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Research Paper

Reflective Reciprocal Teaching: A Technique for Improving Iranian EFL Learners' Reading Comprehension Ability

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Abstract

The primary aim of this study was to shed light on the impact of a new instruction model, reflective reciprocal teaching (RRT), on English as a foreign language learners' (EFL) reading comprehension ability. Its mode of inquiry was a mixed-method, and it took on a quasi-experimental design, including a pretest, treatment, and posttest paradigm. The sampling techniques were both convenience and random sampling by which 100 EFL freshman learners were selected and assigned into three groups of reflective reciprocal teaching (RRT), reciprocal teaching (RT), and control. Two tests, namely Oxford Quick Placement Test and Michigan English Language Assessment Battery, were used to measure EFL learners' proficiency level and reading comprehension ability in its quantitative phase. ANOVA was utilized to analyze the collected data. Also, during the next step, which aimed to explore the learners' perceptions of RRT instruction, semi-structured interviews were used to collect qualitative data. The results indicated that the RRT group outperformed the control group regarding their reading comprehension ability; however, the RT instruction did not significantly impact this issue. Accordingly, the qualitative data analysis findings indicated that self-regulated learning, perceived competence, metacognitive awareness, confidence, and intrinsic motivation were the significant results of the RRT instruction model, contributing to the learners' reading comprehension ability.

Keywords: Reading comprehension ability, Reflective practices, Scaffolding strategy-based instruction

تدریس متقابل تاملی: روشی برای بهبود سازی توانایی خواندن و درک مطلب زبان آموزان زبان خارجی ایرانی

هدف اصلی این مطالعه روشن سازی تاثیر یک مدل آموزشی جدید، تدریس متقابل تاملی، بر توانایی خواندن و درک مطلب زبان آموزان زبان خارجی ایرانی بوده است. روش تحقیق در این پژوهش ترکیبی بوده و یک طرح شبه آزمایشی شامل الگوی پیش آزمون، درمان و پس آزمون را دنبال کرده است. نمونه گیری به هر دو روش آسان و تصادفی به انجام رسیده که به واسطه آنها صد دانشجوی زبان خارجی انگلیسی سال اول انتخاب شده و در سه گروه تدریس متقابل تاملی، تدریس متقابل، و گروه کنترل دسته بندی شدند. دو آزمون با عناوین آزمون تعیین سطح سریع آکسفورد و آزمون ارزیابی زبان انگلیسی میسیگان برای اندازه گیری سطح مهارت و توانایی خواندن و درک مطلب فراگیران زبان خارجی انگلیسی در مرحله کمی آن به کار برده شدند. از تحلیل واریانس برای تجزیه و تحلیل داده های کمی استفاده شد. همچنین، در مرحله بعدی، که هدف آن درک دیدگاه فراگیران از روش آموزشی تدریس متقابل تاملی بود، برای جمع آوری داده های کیفی، از مصاحبه های نیمه ساختار یافته استفاده شد. نتایج نشان داد که گروه تدریس متقابل تاملی عملکرد بهتری نسبت به گروه کنترل در رابطه با توانایی خواندن و درک مطلب داشتند و این در حالی بود که روش تدریس متقابل تأثیر قابل توجهی بر این موضوع نداشت. یافته های تجزیه و تحلیل داده های کیفی هم نشان داد که یادگیری خودتنظیم، شایستگی درک شده، آگاهی فراشناختی، اعتماد به نفس و انگیزه ذاتی از جمله نتایج مهم روش تدریس متقابل تاملی در رابطه با توانایی خواندن و درک مطلب فراگیران بودند.

واژگان کلیدی: توانایی خواندن و درک مطلب، تمرینات تاملی، روش آموزش داربستی استراتژی محور

Introduction

Over the past 40 years, theoretical and scientific investigations on foreign language learning and teaching illustrate a paradigm shift in both teaching and learning processes. For many years, the dominance of teacher-centered instructions had made critical and creative capacities of language learners neglected. However, since the turn of the 20th century, foreign language learning and teaching theories have taken a dramatic shift from the teacher-centered approaches to the learner-centered ones providing the best opportunities for cultivating critical skills and educating independent self-regulated learners (Smith et al., 2016). According to the new educational paradigm constructed based on the principles of constructivist theory, reforms in the education area should be focused on developing higher-order thinking skills, including critical thinking (CT) ability, to train self-regulated and life-long learners (DiFrancesca et al., 2015). In other words, it is believed that formal education's primary goal should not be restricted only to supplying sufficient knowledge in different subject matters. Still, it should give the learners a chance to acquire self-regulatory skills, making them regularly updated about their knowledge (Peklaj, 2001). In this regard, it is supposed that acquiring and using self-regulated learning strategies such as critical thinking create more strategic, self-directed, and successful learners (Makram Mareye, 2020). Modeling or direct instructions followed by guided and independent practices is recommended as the best way of cultivating SRL strategies in the content of learning (Schunk & Zimmerman, 2007), giving the learners the best opportunities to imitate and follow the modeled behaviors in an authentic setting as scaffolded support is stopped taking part in it (Mullen, 2011). Within the context of education, several instructions provide the basis for achieving these goals. Among them, reciprocal teaching as a kind of scaffolding and explicit instruction, which is done through modeling comprehension strategies, has been regarded as the most effective one (Todd & Tracey, 2006). This instruction makes learners autonomous regarding their learning progress and lets them monitor and evaluate their comprehension (Lysynchuk et al., 1990).

Numerous investigations considering the effect of self-regulated strategies on language learning illustrate their significant contribution to this process (Mirhassani et al., 2007; Tseng et al., 2006). This effectiveness, mainly, could be traced to reading comprehension ability (Tasnimi, 2013). Concerning this matter, Nash-Ditzel (2010) believed that teaching interventions applying self-regulation and reading strategies could improve learners' reading abilities. To this end, it is also mentioned, "the reflective mind improves its thinking by reflectively thinking about it. Likewise, it improves its reading by reflectively thinking about how it is reading..." (Richard Paul, 2004, p. 32). Reading comprehension skill has gained the highest point and significance among essential English language skills (Alderson, 2000) because of its vital role in developing learners' language learning accomplishments (Madani, 2016). Despite its significance, learners in EFL contexts usually have the slightest opportunity to learn some necessary skills and strategies required in reading comprehension (Kashef et al., 2012). Among them, higher-order thinking skills, paving the way for the learners to analyze, evaluate, and synthesis the information, are considered as effective means of developing and improving this ability (Nourdad et al., 2018). Accordingly, educators need to focus on teaching critical thinking to qualify the learners with fundamental skills instead of transmitting information (Fisher & Scriven, 1997 as cited in Malmir & Shoorcheh, 2012). Likewise, in the context of Iran, it seems that the majority of EFL learners suffer from comprehension deficiencies because of the instructions not considering the importance of teaching strategies and critical thinking skills (Fotovatian & Shokrpour, 2007). In other words, the main focus of reading instructions in the Iranian EFL context is restricted to teaching lower-order thinking skills, and there is little if any effort regarding teaching cognitive and metacognitive strategies having the main contribution to the learners' reading comprehension

ability (Royanto, 2012). In this context, the lack of efficient learner-centered instructions making learners think instead of thinking (Kassem, 2019) and increasing their agentive role by making them self-directed and active is prominent (Alavi & Ganjabi, 2008; Motallebzadeh, 2009). There is also a lack of empirical researches investigating the instructions stimulating critical thinking by incorporating critical reflection into the learning process. Therefore, because of the importance of higher-order thinking skills and the lack of prerequisites for learning critical thinking skills in this context, providing appropriate learning environments and teaching methods to enhance essential dispositions of thinking is crucial. Accordingly, to fulfill this accomplishment, the present study tried to elucidate the impact of RRT, a scaffolding strategy-based instruction contributing introspective and retrospective reflective practices to the learning process, on the learners' reading comprehension ability. It also focused on reflection as an individual (Schon, 1987) and a social process (Osterman & Kotkamp, 2004). To this end, the following research questions are formulated:

Q1. Does the “reflective reciprocal teaching technique” have any significant effect on Iranian EFL learners’ reading comprehension ability?

Q2. Does the “reciprocal teaching technique” significantly impact Iranian EFL learners’ reading comprehension ability?

Q3. What are the Iranian EFL learners’ perceptions of RRT?

Literature review

These days, the primary goal is to bring democracy into education, which requires situations helping learners become reflective and thoughtful (Gutmann, 1990) or tutoring self-regulated learners playing a proactive role in the learning process (Ho, 2005). Recent approaches accentuate learners' active engagement in their learning by putting them in charge of this process and providing student-centered learning environments. In other words, there is a great demand that learners could take advantage of democratic learning environments provided by student-centered instructions (Yilmaz, 2008). In these instructions, SRL is not exclusively considered an individual skill or knowledge, but it is regarded as an issue that includes a social aspect of interactions with peers and teachers (Patrick & Middleton, 2002; Pressley, 1995). In this regard, it is believed that applying some instructional activities conducted to increase learners' awareness and regulation of their activity and incorporating reflective practices could be considered as effective strategies used to transform a traditional lecture-based instruction into an active learning instruction (Angelo & Cross, 1993, as cited in Eison, 2010). A great deal of literature displaces various practical instructional strategies enhancing critical thinking as a feature of self-regulated learning in the classroom by explicitly focusing on cognitive and metacognitive dimensions of this process (Andreassen & Braten, 2011; De Corte et al., 2011). Concerning this matter, direct instruction in thinking skills integrated with teacher's modeling, coaching, and scaffolding (Zimmerman, 2008), guided and independent practices (Zumbrunn et al., 2011), social support in the form of feedback (Patrick et al., 2007), and reflective practices implemented through reciprocal teaching/learning system (Ojo, 2015) could be assumed as the leading ones. Among them, reflection and reflective practices have a great contribution to self-regulated learning development (Schunk & Ertmer, 2000). The concept of reflection dealing with both focusing on immediate details of a task or problem and probing into presupposed assumptions with the aim of paving the way for making different ways of reasoning and behavior receptive (Gray, 2007) should be considered as an essential part of any curriculum (Avarzamani & Farahian, 2019). Reflective practices could pave the way for developing self-regulation abilities such as goal setting, metacognition, and self-monitoring during the learning process (Schraw et al., 2006). Related to this issue, it is believed that making learners engaged in reflective practices lets them understand the hows and whats of successful learning and helps them recognize restrictions

regarding doing specific tasks (Greenwood, 2010). Many scholars have emphasized the importance of reflection and reflective practices (e.g., Kolb, 1984; Schön, 1983). In this issue, Dewey (1910, as cited in Greenwood, 2010), being the pioneer of this trend, claimed, "reflection is an active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends" (p. 6). Also, according to Schon's view, the concept of reflection should be considered a retrospective process and should be regarded as a part of an ongoing process making a connection between individuals' understanding and experience either consciously or unconsciously (Reynold, 2011). Kolb (1984), in his eminent learning model, introduced reflection as a progressive process through a learning loop dealing with the planning, action, and evaluation. And, finally, as Larsen et al. (2016) argued, reflection could be applied to "influence students' learning from experience, increase their awareness of their thoughts and actions, and increase their perceived recall of experiences" (p. 285). Numerous investigations verified the influential role of reflective practices in increasing knowledge and development (Butler & Wine, 1995; Tillema & Smith, 2000). Also, a few researchers have been interested in providing empirical evidence on ways of increasing higher-order thinking skills in general and critical thinking skills in particular via using reflective practices in the EFL context of Iran (e.g. Safari & Rashidi, 2015; Soodmand Afshar & Farahani, 2017). However, it seems that most of them haven't followed the principles of reflection incorporating critical thinking techniques. Their findings also indicated that although there are traces of theoretical infusion of the new paradigm which introduces learner-centered principals via focusing on personalized and active learning, developing critical thinking is not honored and attended by the Iranian educational system, and there is a paucity regarding this issue among Iranian graduates in all levels of education. In other words, because of the tendency toward teacher-oriented approaches to learning giving priority to lower-order thinking skills, developing higher-order thinking skills and critical thinking in this context seems to be improbable (Birjandi et al., 2018; Safari & Rashidi, 2015). Also, despite the significance assigned to the role of reflection and reflective practices in fostering critical thinking (David & Kochappan, 2001) having the main contribution to developing reading comprehension (Haji Maibodi, 2014), lack of analysis considering the very nature of reflection as an extension of critical thinking dealing with "a continuous process of critical inquiry into the adequacy of assumptions about the nature and desirability of the status quo" (Robinson, 2014, p. 756) is remarkably felt. Accordingly, this study tried to shed light on the impact of the RRT model integrating reflective practices into a scaffolding strategy-based instruction on Iranian EFL learners' reading comprehension ability to fill the mentioned gap.

The significance of this study lies in the importance of reflection and reflective practices regarding making the learners' knowledge personalized and contextualized by assisting them in making a connection between theory and practice (Agouridas & Race, 2007). In other words, developing learners' metacognition through reflective practices makes them enabled to set and monitor the achievement of realistic goals (Colley et al., 2012). They could also increase learners' capacities and potentialities for higher-order thinking and paving the way for them to assign meaning to their experience. Using reflection as a critical pedagogical strategy could provide the essential prerequisites for developing long-life learning skills for learners (Colley et al., 2012). It could also pave the way for educators to be professional experts in critical pedagogy (Fahim & Rezanejad, 2014).

To sum it up, as mentioned by Chang (2019), "reflection in learning is necessary for students to revisit what they have learned for improvement and for in-depth learning. It allows students to document their learning journey and provide references and suggestions for future students" (p. 96). In line with this claim, the findings of this study draw upon the current research

avenues highlighting the importance of reflective practices. Accordingly, the results can assist learners in using their thinking and express themselves critically and creatively. They can also give creative insights to educators and material developers.

Methodology

Participants

To achieve the study's aims, the researcher worked with 100 undergraduate EFL learners majoring in English translation at Binaloud Institute of Higher Education, Mashhad, Iran, selected based on convenience sampling. After taking a proficiency test administered for ascertaining their homogeneity in understanding and using English, the CEFR standard (Common European Framework of Reference for Languages) was used by the researcher to choose participants with the range of B1 (intermediate English) and B2 (Upper-intermediate) (See appendix A). Finally, the three intact classes were randomly assigned to three groups, thirty-one of whom were the control group, and the rest comprised the experimental groups (38 in the RRT group and 31 in the RTO group).

Research Design

This study took on a pretest- treatment- post-test quasi-experimental design with a mixed-method approach to collect the data and analyze the intervention outcomes. In this regard, both test and interview were utilized. In this study, following the second model of mixed-method research design recommended by Steckler et al. (1992), the qualitative data collection and analysis were also used to support and interpret the quantitative findings.

Instruments

Following the aforementioned research questions, three instruments were employed: Oxford Quick Placement Test (OQPT), Michigan English Language Assessment Battery (MELAB), and Semi-structured interview. The data were gathered quantitatively via the first version of the OQP test developed by Oxford University Press and the University of Cambridge Local Examinations Syndicate (Syndicate, 2001). It is applied to check the homogeneity of groups under investigation. It is also collected through the reading section of Michigan English Language Assessment Battery (MELAB, 2012), a standardized English as a foreign language (EFL) test aimed at upper beginner to lower advanced levels. Semi-structured interviews were also utilized to collect the data qualitatively. The descriptive questions of the interview were developed based on a quintamensional protocol determining the intensity of a respondent's opinions and attitudes (Harrell & Bradley, 2009) and used to find complementary answers to the research question related to the learners' perceptions of the effectiveness of the RRT intervention.

Procedure

This study included two major phases designed to address its objective. During its quantitative phase, after determining the learners' degree of homogeneity regarding their proficiency level using OQPT, three intact classes of a reading course were chosen randomly (two experimental groups and one comparison group). All three groups went through the same processes. Still, what made them distinct refers to the degree of responsibility assigned to both teacher and learners regarding the teaching, learning, and assessment techniques and the contribution of reflection and reflective practices to the learning process. This contribution could be clarified by Matsue and Matsu's (2017) view about the distinction between two types of reflection. They introduced reflection as a problem-solving technique focusing on immediate details of a task or problem and critical reflection as a problem-posing process dealing with preconceived assumptions. Based on this assumption, the nature of reflection in the RT

instruction was limited to the first issue. Instead, the RRT instruction focused more on its critical dimension. None of them existed in the third group. The reciprocal teaching, reflective reciprocal teaching experimental, and control groups of this study included students of English translation enrolled in four credited reading courses for fall and spring semesters of the 2018-2019 academic year. At the pretesting stage, the teacher administered a standardized reading comprehension test (reading section of MELAB) for all three groups. In the reciprocal teaching experimental group, scaffolding was provided through explicit instruction, including modeling and explaining the four main strategies, guided practice, and using the students' strategies. Using reciprocal learning strategies practically, learners should work cooperatively in pairs or groups by giving and receiving sufficient performance-related feedback. In this type of social instruction strategy, the main focus is on collaboration. Also, in the other experimental group, RRT, learners were exposed to a six-phase treatment following the principles of cognitive apprenticeship approach suggested by Collins et al. (1989) (see Appendix B). Learners in this group had many opportunities to do introspective and retrospective reflection on their learning experiences using the thinking aloud technique and through conferencing and collecting their portfolios. After explaining the purposes and the procedures of the instruction and the main objectives and components of the reflective learning portfolio providing a reflection on one's action, the teacher asked the learners to go through the mentioned phases. The first phase was dedicated to explicitly teaching and practicing the mentioned strategies by using several worksheets. Then, during the second phase, the teacher modeled all of them to show the learners how to use them practically in different reading passages. After that, groups of four or five members went through the third and fourth stages of this model by working on other paragraphs cooperatively under the instructor's coaching and scaffolding. After that, during the articulation phase, the learners were allowed to verbalize what and how they comprehend the passage using the think-aloud technique. Utilizing this technique modeled first by the instructor, they began to make the mentioned strategies internalized to use them independently. In other words, implementing a think-aloud strategy during the scaffolded discussion gives learners sufficient opportunities to introspect on cognitive processes while they are reading a text and, as a result, enhances their self-regulated learning (Abu Raihan, 2011; Wang, 2014). This activity was accompanied by sharing different ideas regarding each paragraph and receiving feedback from their teacher and peers. The last phase of this study (reflective phase) was allotted to compiling a portfolio which was used as a self-reflection and self-assessment tool. Each portfolio included evidence of the learners' performance regarding their reading comprehension ability and strategy use gathered via the teacher's observations of their work inside the classroom and by the learners when/ they worked on different reading passages as an assignment. Also, it contained reading logs, including the teacher's feedback about their performances and learners' self and peer assessments done by the use of rating checklists and rubrics related to the determined objectives. It also encompassed the reflective part letting the learners monitor and evaluate their progress and make them aware of their weaknesses and strengths regarding the mentioned objectives. After every four weeks, the teacher asked each group separately to participate in a conference session, giving the learners a second chance to diagnose the weak points of their progress by evaluating and discussing competencies and strategies used to work on reading passages in their portfolios. At the end of the intervention, all learners attended the identical posttest of reading comprehension. Finally, during its qualitative phase, the researcher conducted a face-to-face semi-structured interview with each member of the RRT experimental group dealing with their perceptions (descriptive & evaluative) regarding the "RRT technique" after the intervention.

Data Analysis and Results

Before working on the study's research questions, an ANOVA test was run to examine any significant difference among the groups (one control and two experimental groups) regarding the learners' language proficiency level. Table 1 summarizes the descriptive results of the OQPT in the three groups. As the table shows, the mean scores of the Oxford test across participants in the control and two experimental groups are slightly the same: control ($M=35.09$, $SD=3.52$), RRT experimental ($M=35.92$, $SD=4.05$), and RT experimental ($M=35.45$, $SD=4.15$).

Table 1

Descriptive Statistics of Oxford Placement Test in Pretest

| | Groups | N | Mean | Std. Deviation | Std. Error Mean |
|---------|--------|----|-------|----------------|-----------------|
| RRT | 1.00 | 38 | 35.92 | 4.056 | .65 |
| RT | 2.00 | 31 | 35.45 | 4.154 | .74 |
| Control | 3.00 | 31 | 35.09 | 3.524 | .63 |

However, to ensure that the three groups were homogenous, an ANOVA test was run. Table 2 presents the results of the ANOVA test on the OQPT. As can be seen, the three groups were not significantly different from each other in terms of their language proficiency ($F=.382$, $p<.05$). In other words, the three groups were homogenous regarding their level of proficiency before the study.

Table 2

The Results of ANOVA for Determining Differences among the Three groups

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|------|------|
| Between Groups | 11.810 | 2 | 5.905 | .382 | .683 |
| Within Groups | 1499.150 | 97 | 15.455 | | |
| Total | 1510.960 | 99 | | | |

Results of Pretest on MELAB Test

A one-way ANOVA was run to compare the RRT, RT and control groups' means on pretest of reading in order to prove that they were homogenous in terms of their reading comprehension ability prior to the administration of the treatments. Before discussing the results of one-way ANOVA on pretest of reading, it should be noted that the assumption of homogeneity of variances of the groups was retained. As displayed in Table 3, the non-significant results of the Levene's test ($F(2, 97) = .220$, $p > .05$) indicated that the three groups enjoyed homogeneous variances on pretest of reading.

Table 3

Test of Homogeneity of Variances: Pretest of Reading by Groups

| | Levene Statistic | df1 | df2 | Sig |
|--------------------------------------|------------------|-----|--------|------|
| Based on Mean | .322 | 2 | 97 | .726 |
| Based on Median | .220 | 2 | 97 | .803 |
| Pretest | | | | |
| Based on Median and with adjusted df | .220 | 2 | 96.256 | .803 |
| Based on trimmed Mean | .330 | 2 | 97 | .720 |

Table 4 displays the descriptive statistics for the three groups on the pretest of reading. The results showed that the RRT ($M = 13.79$, $SD = 1.67$), RT ($M = 12.96$, $SD = 1.77$) and control ($M = 13.23$, $SD = 1.85$) groups had fairly close means on pretest of reading comprehension.

Table 4
Descriptive Statistics; Pretest of Reading by Groups

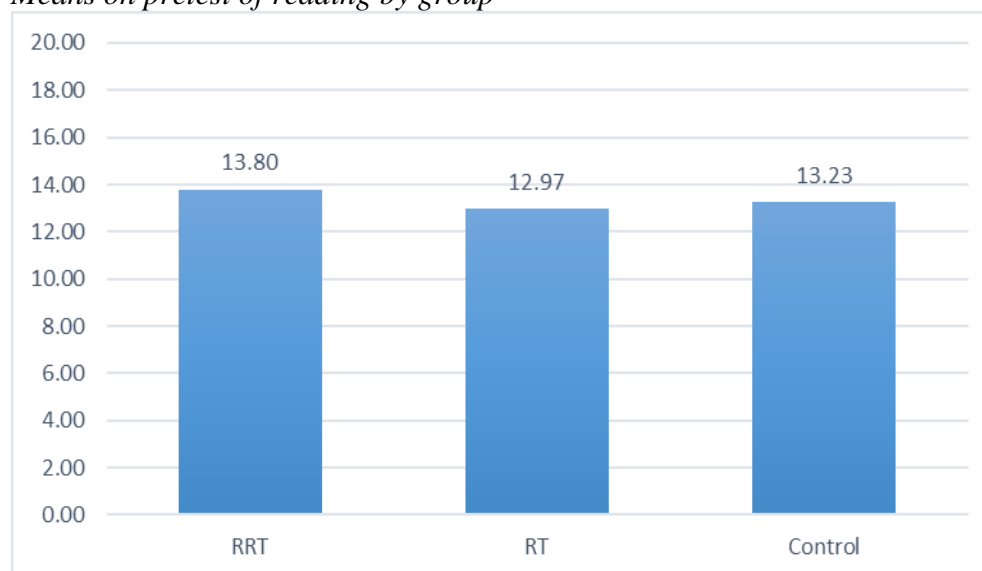
| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | |
|---------|-----|---------|----------------|------------|----------------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| RRT | 38 | 13.7961 | 1.67539 | .27178 | 13.2454 | 14.3467 |
| RT | 31 | 12.9677 | 1.77335 | .31850 | 12.3173 | 13.6182 |
| Control | 31 | 13.2339 | 1.85510 | .33319 | 12.5534 | 13.9143 |
| Total | 100 | 13.3650 | 1.78073 | .17807 | 13.0117 | 13.7183 |

Table 5 displays the main results of one-way ANOVA. The results ($F(2, 97) = 2$, $p > .05$, $\eta^2 = .040$) representing a weak effect size, indicated that there were not any significant differences between the three groups' means on the pretest of reading. Thus, it can be concluded that the three groups were homogenous in terms of their reading comprehension ability prior to the administration of the treatments.

Table 5
One-way ANOVA; Pretest of Reading by Groups

| | Sum of Squares | df | Mean Square | F | Sig |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 12.486 | 2 | 6.243 | 2.009 | .140 |
| Within Groups | 301.442 | 97 | 3.108 | | |
| Total | 313.927 | 99 | | | |

Figure 1
Means on pretest of reading by group



Results of the First and the Second Research Questions (Post-test on MELAB)

RQ 1: Does implementing “RRT technique” have any significant effect on Iranian EFL learners’ reading comprehension ability?

RQ 2: Does “reciprocal teaching technique” have any significant impact on Iranian EFL learners’ reading comprehension ability?

A one-way ANOVA was run to compare the RRT, RT and control groups’ means on posttest of reading. Before discussing the results of one-way ANOVA on posttest of reading, it should be noted that the assumption of homogeneity of variances of the groups was retained. As displayed in Table 6, the non-significant results of the Levene’s test ($F(2, 97) = .959, p > .05$) indicated that the three groups enjoyed homogeneous variances on posttest of reading.

Table 6

Test of Homogeneity of Variances; Posttest of Reading by Groups

| | Levene Statistic | df1 | df2 | Sig. |
|--------------------------------------|------------------|-----|--------|------|
| Based on Mean | .929 | 2 | 97 | .398 |
| Based on Median | .959 | 2 | 97 | .387 |
| Posttest | | | | |
| Based on Median and with adjusted df | .959 | 2 | 61.260 | .389 |
| Based on Trimmed mean | .970 | 2 | 97 | .383 |

Table 7 displays the descriptive statistics for the three groups on the posttest of reading. The results showed that the RRT group ($M = 17.84, SD = 1.35$) had the highest mean on the posttest of reading. This was followed by the RT ($M = 16.16, SD = 1.47$) and control ($M = 15.77, SD = 2.29$) groups.

Table 7

Descriptive statistics; Posttest of Reading by Groups

| N | Mean | Std.Deviation | Std.Error | 95% Confidence Interval for Mean | | |
|---------|------|---------------|-----------|----------------------------------|-------------|---------|
| | | | | Lower Bound | Upper Bound | |
| RRT | 38 | 17.8487 | 1.35135 | .21922 | 17.4045 | 18.2929 |
| RT | 31 | 16.1613 | 1.47838 | .26553 | 15.6190 | 16.7036 |
| Control | 31 | 15.7742 | 2.29797 | .41273 | 14.9313 | 16.6171 |
| Total | 100 | 16.6825 | 1.95203 | .19520 | 16.2952 | 17.0698 |

Table 8 displays the main results of one-way ANOVA. The results, ($F(2, 97) = 14.25, p < .05, \eta^2 = .227$) representing a large effect size, indicated that there were significant differences between the three groups’ means on the posttest of reading. Thus it can be concluded that the null-hypothesis **was rejected**.

Table 8
One Way ANOVA; Posttest of Reading by Groups

| | Sum of Square | df | Mean Square | F | Sig. |
|----------------|---------------|----|-------------|--------|------|
| Between Groups | 85.677 | 2 | 42.838 | 14.252 | .000 |
| Within Groups | 291.555 | 97 | 3.006 | | |
| Total | 377.232 | 99 | | | |

Table 9 displays the results of post-hoc Scheffe's tests. Based on these results and the descriptive statistics displayed in Table 7 it can be concluded that;

A: The RRT group (M = 17.84) significantly outperformed the control group (M = 15.77) on the posttest of reading (MD = 2.07, $p < .05$).

B: The RRT group (M = 17.84) significantly outperformed the RT group (M = 16.16) on the posttest of reading (MD = 1.68, $p < .05$).

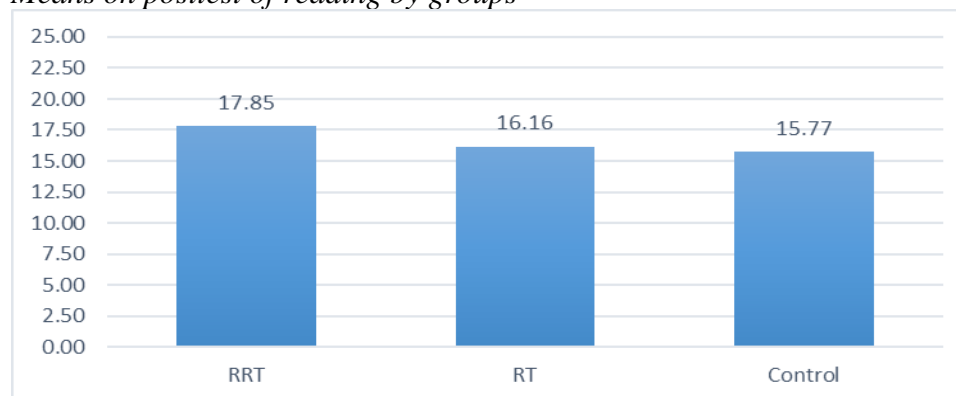
C: There was not any significant difference between the RT (M = 16.16) and the control (M = 15.77) groups' means on the posttest of reading (MD = .387, $p > .05$).

Table 9
Post-Hoc Scheffe's Tests; Posttest of Reading by Groups

| (I) Group | (J) Group | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|-----------|-----------|-----------------------|------------|------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| RT | Control | .38710 | .44036 | .681 | -.7077 | 1.4818 |
| RRT | RT | 1.68739* | .41959 | .001 | .6443 | 2.7305 |
| | Control | 2.07449* | .41959 | .000 | 1.0314 | 3.1176 |

*. The mean difference is significant at the 0.05 level.

Figure 2
Means on posttest of reading by groups



Results of the third research questions

Q3: What are the Iranian EFL learners' perceptions of RRT?

In this study, following the second model of mixed-method research design recommended by Steckler et al. (1992), the qualitative data collection and analysis were also used to support and interpret the quantitative findings. In this regard, the semi-structured interview was organized and conducted with each member of the RRT experimental group to explain the reflective reciprocal teaching instruction model's effectiveness on the learners' reading comprehension ability. Afterward, their answers to the interview questions were recorded, transcribed, and analyzed. The coding process in this study resulted in 2 broad themes and different subthemes. In particular, themes emerging from the data analysis were categorized into two main groups, sense of value and self-regulated learning (See appendix C). The first theme, sense of value, was then divided into its components, confidence and intrinsic motivation, which the latter itself consisted of encouragement, value/usefulness, holding attention, and interest/ enjoyment. The majority of the learners believe that being engaged in the RRT instruction activities increased their level of self-confidence because of giving them the chance to express their thought and needs, set their own goals, and self-assess their learning. Also, receiving helpful information, support, and assistance from their teacher and peers made them more confident to experience many new challenges. Most participants also referred to the encouragement factor attributed to the teacher's role and the method itself. The participants admitted that they enjoyed the learning process, which was a new experience. The second category was self-regulated learning, in which learners' autonomy, perceived competence, metacognitive awareness, and creativity played essential roles. Learning through the reflective reciprocal teaching technique introduced as a learner-centered instruction provided the best opportunities for using SRL strategies dealing with setting goals, having a plan through the learning process, seeking social assistance, monitoring, and self-evaluating (Maftoon & Tasnimi, 2014). In a nutshell, participating in different RRT activities made the learners active, responsible, and independent regarding the learning process. Concerning this matter, most of the learners admitted that they became independent and felt autonomous at the end of the course due to many opportunities they had to set their learning goals, self-assess their accomplishments, and do many reflections on their performances.

Perceived competence dealing with one's feeling of confidence regarding his/her ability in doing a task efficiently (Reynolds et al., 2009) was another subtheme deduced from the learners' perception. In other words, learners' responses to the interview questions also indicated that being engaged in reciprocal teaching and learning activities and reflective practices comprising new assessment methods increased their confidence level to achieve their goals. This effort also enhanced their ambiguity tolerance when exposed to complex or unexpected challenges. It made them more satisfied with the types of corrections, revisions, and feedback they received from their peers or teacher. They also confessed that receiving formative feedback and indirect reactions to their mistakes provided gave them another chance to recognize their strengths and weakness and persuaded them to do their best to fulfill their accomplishments. Furthermore, learners' better understanding of the text using the essential strategies could be considered the other noticeable consequence of using the RRT instruction.

Besides autonomy and perceived competence, metacognitive awareness was another factor achieved via reciprocal teaching and reflective practices when the learners were engaged in comprehension-fostering and comprehension-monitoring activities. In other words, these techniques paved the way for them to set their personal goals in learning, examine the quality of their work, and monitor their progress constantly.

The last subdivision of the self-regulated learning theme extracted from the learners' perception refers to the creativity increased due to the newly introduced instruction. In simple words, as they believed, their creativity was fostered by utilizing cooperative learning. This

increase was also due to the teacher's facilitative role and reflective practices. Precisely, it is deduced that numerous repetitions of the details done through group work followed by reflective practices provided long-term learning necessities. Therefore, cooperative learning and reflective thinking activities paved the way for them to visualize different issues from different dimensions and made them more critical through their reading process.

Furthermore, it is worth mentioning that despite the strengths of this technique, some students said some of its weaknesses in terms of frustration resulted from anxiety-provoking and time-consuming activities.

To sum it up, the results obtained from both quantitative and qualitative phases have proved that the RRT technique can improve the learners' reading comprehension ability.

Discussion

The newly introduced instruction model is theoretically based on proleptic teaching, which deals with procedures typically detected during apprenticeship instruction centered on modeling and coaching students (Palincsar & Brown, 1984). This model's primary concern is teaching higher-order cognitive strategies by modeling, collaborative activities, and using prolonged techniques promoting self-correction monitoring skills (Collins et al., 1988). Research has shown that the cognitive apprenticeship model leads to significant student writing ability improvements (Boling & Beatty, 2010). It also has a substantial contribution to learning and teaching effectiveness (De Jager et al., 2002), problem-solving (Johnson & Fischbach, 1992), and autonomy, confidence, and awareness (Glazer, 2004). Accordingly, the current research results can be placed within the context of the mentioned studies focusing on the effectiveness of a new instruction model of cognitive apprenticeship dealing with introspective and retrospective reflections on reading comprehension ability. Also, its findings are generally aligned with the results obtained from other studies such as the one done by Palincsar and Brown (1984), and specifically with those mainly focused on the effect of coaching and modeling on the learners' reading comprehension ability (Davis et al., 2017; Matsumura et al., 2013).

Furthermore, other issues contributed to this model, such as cooperative learning, explicit teaching strategies, reflective practices, self-assessment, and significant others, could have helped to gain this result. Many studies examining the impact of these issues on reading comprehension ability could support the new model of instruction's effectiveness. For instance, in an investigation done by Newman (2007), the impact of explicit and scaffold instruction was examined on third-grade students' reading comprehension. According to its results, it was concluded that the mentioned treatment creating a collaborative environment with appropriate scaffolded instruction could improve learners' expository text comprehension via using graphic organizers.

Besides the mentioned issue, the RRT instruction is dealt with reflective practices, distinguishing it from other similar studies in this scope. In this issue, it is believed that utilizing reflective inquiry makes instructional settings more flexible because of paving the way for the learners to assess their accomplishments and failures in a constructive environment. It could also increase their self-awareness through personal experience (Florez, 2001). In this regard, the findings of many studies indicating the effectiveness of reflective practices on different ELT issues could be in line with the current study results (e.g., Greenwood, 2010).

The study results also indicated no significant difference between the control group and the experimental group that received the RT technique. This result is similar to the study done by Hou (2015), concluding that RT doesn't have any impact on the development of the individual skill of metacognitive awareness and reading comprehension ability. This defeat was related to some factors such as insufficient time duration dedicated to practicing reading and culture

boundedness of text orientations. However, many other studies have found that reciprocal teaching is a successful technique in improving students' reading comprehension ability (e.g., Ashegh Navaie, 2018; A'yun & Yunus, 2017). The inconsistency in the results of these two sets of studies can be attributed to several explanations. First, the RT instruction period might have been too short for teaching essential aspects of reciprocal teaching techniques. In other words, it is claimed, "there was not enough time for students to transfer strategies learned in reading and listening settings" (Ojo, 2015, p. 16). This shortage could be compensated by using some extra out-of-class practices providing more opportunity to thinking critically on every aspect of a strategy used during the class session. Also, the number of reading texts practiced during this time frame could determine learners' success using the mentioned strategies. Concerning these matters, Rahimi and Katal (2013) pointed to the vital role of time and practice in successfully applying techniques.

Finally, according to the fact that the difference between the two experimental groups in the current study is due to the type and amount of reflective practices dealing with introspective reflection done using conferencing and the thinking aloud technique and retrospective reflection done via compiling reflective learning portfolios, it seems that this shortage could be considered the leading cause of this consequence. Learners receiving the RT instruction had some co-reflection experiences being similar to Schon's view regarding reflection in action referring to "active evaluation of thoughts, actions, and practices during the action. It also refers to 'thinking on feet' during the process of teaching (Schon, 1987 as cited in Iqbal, 2017, p. 66) or reflecting while doing task. However, this view was criticized by Boud and Walker (1998) because of neglecting the critical features of the context of reflection. On the other hand, there were many opportunities in another experimental group to do a reflection on their performances being similar to introspection on performances. Using thinking aloud as a technique raising learners' awareness of becoming strategic readers (Jahandar et al., 2012) and making learners engaged in conferencing, the teacher provided the best opportunity for them to think and reflect during the process of reading. In addition, being engaged in compiling their portfolios, learners had another chance to reflect on what they did. In other words, this activity paved the way for them to do retrospective reflections on their learning process.

In the second phase of this study, a semi-structured interview was implemented with 38 participants of the RRT group. As a result of content analysis, some central themes emerged, which manifested the improvement of the learners' reading comprehension ability. In other words, learners being asked about dis/advantages of the RRT technique mentioned that their confidence and intrinsic motivation considered as the essential factors in developing and fostering reading comprehension ability (Bagreri & Faghih, 2012) were enhanced via the RRT technique. According to their explanations, cooperative learning made them more confident because it provided them many practice opportunities to use different reading strategies and share their ideas with others. Additionally, working together to fulfill shared goals made them aware of the extent to which their opinions were true and accepted. It also intrinsically motivated them to do their best in fulfilling the assigned objectives. Supporting this claim, Johnson et al. (2014) suggested that making positive interdependence between a group's members increases learners' motivation and contributions. Scrutinizing their perceptions also revealed the effectiveness of reflective practices regarding these issues. This finding is in line with the results of previous studies, such as the one done by Zohrabi and Yousefi (2016) on advanced EFL learners indicating the significant impact of reflective teaching on learners' intrinsic motivation and their willingness to communicate (WTC).

Self-regulation was also introduced as one of the most significant dimensions of the RRT instruction reflected in four attributes of autonomy, perceived competence, metacognitive awareness, and creativity. Participants gained self-control, support, and satisfaction in doing

interesting activities included in the RRT technique in terms of autonomy. In other words, according to their perceptions, both cooperative learning and reflective practices paving the way for them to employ metacognitive strategies such as self-monitoring, made them aware of their strengths and weaknesses and helped them to read autonomously. This assertion is in line with some previous researches indicating that reflection and reflective practices could enhance learners' autonomy (e.g., Fithri, 2015; Nezakatgoo, 2011).

Perceived competence was another subtheme deduced from the content analyses. In this issue, Nahl (1993) believed that learners being more confident regarding their capabilities are more successful and more satisfied in their achievements. Following this assertion, most of the participants of the present study referring to the facilitative role of learning strategies they learned and used in the RRT instruction, asserted that scanning, summarizing, using top-down and bottom-up strategies, categorizing, paraphrasing, chunking, finding the main idea, clarifying, questioning, and making inferences which were included in the explicit teaching instruction helped them a lot to comprehend reading passages and gave them a chance to touch their capabilities in fulfilling the instructional objectives. Numerous studies have shown the positive effect of learning strategies on students' success (e.g., Covington, 2000; Watkins et al., 2003).

Another critical issue extracted from the participants' explanations was metacognitive awareness. As mentioned previously, effective reading comprehension can be achieved by using various skills and metacognitive strategies dealing with the planning, monitoring, and evaluating the reading process (Dabarera et al., 2014). Accordingly, being engaged in different RRT activities, including these processes, helped learners control their thoughts and learning activities. Regarding this matter, Israel et al. (2005) believed that making learners meta-cognitively aware during reading could increase their reading comprehension ability. This conclusion is in line with other researches such as the one done by Salataci and Akyel (2002) aiming to explore the effectiveness of strategy instruction on EFL learners' reading strategy use and reading comprehension in English and Turkish. The study results indicated that metacognitive strategies affect students' reading comprehension ability in both English and Turkish languages.

Also, most participants asserted that collecting and keeping portfolios used as a reflective practice and a self-monitoring tool during this treatment made them aware of their weaknesses and strengths in their reading strategy use. It also created a good sense of agency and autonomy during the learning process because of assisting them to work independently by collecting, revising, and assessing their work. Accordingly, having received regular feedback from their teacher and doing self-reflection over their works made them aware of their accomplishments and gave them focused attention on their strengths and weaknesses regarding their learning process. Previous researches have also proved the benefits of using portfolios to reflect teaching techniques in the learning process (Erice, 2008; Nunes, 2004).

Moreover, the findings revealed that the learners' creativity was fostered due to the impact of the RRT instruction. The importance of this issue could be crystallized by considering the vital role of cognitive and metacognitive reading strategies having a strong relationship with the learners' creativity. Concerning this matter, it is believed that possessing creative thought lets the learners consider each item from different dimensions, be aware of stimulation, process and organize what they have noticed, and make a unique combination by the analyzed elements (Rezaei & Almasian, 2007). This issue's importance could be supported by Runco's (2004) assertion, who believed that making a creative atmosphere in the classroom increases and improves language learning. Cooperative learning is nominated as the effective means of providing such an atmosphere (Mehdizadeh et al., 2013). This assumption accords with the study done by John and Meera (2014), by which the effectiveness of cooperative learning on increasing learners' creative thinking abilities was shown. Likewise, the results of this study indicated that

cooperative learning and reflective practices had a major contribution to the learners' creativity. In other words, it is deduced that numerous repetitions of the details done through group work followed by reflective practices provided the necessities of long-term learning. That's to say, cooperative learning and reflective thinking activities paved the way for them to visualize different issues from different dimensions and made them more critical through their reading process. Besides the instructional techniques and materials, the teacher's role was to make a creative vision regarding analyzing issues from different dimensions. The learners' responses in this study indicated that their teacher's role in creating practical challenges and making an environment where responsibility for leadership was shared among the participants was so stimulating in such a way making them trusted to their judgments and encouraged them to take risks and test their assumptions.

Despite the learners' positive attitudes towards the mentioned instruction, some of them asserted that they experienced much confusion and frustration when adapting to the new method because of the anxiety-provoking activities and time-consuming tasks they were exposed to for the first time. This frustration may be attributed to their lack of content knowledge (Alhosni, 2017; Fithri, 2015). However, according to their views, their anxiety was reduced in the proceeding sessions via portfolios. This consequence could be supported by other investigations indicating the effectiveness of portfolio assessment on decreasing learners' anxiety (Huang, 2012; Ozturk & Cecean, 2007). Considering portfolio as a time-consuming activity was another issue mentioned by some of the learners. According to their perceptions, compiling a portfolio requires lots of time and energy. Concerning this matter, Suwaed (2018), in his investigation aiming to explore the Libyan learners' perception towards using portfolio assessments in the writing classroom, claimed that the participants generally preferred to be evaluated by portfolio assessment. However, some participants chose traditional pen-and-paper tests because they found portfolios a time-consuming activity and an extra burden.

Conclusions

The primary focus of educational innovations is on qualifying learners to become self-regulated, being one of the fundamental goals in education. Fulfilling this aim, practicing and training self-regulation, enabling learners to take more responsibility for their learning, and assisting them in perceiving their agentive role in an active constructive learning process has been highly recommended (Maftoon & Tasnimi, 2014). Correspondingly, this article tried to shed light on the effectiveness of a new instruction model following self-regulation models' principles on EFL learners' reading comprehension ability. Applying the methodological triangulation using the data obtained and analyzed through quantitative and qualitative phases, the results of the current study indicated that the RRT instruction could be considered a dependable model to foster the learners' reading comprehension ability. In the light of this assumption, the findings of this study have several crucial implications for language teachers, particularly EFL instructors, in terms of providing the best opportunities to cultivate self-regulated learning and language learners by focusing on the effectiveness of reflective practices, cooperative learning, explicit teaching of strategies, scaffolding and alternative assessment on their reading comprehension ability. Moreover, contributing reflective practices to teaching and learning activities can develop learners' transferable skills such as reflection, critical thinking, cooperation, and assessment (Altinay et al., 2008). Also, making learners meta-cognitively aware of what they do and increasing their monitoring skills during learning could be accomplished by integrating alternative assessment techniques such as self-assessment (Andrade & Du, 2007). Therefore, incorporating metacognitive questions to help learners self-assess their works, self-monitoring activities supported by the teacher, and peer feedback could help learners become self-regulated and increase their capability to expose to different challenges during the learning process

(Siegesmund, 2016). Besides metacognitive awareness and self-monitoring skills developed due to the effect of the reflective practices, the results gained, especially from the qualitative phase of this study, revealed the effectiveness of cooperative learning and explicit teaching strategies on reading comprehension ability. In other words, by learning reading strategies and being aware of using them through the reading process, learners become autonomous and independent in their learning process and in fulfilling their reading objectives (Dickinson, 1987).

Finally, this study has some practical and promising implications for material developers who should enrich the course books and reading materials with the exercises and activities requiring the learners to use the learning and especially reading strategies independently. They could also pave the way for the learners' lifelong learning by designing materials based on their differences.

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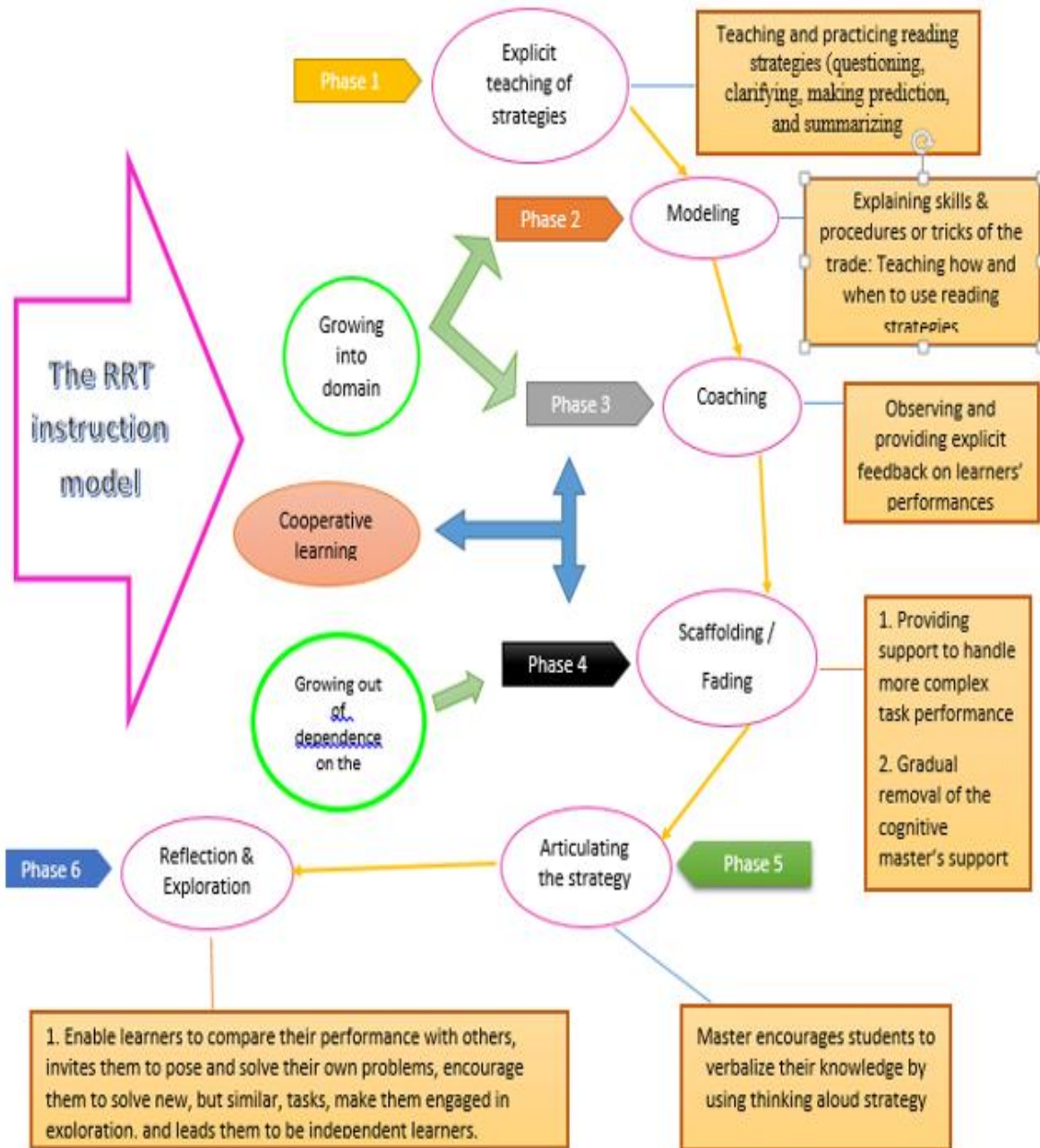
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Appendices**Appendix A***The CEFR levels*

| | | |
|-------------------------|----|---|
| PROFICIENT USER | C2 | Can understand with ease virtually everything heard or read. Can summarise information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in more complex situations. |
| | C1 | Can understand a wide range of demanding, longer texts, and recognise implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices. |
| INDEPENDENT USER | B2 | Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options. |
| | B1 | Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes & ambitions and briefly give reasons and explanations for opinions and plans. |
| BASIC USER | A2 | Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need. |
| | A1 | Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has. Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help. |

Appendix B
The Reflective Reciprocal Teaching Model of Instruction



Appendix C

The EFL learners Perceptions towards the RRT instruction: Themes and Subthemes

