through fostering student interaction in a structured way (Gruenham, 2012). The research carried out by Soonthornmanee (2002) revealed that RT facilitated EFL students' reading skills. Another study exploring the influence of RT on reading skills was undertaken by Chang and Lan (2019) who based the technique on Moodle. The results indicated that Moodle-based RT enabled EFL students to perform better on the postreading test. The study done by Palincsar and Brown (1984) demonstrated that implementation of RT brought about improvement in reading comprehension. Similarly, the participants being exposed to RT training developed their reading comprehension more and scored higher in the post- and follow-up-tests in the study undertaken by Spörer et al. (2009). Pointing out the value of RT, Gilbert (2018) drew the attention to the importance of placing it within a wide spectrum of reading strategies by implementing it in disparate reading communities. The research by Tarchi and Pinto (2016) indicated that RT could create a learning environment that is rich of interaction. In addition, integrating RT into an online learning environment contributed to enhancing EFL students' comprehension (Tseng & Yeh, 2018; Yang, 2010).

The review of literature unearths that there is no study investigating the influence of RT on developing reading comprehension skills of PSEFLTs, who will need to implement reading strategies to improve their prospective students' reading skills. Keeping in mind this gap in the literature, this study aims to find answers to the following research questions.

- 1. Does the intervention in RT impinge upon PSEFLTs' reading comprehension skills?
 - 1a. Is there a statistically significant difference between pre-reading test results of the experimental and control groups?
 - 1b. Is there a statistically significant difference between post-reading test results of the experimental and control groups?
- 2. What are PSEFLTs' views about the intervention in RT they have been subjected to?

Methodology

Resign design

This research was designed as a quasi-experimental study. As suggested by Creswell (2012), pre- and post-test design approach was adopted in this study. Prior to the start of the study, ethical approval was obtained from the ethics board of the university in which this research was carried out. One of the two freshman groups, already formed at the beginning of the academic year by the head of the department of English language teaching, was selected as the experimental group and the other as the control group, explicating why the present study is a quasi-experimental research.

Participants

A total of 109 freshman PSEFLTs studying at a state university took part in this study. Table 1 below displays the demographic information about them.

Table 1. Demographic Information about the Participants

Group	N	Age (<i>x</i>)	Gender	
			Female	Male
Experimental	56	19.4	44 12	
Control	53	19.1	43	10

As can be seen in the Table, the number of the participants in the experimental group (n = 56) is close to the one in the control group (n = 53). The mean age of the experimental group participants was 19.4 while that of the control group was 19.1 when this research was undertaken. The number of the female participants in the experimental and control group (n = 44, n = 43, respectively) is higher than the male participants in the experimental and control group (n = 12, n = 10, respectively).

The PSEFLTs were informed about the purpose of the study and their right about withdrawing from the study any time they desired. No information that can reveal the identity of the participants will be presented throughout this research to maintain the anonymity and confidentiality in the research.

Context

In the context of this study, freshman PSEFLTs take two-hour Reading Skills I course in the fall term of the first academic year in the program and two-hour Reading Skills II course in the spring term of the same academic year. One midterm exam, comprising 40% of the final grade and final exam constituting its 60% are administered to assess how much PSEFLTs have learned from Reading Skills courses. Below are the objectives of Reading Skills I and II course.

Objectives of reading skills I course

This course is designed to help PSEFLTs develop their reading skills comprising reading between lines and guessing the main idea of a text. Additionally, this course aims at helping them acquire high-level reading skills involving digging out the main idea of a text, being able to use semantic connections amongst sentences, and becoming aware of

various perspectives by reading authentic texts. Aside from these, another objective of this course is to provide guidance to PSEFLTs in picking up critical thinking skills (Higher Education Board, 2018).

Objectives of reading skills II course

This course is designed to help PSEFLTs develop their skills of drawing logical inferences via deductive and inductive reasoning, reading between lines, and comprehending literal and figurative meaning through analyzing the information provided in passages. This course, additionally, aims at supporting PSEFLTs in developing their ability to express personal opinions regarding the reading either orally or in written form. This course also targets raising the awareness of PSEFLTs of the fact that what is comprehended by the reader may vary from the meaning intended to be conveyed by the author (Higher Education Board, 2018).

Procedure

This study was conducted when the study participants were enrolled in Reading Skills II course and had passed Reading Skills I course successfully in the fall term. One of the researchers taught the course in both groups. A pre-reading test was administered to find out if there was a statistically significant difference between reading comprehension achievements of the experimental and control group before the start of the intervention. Then, the intervention in RT in the experimental group was commenced. Seven articles on foreign language reading skills and PSEFLT education were selected by the researchers. The PSEFLTs in the experimental and control groups were asked to read the articles to be worked on during class hours. The first article dealt with in the first week of the intervention catered for helping the experimental group comprehend the stages of the RT technique in the light of the explanations provided by the researcher and modelling done by her. Following the elucidation as to employing the RT technique, the participants in the experimental group were told to form groups of four. Each group member assumed a different role in accordance with the stages of RT: summarizer, questioner, clarifier and predictor. The researcher helped the participants who could not join a group form separate groups. The experimental group participants wanting to change their groups were given the permission to do so on the condition that such a change did not damage the equal distribution of roles in the groups. The participants performing the role of summarizer were also allocated as the moderator of the group. Nonetheless, other members adopting a role other than that of summarizer could also perform the role of the moderator by expressing their wish for that to their group members.

The summarizers were responsible for providing a synopsis of each article. Then, the questioners asked questions about the topics covered in the article but were unclear and therefore needed more clarification. Not only did the questioners ask the questions but also the other three group members asked the questions they had in their minds. Afterwards, the clarifiers tried to answer the posed questions; nonetheless, it was not only the clarifiers who attempted to answer them but also other group members did it when they had answers to them. Thereafter, the predictors verbalized their ideas about how the claims stated either overtly or covertly in the texts could be reconsidered and/or suggested techniques could be

applied to their own context. While the groups were fulfilling their roles, the lecturer monitored and scaffolded them whenever they needed. Subsequent to the completion of all the stages, the researcher handed out five open-ended questions about the text that functioned as a tool to check participants' comprehension of it. The groups were given ten minutes to answer them, at the end of which they offered their answers to the questions. Different answers given by the groups provoked the whole-class discussion. All the procedures in the implementation of the RT technique were completed in two class hours. When the experimental group worked on the articles in compliance with the RT technique, the participants in the control group focused on the same articles in a traditional way. They read the texts in class hours and then answered the questions relating to them individually. Afterwards, the teacher got the answers from the control group participants. At the end of the intervention lasting seven weeks, a post-reading test was administered. A semi-structured interview was carried out with eight experimental group participants to learn about their conceptions of the RT intervention.

Data collection tools and analysis

Pre- and post-reading tests

A pre-reading test containing five open-ended questions relating to an expository text was developed by the researchers. The objective of administering the pre-reading test was to make sure there was no statistically significant difference between reading comprehension skills of the experimental and control group participants. The test and a short description of the study including its purpose and research questions were e-mailed to two EFL teacher educators to ensure it measured what it intended to measure. Slight changes were made in the questions in view of their comments. Participants' test papers were marked by the two researchers. Inter-rater reliability was assessed to reveal the level of agreement between the markers (Fink, 2010). Cronbach's alpha value was .906 for the pre-reading test. The data obtained from pre-reading test were analyzed by running independent samples t-test. A post-reading test was administered, subsequent to the RT intervention, with an eye to finding out whether or not there occurred a statistically significant difference in reading comprehension achievement of the experimental and control groups. The post-reading test was e-mailed to the same two EFL teacher educators to make sure if the test was valid. The post-reading test papers were also marked by the researchers. Inter-rater reliability was assessed for the post-reading test as well, which demonstrated that Cronbach's alpha value was .804. PSEFLTs' scores on the post-reading test were analyzed performing independent samples t-test. To increase the credibility of this study, peer debriefing (Lincoln & Guba, 1985) was realized by requesting the two EFL teacher educators mentioned in the preceding sentences to check the processes gone through from the beginning till the end of this research.

Semi-structured interview

Following the intervention and administration of the post-reading test, eight semistructured interviews, each lasting 25-35 minutes, were conducted. The questions asked in the interviews were checked by the teacher educators referred to in the previous paragraph in an effort to make sure the interview questions served for the purpose of unearthing PSEFLTs' conceptions of the intervention in the RT technique. An interview protocol was kept for each interviewee to take notes of interviewees' responses to the questions. Below-stated questions are the ones produced for the interview:

- 1. What do you think about the effectiveness of the RT technique in the development in your reading comprehension?
- 2. If you faced any problems during the intervention, could you please give information about them?
- 3. As an English language teacher candidate, will you use the RT technique to help your future students develop their reading skills?

Member checking was used in an attempt to validate the qualitative data (Birt et al., 2016) and to increase the credibility of the study (Lincoln & Guba, 1985). The findings gathered from the interviews were shared with the interviewees to ensure they mirrored what they had in their minds about the RT intervention they were subjected to.

Findings

Findings in relation to the impact of the RT Intervention on PSEFLTs' reading comprehension

The probable effect of the RT intervention on PSEFLTs' reading comprehension skills was explored though analyzing the scores the experimental and control group got on the pre- and post-reading tests. Table 2 below illustrates independent samples t-test results of the pre- and post-reading tests.

Table 2. Independent Samples T-Test Results of Pre- and Po

Test	Group	N	Mean	SD	t-test
Pre-reading test	Experimental	56	78.57	12.18	.093
	Control	53	75.00	10.19	•
Post-reading test	Experimental	56	87.67	8.81	.000
	Control	53	79.90	11.79	•

Table 2 shows that there was no statistically significant difference between the prereading test results of the experimental and control group participants (p = .093). In agreement with that, the mean values of the pre-reading test results for the experimental group (M = 78.57) and for the control group (M = 75.00) appear to be close to each other. However, the difference in the mean values of the experimental (M = 87.67) and control group (M = 79.90) is higher in the post-reading test and the p value, .000, indicates a statistically significant difference between the experimental and control groups, which occurred following the intervention. The mean value belonging to the experimental group is bigger than that of the control group in the post-reading test, showing that the PSEFLTs in the experimental group outperformed the ones in the control group.

Findings with respect to PSEFLTs' Views about the RT Intervention

A semi-structured interview was conducted so as to unpack PSEFLTs' perceptions regarding their experiences of the RT intervention. The first question in the interview provided insights into the experimental group participants' conceptions concerning the

effectiveness of the intervention in their reading comprehension skills. Interviewees' responses to the first question showed that all the interviewees found the intervention as effective at developing their reading comprehension skills. Contributing to enhancing group members' comprehension of the selected texts through carrying out their duties, the experimental group participants felt motivated to perform them competently. In addition, qualitative data analysis indicates that listening to questions posed about the texts by the questioner and other group members and answers given to them enabled the PSEFLTs to develop their reading comprehension skills. Interviewee 3 stated: "I believe RT helped me improve my reading comprehension skills. Especially, exploring the texts together developed my reading skills. I looked at the texts from different angles thanks to the discussions in my group". Similarly, interviewee 7 said: "I think my reading skills improved more owing to the RT technique because I asked my questions about the things I could not understand in the texts and got answers to them from my group members".

Interviewees' responses to the second question indicate that the intervention in the RT technique was not free of problems for them. The common problem stated by the interviewees was related to group members' performances on their roles. They claimed that not all group members fulfilled their responsibilities fully. Interviewee 4 stated: "I had few problems during the intervention. For example, one of the members in my group did not do her best to meet her duties". In line with the views of interviewee 4, interviewee 8 said: "The clarifier in my group did not try to clarify the questions asked by the questioner or us. This really damaged the soul of teamwork and demotivated me". Another issue raised in the interviews was related to the problems with having to be involved in a group in which they were unhappy. Interviewee 3 said:

I wanted to change my group after two weeks because I was unhappy about my group. I couldn't find another group to join and I think the intervention could have been more effective if I had become a member of a group in which I could feel more comfortable.

The third question in the interview served for unveiling interviewees' views as to applying the RT technique as teaching reading to their future students. All the interviewees stated that they would implement the RT technique in their prospective lessons. According to them, the RT technique could be effective in teaching reading to students of different ages since students needed to be more active in RT, which could make lessons more interesting and enjoyable for them. Interviewee 7 said: "I will apply the RT technique in my lessons in the future because students are not passive in RT; on the contrary, they are active and do most of the work in the reading lesson". Interviewee 2 directed the attention to her prior learning experiences to expound why she would implement RT in teaching reading to her students in the future:

I had learnt reading in English in a traditional way. I mean the teacher reads the passage and/or the teacher nominates students to read it, and then, tells them to answer the questions about the passage individually. The RT technique could change this monotonous and traditional way of teaching reading because it is student-centered and students are more active in reading lessons. I believe it is more effective than traditional way of teaching reading. Because of that, I will definitely use it to teach reading to my students in the future.

Discussion

The findings showed that the question of whether or not implementing the RT technique in Reading Skills course enhances PSEFLTs' reading comprehension skills was answered in the affirmative. The non-existent statistically significant difference between the reading comprehension skills of the experimental and control group participants in the pre-reading test changed into a statistically significant difference in the post-reading test. The experimental group performed better in the post-reading test as the intervention in the RT technique ended in more improvement in their reading comprehension skills. This finding parallels a number of studies carried out with the same purpose of exploring the effect of the RT technique on students' reading skills (Palincsar & Brown, 1984; Soonthornmanee, 2002; Spörer et al., 2009; Tseng & Yeh, 2018; Yang, 2010). This result suggests that the RT technique could be implemented in reading courses in PSEFLT education not only to support them in developing their reading skills but also to help them realize that RT can work with younger students, in other words, with their prospective students. Because RT is a technique that is particularly developed for teaching reading, the stages in the RT technique could be applied to other courses necessitating a close reading of several texts. Such a technique producing desired outcomes in developing PSEFLTs' reading skills could be considered to be promising in that tertiary students are presented in the literature to be underprepared for tertiary level reading (Feller et al., 2020). Considering the assertion that high level of reading comprehension skills positively impinges on tertiary students' success in their academic education (Cox et al., 2003), and the findings presented in this study, it could be recommended that the RT technique should be implemented as much as it could be in the courses offered in the first academic year to help them develop their reading skills, which could directly affect their success in the following academic years.

The qualitative data revealed PSEFLTs' perceptions pertaining to the RT intervention. The interviewees deemed it as effective in developing their reading comprehension skills. The interviewees stated RT fostered student-centered teaching and learning as they did almost all the work via interacting within their groups and the lecturer provided help and guidance solely when they needed. Similarly, the phenomenon that student interaction is facilitated as the RT technique is applied is also demonstrated in other studies (Gruenham, 2012). Moreover, as is indicated in the literature (Douglas et al., 2016), it is important for tertiary students to take control of the process of reading to be proficient in reading. Likewise, the participants viewed RT as effective inasmuch as they were more active through collaborating with their group members in the reading lessons taught in compliance with the RT technique. In compliance with this finding, the related literature entails studies reporting the positive effect of collaborative learning on students' reading comprehension (Ghaith, 2003; Jalilifar, 2010). The positive conceptions the PSEFLTs held about the impact of RT on their reading skills were linked to their past learning experiences of reading in that their prior reading experiences in English were structured upon conventional teaching of reading. Associated with that, Wulfemeyer (2019) pointed out the influence of tertiary student' prior educational experiences on their current low level of reading comprehension skills. The results obtained from the qualitative data indicate that joining a group in which PSEFLTs could work collaboratively and efficiently might be hard for some of them. For this reason, as it is highlighted in Macaruso and Shankweiler's (2010) study, examinations on adult learners' reading skills require taking into consideration individual traits. Therefore, lecturers applying the RT technique should support PSEFLTs confronting group-related problems more to help them make the most of it.

The qualitative data also showed that the interviewees would apply RT while teaching reading to their prospective students. This finding shows that the way Reading Skills courses are offered at tertiary level is likely to shape pre-service teachers' prospective teaching of reading. Providing they are introduced and taught in line with the methods and techniques maximizing their participation, they may tend to design their teaching in accordance with them when they begin to teach.

Conclusions, limitations of the study and further research

This quasi-experimental study makes a major contribution to the literature with the findings it has demonstrated. Implementing the RT technique in Reading Skills course led to bigger improvement in experimental group's reading comprehension skills. Since they did almost all the work during the intervention, they felt highly motivated to shoulder responsibility for developing their reading skills. The findings indicate that university reading teachers must refrain from conducting the teaching of reading conventionally and fine-tune how they teach reading according to teaching methods encouraging interaction among students and facilitating student autonomy.

This study is not free of limitations. First and foremost, duration of the intervention should be extended because it lasted for seven weeks in this research. Longitudinal studies need to be conducted to explore in detail the effect of the intervention in the RT technique on developing PSEFLTs' reading comprehension skills. In addition, more comprehensive qualitative data could be gathered to gain illuminating insights into students' experiences of the RT intervention. This could be achieved by interviewing study participants not only at the end of the intervention but also in the middle of it to make necessary amendments in the intervention so that they can derive substantial benefit from it. The participants are PSEFLTs in this study but the RT technique could be employed by reading teachers teaching at different levels of education. Moreover, female and male students may not benefit from the RT technique equally. Therefore, further research could be carried out to explore the effect of the technique on female and male students.

References

- Aghaie, R. & Zhang, L. J. (2012). Effects of explicit instruction in cognitive and metacognitive reading strategies on Iranian EFL students' reading performance and strategy transfer. *Instructional Science*, 40, 1063-1081.
- Alamprese, J. A., MacArthur, C. A., Price, C. & Knight, D. (2011). Effects of a structured decoding curriculum on adult literacy learners' reading development. *Journal of Research on Educational Effectiveness*, 4, 154–172.

- Albashtawi, A. H. (2019). Improvement of EFL students' academic reading achievement through the Cognitive Academic Language Learning Approach (CALLA). *Reading Psychology*, 40, 679-704.
- Ari, O. (2016). Word recognition processes in college-age students' reading comprehension achievement. *Community College Journal of Research and Practice*, 40(8), 718-423.
- Birt, L., Scott, S., Cavers, D., Campbell, C. & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802-1811.
- Brown, A. L. & Palincsar, A. S. (1982). Inducing strategic learning from texts by means of informed, self-control training. *Topics in Learning and Learning Disabilities*, 2(1), 1-17.
- Caverly, D. C., Nicholson, S. A. & Radcliffe, R. (2004). The effectiveness of strategic reading instruction for college developmental readers. *Journal of College Reading and Learning*, 35(1), 25-49.
- Chang, C. K. & Hsu, C. K. (2011). A mobile-assisted synchronously collaborative translation—Annotation system for English as a foreign language (EFL) reading comprehension. *Computer Assisted Language Learning*, 24(2), 155-180.
- Chang, A. C. & Millett, S. (2015). Improving reading rates and comprehension through audioassisted extensive reading for beginner learners. *System*, *52*, 91-102.
- Chang, M. M. & Lan, S. W. (2019). Exploring undergraduate EFL students' perceptions and experiences of a Moodle-based reciprocal teaching application. *Open Learning: The Journal of Open, Distance and e-Learning*. DOI: 10.1080/02680513.2019.1708298
- Chen, C. M. & Chen, F. Y. (2014). Enhancing digital reading performance with a collaborative reading annotation system. *Computers & Education*, 77, 67-81.
- Cockerill, M., Thurston, A. & Taylor, A. (2019). Protocol: An efficacy randomized controlled trial of Reciprocal Reading in high schools. *International Journal of Educational Research*, 97, 99-106.
- Cox, S. R., Friesner, D. L. & Khayum, M. (2003). Do reading skills courses help underprepared readers achieve academic success in college? *Journal of College Reading and Learning*, 33(2), 170-196.
- Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research.* Boston, MA: Pearson.
- Datta, S. & Ross, M. M. (2002). Reading skills and reading habits: A study of new Open University undergraduate reserves. *Open Learning*, 17(1), 69-88.
- Ditzel, S. N. (2010). Metacognitive reading strategies can improve self-regulation. *Journal of College Reading and Learning*, 40(2), 45-63.
- Douglas, K., Barnett, T., Poletti, A., Seaboyer, J. & Kennedy, R. (2016). Building reading resilience: re-thinking reading for the literary studies classroom. *Higher Education Research & Development*, 35(2), 254-266.
- Durmin, C. C. & Sherman, W. M. (2008). Does choice of college textbook make a difference in students' comprehension? *College Teaching*, 56(1), 28-34.
- Ersanlı, C. Y. & Çakır, A. (2017). Developing pre-service English language teachers' comprehension of reading texts with humorous elements. *Journal of Language Education and Research*, 13(1), 123-145.
- Feller, D. P., Magliano, J., Sabatini, J., O'Reilly, T. & Kopatich, R. D. (2020). Does choice of college textbook make a difference in students' comprehension? *Discourse Processes*, 57(5-6), 473-490.

- Ferrer, A., Abarca, E. V., Serrano, M. A. & Gilabert, R. (2017). Impact of text availability and question format on reading comprehension processes. *Contemporary Educational Psychology*, *51*, 404-415.
- Fink, A. (2010). Survey research methods. In P. Peterson, E. Baker & B. McGraw (Eds.), *International encyclopedia of education (pp. 152-160)*. Elsevier Ltd.
- Ghaith, G. (2003). Effects of the learning together model of cooperative learning on English as a foreign language reading achievement, academic self-esteem, and feelings of school alienation. *Bilingual Research Journal*, 27(3), 451-474.
- Ghavamnia, M. (2019). Improving Iranian graduate students' performance in reading scientific articles in English through explicit strategy instruction. *Reading Psychology*, 40, 612-637.
- Gilbert, F. (2018). Riding the reciprocal teaching bus. A teacher's reflections on nurturing Collaborative learning in a school culture obsessed by results. *Changing English*, 25(2), 146-162.
- Gorzycki, M., Howard, P., Allen, D., Desa, G. & Rosegard, E. (2016). An exploration of academic reading proficiency at the university level: A cross-sectional study of 848 undergraduates. *Literacy Research and Instruction*, 55(2), 142-162.
- Gruenham, E. A. (2012). Common literacy struggles with college students: Using the reciprocal teaching technique. *Journal of College Reading and Learning*, 42(2), 109-116.
- Higher Education Board. (2018). https://bit.ly/3aDLGY6
- Howard, P. J., Gorzycki, M., Desa, G. & Alan, D. D. (2018). Academic reading: Comparing students' and faculty perceptions of its value, practice, and pedagogy. *Journal of College Reading and Learning*, 48, 189-209.
- Hsu, H. Y. & Wang, S. (2010). The impact of using blogs on college students' reading comprehension and learning motivation. *Literacy Research and Instruction*, 50(1), 68-88.
- Huang, S., Capps, M., Blacklock, J. & Garza, M. (2014). Reading habits of college students in the United States. *Reading Psychology*, *35*(5), 437-467.
- Huang, H. (2016). Online Versus Paper-based Instruction: Comparing Two Strategy Training Modules for Improving Reading Comprehension. *RELC Journal*, 45(2), 165-180.
- Jalilifar, A. (2010). The effect of cooperative learning techniques on college students' reading comprehension. *System*, 38, 96-108.
- Kealey, M. B. & Mather, N. (2019). Use of an online reading intervention to enhance the basic reading skills of community college students. *Community College Journal of Research and Practice*, 43(9), 631-647.
- Khezrlou, S., Ellis, R. & Sadeghi, K. (2017). Effects of computer-assisted glosses on EFL learners' vocabulary acquisition and reading comprehension in three learning conditions. *System*, 65, 104-116.
- Kim, H. (2016). The relationship between Korean university students' reading attitude, reading strategy use, and reading proficiency. *Reading Psychology*, 37, 1162-1195.
- King, C. M. & Johnson, L. M. P. (1998). Constructing meaning via reciprocal teaching. *Literacy Research and Instruction*, 38(3), 169-186.
- Kingston, A. J. & George, C. E. (2014). The effects of special reading training upon the development of college students' reading skills. *The Journal of Educational Research*. https://doi.org/10.1080/00220671.1957.10882399
- Kuehner, A. V. (1999). The effects of computer instruction on college students' reading skills. *Journal of College Reading and Learning*, 29(2), 149-165.

- Kung, F. W. (2019). Teaching second language reading comprehension: The effects of classroom materials and reading strategy use. *Innovation in Language Learning and Teaching*, 13(1), 93-104.
- Lincoln, Y. & Guba, E. G. (1985). Naturalistic inquiry. Sage.
- Liu, Y. (2020). Online English reading instruction in the ESL classroom based on constructivism. *Journal of Educational Technology Systems*, 48(4), 539-552.
- Macaruso, P. & Shankweiler, D. (2010). Expanding the simple view of reading in accounting for reading skills in community college students. *Reading Psychology*, *31*, 454-471.
- Moon, A. L., Wold, C. M. & Francom, G. M. (2016). Enhancing Reading Comprehension with Student-Centered iPad Applications. *TechTrends*, *61*, 187-194.
- Morshedian, M., Hemmati, F. & Sotoudehnama, E. (2017). Training EFL Learners in Self-Regulation of Reading: Implementing an SRL Model. *Reading & Writing Quarterly*, 33(3), 290-303.
- Nayak, G. & Sylva, K. (2013). The effects of a guided reading intervention on reading comprehension: A study on young Chinese learners of English in Hong Kong. *The Language Learning Journal*, 41(1), 85-103.
- Nhapulo, M. A., Simon, E. & Herreweghe, M. V. (2017). Enhancing academic reading skills through extensive reading. *Southern African Linguistics and Applied Language Studies*, 35(1), 17-40.
- Okkinga, M., Steensel, R. V., Gelderen, A. J. S. V., Schooten, E. V., Sleegers, P. J. C. & Arends, L. R. (2018). Effectiveness of reading-strategy interventions in whole classrooms: A meta-analysis. *Educational Psychology Review*, *30*, 1215-1239.
- Palincsar, A. S. & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction*, 1(2), 117-175.
- Sahan, A. (2012). Cognitive reading comprehension strategies employed by ELT students. *Erciyes Universitesi Sosval Bilimler Enstitüsü Dergisi, 1*(33), 1-22.
- Seymour, J. R. & Osana, H. P. (2003). Reciprocal Teaching procedures and principles: two teachers' developing understanding. *Teaching and Teacher Education*, 19, 325-344.
- Shore, J., Sabatini, J., Lentini, J., Holtzman, S. & McNeil, A. (2015). Development of an evidence-based reading fluency program for adult literacy learners. *Reading Psychology*, *36*, 86-104.
- Slater, W. H. & Horstman, F. R. (2002). Teaching reading and writing to struggling middle school and high school students: the case for reciprocal teaching. *Preventing School Failure: Alternative Education for Children and Youth, 46*(4), 163-166.
- Song, K., Na, B. & Kwon, H. J. (2020). A comprehensive review of research on reading comprehension strategies of learners reading in English-as-an-additional language. *Educational Research Review*, 29, 1-12.
- Soonthornmanee, R. (2002). The effect of the reciprocal teaching approach on the reading comprehension of EFL students. *RELC Journal*, *33*(2), 125-141.
- Spörer, N., Brunstein, J. C. & Kieschke, U. (2009). Improving students' reading comprehension skills: Effects of strategy instruction and reciprocal teaching. *Learning and Instruction*, 19, 272-286.
- Taraban, R., Kerr, M. & Rynearson, K. (2004). Analytic and pragmatic factors in college students' metacognitive reading strategies. *Reading Psychology*, 25(2), 67-81.
- Tarchi, C. & Pinto, G. (2016). Reciprocal teaching: Analyzing interactive dynamics in the co-construction of a text's meaning. *The Journal of Educational Research*, 109(5), 518-530.

- Taşpınar, H. K. & Çubukçu, F. (2020). The impact of critical literacy instruction on adult EFL learners' reading comprehension. *Language Teaching and Education Research*, 3(1), 34-55.
- Tsai, Y. R., Ernst, C. & Talley, P. C. (2010). L1 and L2 strategy use in reading comprehension of Chinese EFL readers. *Reading Psychology*, 31, 1-21.
- Tseng, S. S. & Yeh, H. C. (2018). Integrating reciprocal teaching in an online environment with an annotation feature to enhance low-achieving students' English reading comprehension. *Interactive Learning Environments*, 26(6), 789-802.
- Wang, Y. H. (2017). Integrating self-paced mobile learning into language instruction: Impact on reading comprehension and learner satisfaction. *Interactive Learning Environments*, 25(3), 397-411.
- Wulfemeyer, J. (2019). Modeling metacognition and providing background knowledge via guided reading videos. *Journal of College Reading and Learning*, 49, 75–88.
- Yang, Y. F. (2010). Developing a reciprocal teaching/learning system for college remedial reading instruction. *Computers & Education*, *55*, 1193-1201.
- Yang, Y. F. (2012). Blended learning for college students with English reading difficulties. *Computer Assisted Language Learning*, 25(5), 393–406.
- Zendler, A. & Reile, S. (2018). The effect of reciprocal teaching and programmed instruction on learning outcome in computer science education. *Studies in Educational Evaluation*, 58, 132-144.
- Zoghi, M., Mustapha, R. & Maasum, T. N. R. B. T. M. (2010). Collaborative strategic reading with university EFL learners. *Journal of College Reading and Learning*, 41(1), 67-94.