An Activity Theory Perspective on the Role of Cooperative Assessment in the Reading Comprehension of Iranian EFL Learners

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Abstract

Reading comprehension has recently been reconceptualized in English as a Foreign Language (EFL) reading instruction to foreground the importance of putting a social perspective on learning. Developed as a crucial aspect of Vygotskian sociocultural theory, activity theory views reading as a socially-mediated activity, for which the prerequisite cognitive processes are distributed among the teacher, individual reader, other students, and the artifacts. Given that cooperation and division of labor are the central tenets of activity theory, this study aimed at investigating whether assessing cooperative learning had a decisive effect on the reading comprehension of Iranian EFL learners. To this end, 60 sophomores majoring in English translation at Islamic Azad University, Central Tehran Branch, were selected as the participants of the study. The reading instruction was geared to cooperative learning based on the elements of activity theory. Over the course of 12 weeks, both the process and products of cooperative reading were self-, peer-, and instructor-assessed. The findings indicated that assessing cooperative reading through the lens of activity theory had a significant effect on the participants' reading comprehension. In addition, there was a statistically significant difference between the products of cooperative reading in predicting the participants' reading comprehension posttest scores. Furthermore, the results showed that the participants held favorable perception toward activity theory-based cooperative assessment. The findings are hoped to shine a light on collective reading and highlight the need for more innovative constructivist approaches to EFL reading instruction in Iran.

Keywords: Activity theory, cooperative assessment, cooperative learning, reading comprehension

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INTRODUCTION

As human activity changes at a rapid rate to communicate with diverse cultures, the necessity of preparing learners for social interaction is deemed essential. In this respect, several theories provide a social perspective on second language acquisition (SLA), such as Lantolf's (2000) sociocultural SLA, Block's (2003) social turn, and Johnson's (2006) sociocultural turn. The commonality of these orientations is that SLA is viewed as a second language activity, reflecting the interaction between language learning and social context. The paradigm shift from a cognitive orientation to a social orientation, however, does not mean that cognition should no longer be privileged in human learning. Rather, human cognition is socially mediated through cultural artifacts, which is the central premise of Vygotsky's sociocultural theory.

Sociocultural theory has been increasingly influential in educational settings where the notions of the zone of proximal development and scaffolding are noticeably well-known (van Rijk, Volman, Haan & van Oers, 2017). Similarly, in L2 language education, there is a great deal of interest in the sociocultural approach to learning. Among L2 macro-skills, reading is a crucial skill for academic purposes in EFL/ESL settings (Grabe, 2014). In other words, the significance of the reading skill becomes critical when students start their study at the tertiary level and are required to read for the meaning. In the realm of sociocultural theory, reading for the meaning means "extracting and constructing meaning through interaction and involvement with text" (Snow, 2002, p. 11). In other words, the meaning construction through reading requires the reconstruction of cultural knowledge and its association with personal meaning (van Oers, as cited in Rijk et al., 2017).

Despite considerable research having been devoted to sociocultural theory, according to van Rijk et al.'s (2017) claim, in actual practice, it has not fully been articulated in the reading literature. As for the ESL/EFL setting, although some studies (e.g., Bauer, 2018; Gheisari, 2017) supported

the positive role of sociocultural theory in reading comprehension, the paucity of similar published research is a noticeable lack concerning Iranian EFL tertiary education.

LITERATURE REVIEW

Activity Theory and Cooperative Learning

As a branch growing out of Vygotskian theory, activity theory (AT) also unites cognition and practical social activity (Daniels, 2001). Notwithstanding the individualism focused in the lineage, AT offers collective activity as the fundamental unit of analysis (Engeström, 1987, 2001; Leont'ev, 1978). That is to say, the triadic mediation between subject(s) and object through artifacts is expanded to include three more components, namely division of labor, community, and rules within a social context that is called the activity system (Figure 1). In other words, an activity system integrates all six components in a unified whole.
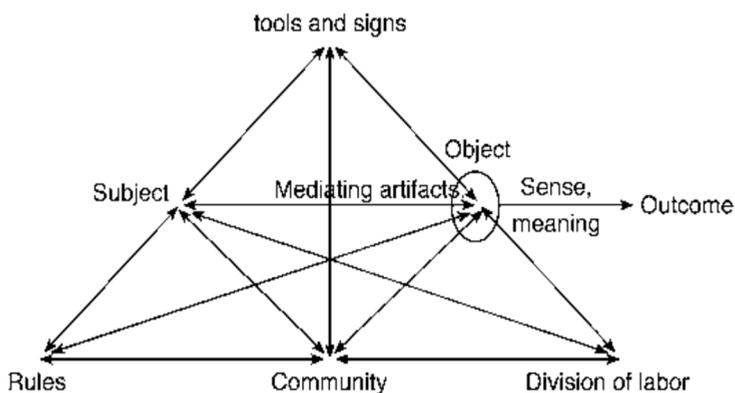

Figure 1: The structure of a human activity system. (Adopted from Engeström, 1987, p. 78)

In any activity system, as Engeström (1993) explains, subject is the individual or sub-group whose agency is the focus of analysis, while object is what the activity is directed at. Mediating artifacts refer to instruments

used to achieve the object and transform it into an outcome. Community refers to individuals sharing the same object. Rules are any explicit and implicit regulations, norms, and conventions that regulate the actions and interactions in the activity system. Finally, division of labor refers to the horizontal division of tasks among the members of the community and the vertical division of power and status.

AT has recently sparked researchers' interest in educational research. In Thorne's (2004) words, for example, through the lens of AT, we "consider the goings on in a classroom or school as an activity system" (p. 52). Concerning SLA, According to Yang (2013), using AT as an instructional framework can improve the conditions and outcomes of teaching and learning by offering additional mediation and different rules of engagement, and by forming a community of individuals, each with different histories.

To Stetsenko (2005), however, the most contested and unresolved issue in AT is arguably "reconciling the view of human development as being a profoundly social process with the view that individual subjectivity and agency make the very process of human development and social life possible" (p. 71). Stetsenko conceptualizes that the collective practices of artifact production, social processes of collaboration, and human subjectivity co-evolve and mutually determine each other. Such a view, as Stetsenko asserts, may overcome the dualism between individual and social processes by highlighting the agentive role of individuals within a social and collective activity.

In SLA, one instructional approach that places considerable emphasis on both the individual self and the collective activity is possibly cooperative learning (CL). As for theoretical background, CL is also rooted in sociocultural theory and the concept of the zone of proximal development (Clapper, 2015). Cooperation is "working together to accomplish shared goals" (Johnson, Johnson & Smith, 2013, p. 3), similar to an object-oriented activity. To Johnson et al., CL is mainly relied on the social interdependence theory, based on which the essence of a group is the interdependence among members, resulting in a dynamic whole. Such a basic assumption is not

dissimilar to the notions of subjects, community, and division of labor in an activity system.

Another integral element of CL is individual accountability. As Johnson et al. (2013) argue, each group member should have a specified responsibility to complete one's share of the work and facilitate the work of other group members. Individual accountability exists "when the performance of each individual student is assessed and the results are given back to the group and the individual" (Johnson & Johnson, as cited in Johnson et al., 2013, p. 5). Through this element, one can make sure that each individual group member's performance is stressed rather than overlooked at the expense of interdependent group performance.

In the current study, it is suggested that AT-based CL offers a promising framework to understand the dualism between the individual action and the collective activity by laying the emphasis on learners' contributions to the shared outcomes. However, AT-based CL is unlikely to attract interest in mastering EFL skills, such as reading comprehension.

Reading Comprehension: A Social Activity

In the realm of SLA, whether reading comprehension (RC) is either a solitary or social activity has been a matter of debate. To Klapper (1992), one problem with EFL reading is that it is by nature a solitary activity, and many consider it the least teachable of the four language skills since learners can develop it naturally in the course of their EFL learning. According to Grenfell (1992), reading is also regarded as the least inhibiting of the four skills as learners can read at their own pace, re-read, check, and respond with their own thought patterns. Consequently, reading can play a significant role in creating independence for language learners by lifting the burden of responsibility from teachers' shoulders and shifting it to learners. Nevertheless, such a stance on reading, if not properly taken, may make mediated reading instruction unprofitable for learners, which gives rise to skepticism about the social aspect of reading.

In practice, probably, one challenge Iranian EFL learners might meet at their tertiary education is that reading is presupposed to be a boring and uninteresting skill. The reason for this may stem from ineffective learning strategies, unhelpful instructional activities, and/or inappropriate materials in terms of the content or level of difficulty. Moreover, the sheer boredom with reading is exacerbated by administrative constraints. Reading classes, in most Iranian universities, are held once a week for two 90-minute sessions since reading courses are mainly four-credit. Such a long time for one class (three hours), with the same materials, instructor, classmates, and setting can be exhausting for students.

Theoretically, RC is a complex construct and probably has a multi-divisible nature (Alderson, 2000). Moreover, it is unclear "what effects the linguistic and sociocultural characteristics of L2 learners have on the course of reading processes" (Droop & Verhoeven, 1998, p. 93). Therefore, the role sociocultural factors play in L2 reading cannot be overlooked (Grabe, 2009). From a sociocultural standpoint, RC is not the product of a single reader's individual activity. Rather, it is socially constructed and a language-mediated process (Sweet & Snow, as cited in Commander & de Guerrero, 2013).

To Cole and Engeström (1993), RC should be revisited as a social activity in EFL classrooms where comprehension is mediated through artifacts, rules, and division of labor among members of a community, yet empirical studies are too rare in this regard. The first study on the role of AT-based instruction in learners' RC was carried out by Cole and Engeström (1993). In their sketch of RC activity system, the subjects were the individual readers and the object was reading for the meaning. Artifacts, rules, community, and division of labor were defined as mediating elements between the two. Having observed the process of their reading instruction, the researchers concluded that over the course of the sessions, the ability of the learners to read for the meaning increased although there was no quantitative measurement of the product of AT-based reading instruction.

In a similar study, Turk (2006) benefited from role-based group work

proposed by Cole and Engeström (1993). For division of labor among Japanese students studying English, Turk specified four reading roles namely, main ideas seeker, bibliographer, vocabulary builder, and collocations. He found that the integration of group and individual tasks could positively affect the participants' reading performance. Menendez (2009) also examined the effect of a teacher- and computer-mediated reading instruction program through the lens of AT and reported promising results. Furthermore, in some studies on RC, AT has been used as a qualitative research framework for data analysis (e.g., Hassaskhah, Barekat & Farhang Asa, 2014; Liaw & Huang, 2014; Liu, 2015; Yang, 2012). Although some empirical research findings on the applications of AT in education are found in the literature – see Grigoryan and Babayan (2017) and Kelahsarayi and Sadeghi (2017) for reviews of AT studies in education – as a less-tapped domain of research on RC, AT seems an area in dire need of further investigation.

AT-based Cooperative Assessment and RC

As Wyeld (2013) asserts, in AT, distributed cognition helps instructors understand how learning activities are realized cooperatively. In other words, central to AT are the cooperation and division of labor among community members. CL is a well-known approach to EFL RC. Using CL in reading instruction is beneficial in that students learn "how to deal with conflicts, consider others perspectives, negotiate how to proceed with tasks, and share ideas" (Gillies, 2003, p. 36). In the relevant studies integrating CL into reading instruction (e.g., Klingner & Vaughn, 1999; Palincsar & Brown, 1984), learners were assigned different tasks, i.e., effective reading strategies. Put another way, for division of labor, strategic roles are distributed among group members to achieve a shared outcome: Comprehending the reading material. According to Vaughn and Edmonds (2006), division of labor in CL helps learners read more efficiently by sharing tasks and employing comprehension strategies.

Sharing roles among members of a cooperative group, nevertheless, may not be enough "to give learners sufficient motivation to be contributing members of a group" (McWhaw, Schnackenberg, Sclater & Abrami, 2003, p. 81). To McWhaw et al., some learners still need extrinsic motivation which only grades can provide. Hence, assessment is viewed as a motivator for student effort (Pitt, 2000), and it might be a desirable element to group work performance (Plastow, Spiliotopoulou & Prior, 2010).

In order to help EFL learners foster their RC through AT-based cooperative assessment, both the process and product of CL should be assessed, as suggested in Falchikov's (1986) study. Cooperative assessment, accordingly, is defined as one type of formative group assessment, through which both the process and product of an individual's cooperative performance are assessed by the instructor, the peers, and the learners themselves. Regarding RC, the process of cooperative reading refers to the level of EFL learners' division of labor, cooperation, and contribution to group work to comprehend the reading passages in a cooperative group, while the product of cooperative reading refers to the four reading tasks, including summarizing, outlining, graphic organizing, and self-questioning, which should be carried out individually as homework assignments. These four tasks are included on a list of effective reading strategies, compiled by Grabe (2009). Furthermore, they are types of generative learning strategies, helping students interact with the material to generate personalized meaning (Wittrock, 1974).

PURPOSE OF THE STUDY

The present study can be significant from a number of perspectives. Firstly, the literature shows that most studies on AT are qualitative in nature and quantitative reports are rare (e.g., Cole & Engeström, 1993; Liaw & Huang, 2014; Liu, 2015; Yang, 2012). In essence, due to the multi-variable nature of AT as a research framework, quantitative data seemed insufficient for valid interpretations of the results. The current study is a mixed methods

research combining both quantitative and qualitative research methods for the purpose of triangulating the data. Secondly, the study focuses on group assessment as a neglected literacy in L2 classroom-based assessment. In addition, the notion of cooperative assessment, which is proposed and used in the current study, opens a new paradigm in assessing both individual accountability and group performance. Finally, the study explores how RC can be formatively assessed using performance-based tasks, such as outlining, graphic organizing, and self-questioning, which are not widely-recognized techniques for assessing reading.

Although a considerable amount of research has been accumulated on the impact of CL on EFL/ESL learners' RC, to the best of the researchers' knowledge, no study has so far targeted AT-based CL, or more precisely, AT-based cooperative assessment. The current study, accordingly, aimed at examining whether AT-based cooperative assessment had any statistically significant effect on the RC of Iranian EFL learners. To this end, the following research questions were raised:

1. Does AT-based cooperative assessment have any significant effect on the RC of Iranian EFL learners?
2. Among summarizing, outlining, graphic organizing, and self-questioning, which one is the strongest predictor of Iranian EFL learners' RC?
3. How do Iranian EFL learners perceive AT-based reading instruction?

METHOD

Participants

The participants of this study were 60 male and female Iranian EFL sophomores enrolling in two reading classes at Islamic Azad University, Tehran Central Branch. All participants, ranging in age from 19 to 24 years old, received the same method of instruction provided by the same instructor, the first author of the present article. The participants, majoring

in English translation, were taking a four-credit course, Reading Comprehension III, which is usually presented in the third semester of EFL tertiary education. Convenience sampling was used to choose the participants since randomizing the students was practically impossible for the researchers due to university administration norms.

The participants were selected out of a pool of 85 students based on their language proficiency. As per the results, 68 students whose scores were one standard deviation above or below the population mean (M = 140.56, SD = 7.98) were chosen. In addition, since group work was the integral part of the treatment, the participants' preference for group learning was determined via a learning style preference questionnaire. The results obtained from the questionnaire revealed that six students had a negative attitude toward group learning, preferring individual learning. Therefore, they were excluded from the research population. Furthermore, in order to form equal four-member groups, the instructor/researcher randomly discarded two more students, so 60 participants formed 15 four-member groups. Factors such as age and gender were not controlled in this study.

In addition to the participants of the main study, 43 students majoring in English translation at Islamic Azad University, Tehran South Branch, participated in the pilot study. Furthermore, two EFL instructors sharing almost similar backgrounds in terms of qualifications and teaching experience participated as the external raters. Two experts were also invited to judge the format and the content validity of the designed instruments.

Instrumentation

In order to answer the research questions, several instruments were used. Before the main study, a pilot study was carried out in order to prepare, develop, and pilot the research instruments. A brief description of each research instrument is provided as follows:

1. Allan's 2004 version of Oxford Proficiency Test (OPT) was administered to the students in order to determine their general

English language proficiency. Based on the results, the participants'
general English proficiency was approximately between intermediate
and upper-intermediate.

2. Reid's (1987) Perceptual Learning Style Preference Questionnaire
(PLSPQ) was used to discard those students who did not like
working in groups. The questionnaire targeted at six perceptual
learning styles – visual, auditory, kinesthetic, tactile, group, and
individual on a five – point Likert scale. For the purpose of this
study, only the results of group learning style were analyzed.
Students with group learning style like learning in groups, whereas
students with individual learning style prefer working alone and
being a self-learner.

3. To measure the participants' RC before and after the treatment, the
researchers used the original reading section of an actual TOEFL
iBT test. The reading test had three expository passages with 40
questions. The same test was used as the pretest and posttest since a
sixteen-week time interval between the pretest and posttest seemed
long enough to control for the memory factor among the participants.

4. Twelve expository passages – taken from well-known authentic
magazines – were used as the main reading materials. To select the
passages, the researcher benefited from Nuttall's (1996) criteria for
choosing EFL/ESL reading materials: Suitability of content,
exploitability, and readability. Each criterion was checked and
confirmed by two experienced reading instructors, as well. The
passages were piloted with 43 students similar to the main
participants. The learners' topic of interest was taken into account
for choosing the passages. To this end, the researchers tried to
categorize the students' answers into common domains and then
searched for some relevant texts. After reading the passages, the
students were asked to evaluate the texts as Interesting, All Right, or
Boring. Only interesting passages were selected to be used in the
main study. The chosen passages had 13 levels of readability as

measured by Fry's Readability Index and 1400 words on average. Each passage had a specific rhetorical organization – classification, cause/effect, compare/contrast, and problem/solution. Attempts were also made to choose the passages with American English style and recent articles at the time of the study.

5. To evaluate the products of cooperative reading using instructor-, self-, and peer-assessment techniques, the researchers developed a rating scale with four sub-scales. Each sub-scale was developed to assess one of the reading tasks – summarizing, outlining, graphic organizing, and self-questioning. The rating scale was designed based on Bachman and Palmer's (1996) guidelines for developing analytic scales. Furthermore, the researchers benefited from the procedures followed by Maftoon and Akef (2009) who developed and validated a rating scale to assess the four stages of the writing process, including brainstorming, outlining, drafting, and revising. The designed scale included four sub-scales, each with three components. The components were assessed according to the four levels of performance, namely, Very Good, Good, Fair, and Poor. The intra-rater reliability for the first rater (r = .941) and inter-rater reliability among the three raters (r = .888, r = .908 & r = .903) were also estimated. The developed scale was then validated through factor analysis. According to the results, all 12 components were loaded on four extracted factors, namely: 1) Understanding main ideas versus details, 2) summarizing strategies, 3) self-questioning strategies, and 4) understanding text-organization. The results of factor analysis showed that the designed scale was valid for assessing EFL learners' performance on the four intended reading tasks.

6. The participants' cooperative reading performance was assessed via a rating scale designed based on Johnson and Johnson's (1990) CL principles: 1) Positive interdependence, 2) individual accountability, 3) face-to-face promotive interaction, 4) social skills, and 5) group

processing. These principles were adapted to define the scale components, but the performance levels were holistically assessed through a five-point Likert scale ranging from 0 to 4 (0 = Not enough to evaluate, 1 = Poor, 2 = Fair, 3 = Good, and 4 = Very Good). Two experts participating in the pilot study then confirmed the scale's content validity. In addition, having used the scale to assess their own, as well as their peers', cooperative reading performance, eight participants gave their feedback on the scale format and content ambiguity. Finally, in order to somewhat justify the interpretive use of the scale, one of the external raters was invited to observe the performance of 16 students (four groups) in the pilot class. For each observed group, the external rater evaluated the participants' level of cooperative performance, using the scale. Based on Pearson's product-moment correlation, there was a significant relationship between the two sets of scores given by two raters (r = .684), indicating a fair level of consistency. To achieve a satisfactory outcome, the same procedure was repeated with 36 students (9 groups), which resulted in higher inter-rater reliability index (r = .901). The proofed scale was used for the purposes of instructor-, self-, and peer-assessment in the main study.

7. The participants' perception of AT-based cooperative assessment was determined via an open-ended questionnaire, through which the respondents can give more straight answers. The initial questionnaire included five questions addressing the students' overall evaluation of the course, eliciting their positive or negative perception of the course. The respondents were also required to reflect on the efficacy of the course in terms of RC improvement, major problems and benefits of the course, and suggestions for the improvement of the instruction. Two experts and two experienced raters, who participated in the pilot study, judged the content relevance and representativeness of questionnaire items. Based on their feedback, some questions were modified, added to or deleted from the

questionnaire. The revised questionnaire, including eight questions, was used in the pilot phase of the study to ensure that it would elicit the intended responses and the relevant content from the participants.

8. To elicit more detailed information from the participants and to cross-validate the data obtained from the open-ended questionnaire, the instructor/researcher conducted a semi-structured focus group interview with five randomly-selected groups (20 students) after the treatment. Similar open-ended questions were asked in the interview in order to supply in-depth data. The participants were required to elaborate their responses and give reasons for their answers.

9. A messaging service – Telegram – was used by the instructor/researcher to share some rated samples with class. Some task descriptions, group assignments, and supplementary passages were also shared by both the instructor and the students on Telegram. At the time of data collection, 2017, Telegram was one of the most favorite and convenient messaging applications among Iranian users. Therefore, the participants received no training in the messenger use.

Data Collection Procedure

Data were collected in regular class time and over a period of 17 weeks. Every week consisted of two sessions, each with 90 minutes. The procedures were classified into three distinct phases: Pre-intervention, intervention, and post-intervention.

Pre-intervention

During the first week, the instructor introduced CL principles and administered the OPT and the RC pretest. The participants were then asked to complete the PLSPQ. The subsequent week, the participants were assigned to form four-member groups via self-selection and choose a name and a leader for their group. They were also required to form a virtual group

on Telegram. The students were then instructed how to read the passages within a group and practiced cooperative reading in class. Modeling of tasks was based on the reciprocal teaching procedure, through which the task was first modeled by the instructor, then practiced in groups, and, after that, carried out individually as a homework assignment. All four task instructions were supplied with PowerPoint presentations that were then shared on Telegram. The presentations included task descriptions, task requirements, and samples of the assigned tasks. Finally, in the third week, the participants received training in cooperative-assessment for 90 minutes. They were briefly instructed to use the rating scales for the purpose of self- and peer-assessment.

Intervention

After training, the participants received the treatment based on AT framework for 12 weeks. To this end, an activity system, including the elements of subjects, artifacts, rules, community, division of labor, and object, was designed and used for the EFL reading instruction.

Figure 2 shows the schematic EFL reading activity system. While subjects were individual readers, object was defined as fostering RC of expository texts. Artifacts included reading passages, Telegram, rated samples, dictionaries, etc. Rules were mainly CL principles and self- and peer-assessment requirements. Community included the instructor, group members, other classmates, and so forth. Division of labor referred to sharing roles to read the passages, and dividing tasks to do the individual assignments.

Every session, copies of an unseen passage were distributed to the participants. The group members were assigned to read the passage paragraph by paragraph.
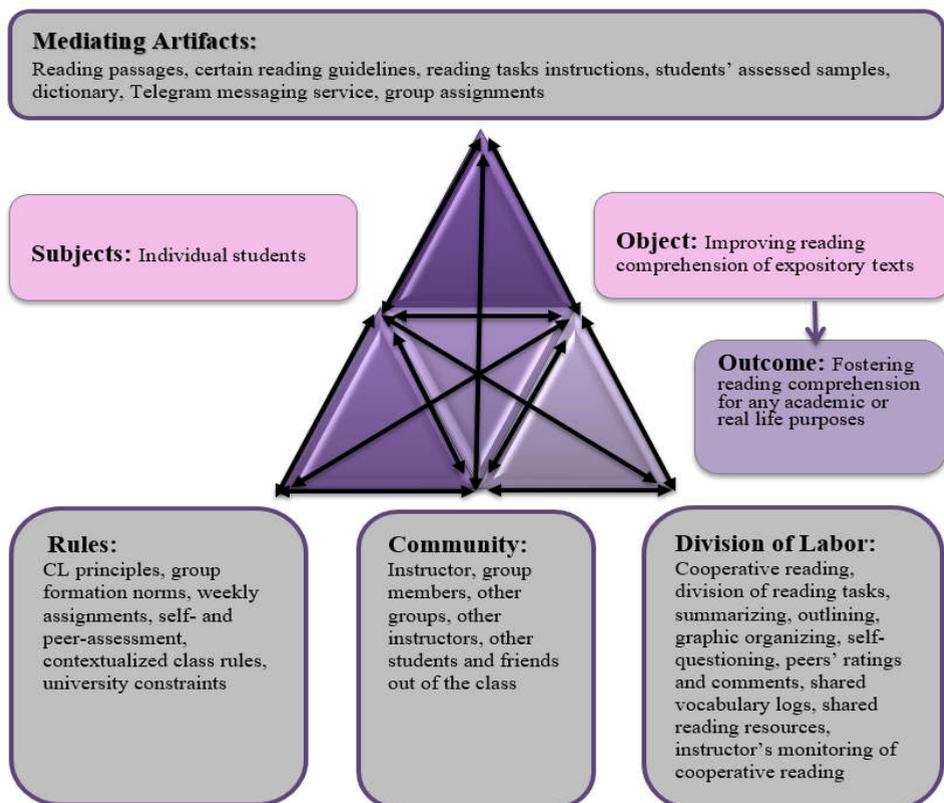
Figure 2: The structure of an EFL RC activity system. (Adopted from Saghaieh Bolghari, Birjandi, & Maftoon (2017, p. 149)

The intervention procedures encompassed four stages of pre-reading, individual reading, cooperative reading, and post-reading. The pre-reading activities centered on the reading strategies of activating prior knowledge, previewing, predicting, and skimming. Firstly, the instructor generated some questions to be discussed in class in order to activate what the participants already knew about a given topic. Next, the participants were asked to preview the title and the picture of the passage to predict the content and share their ideas with class. Later, they were required to skim the passage to guess its rhetorical structure.

The participants were then asked to read each paragraph of the passage individually to guess its main idea and meaning of unknown words, and to underline/highlight the difficult parts. While reading cooperatively, the students were assigned to employ four reading strategies, namely clarifying, finding paragraph structure and transition markers, choosing a title for a paragraph, and restating the gist of a paragraph.

During reading, the instructor made rounds through the classroom and monitored all the groups to judge whether they were on task or called for any assistance. Furthermore, she observed the participants' cooperative performance to assess their individual contribution to the group via the cooperative reading scale. Similarly, the participants rated their peers' level of cooperation using the same scale. Having finished reading, the participants were required to take a critical stance on the passage by forming some evaluative questions and respond to them.

After reading a passage in class, the participants were required to do their individual assignments at home and to submit them to the instructor the subsequent week. To do this, each week, the members of a group divided the four reading tasks of summarizing, outlining, graphic organizing, and self-questioning among themselves. Each group member picked up one of the four tasks. These tasks were supplements to, and associated with, those reading strategies employed for cooperative reading in class. During the treatment, each participant carried out each of the four tasks three times. Division of labor and task rotation were ensured by the group leaders.

Afterward, the participants assessed their own, as well as their group members', assigned tasks using the designed rating scales. The instructor also assessed the students' assignments weekly and returned them to the learners next week. In addition, some samples were shared on Telegram. Figure 3 represents the process of AT-based cooperative assessment in EFL reading instruction.
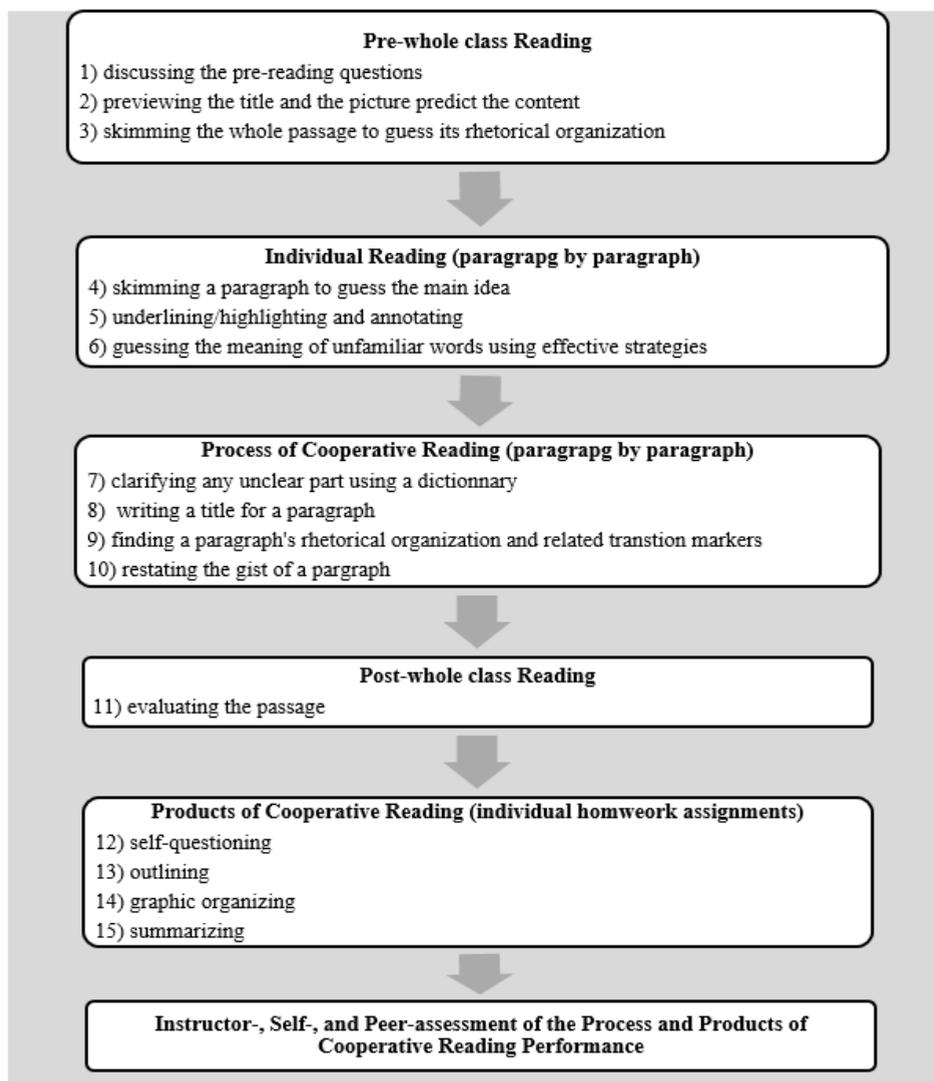
Pre-whole class Reading
1) discussing the pre-reading questions
2) previewing the title and the picture predict the content
3) skimming the whole passage to guess its rhetorical organization

Individual Reading (paragrapg by paragraph)
4) skimming a paragraph to guess the main idea
5) underlining/highlighting and annotating
6) guessing the meaning of unfamiliar words using effective strategies

Process of Cooperative Reading (paragrapg by paragraph)
7) clarifying any unclear part using a dictionnary
8) writing a title for a paragraph
9) finding a paragraph's rhetorical organization and related transtion markers
10) restating the gist of a pargraph

Post-whole class Reading
11) evaluating the passage

Products of Cooperative Reading (individual homweork assignments)
12) self-questioning
13) outlining
14) graphic organizing
15) summarizing

Instructor-, Self-, and Peer-assessment of the Process and Products of Cooperative Reading Performance

Figure 3: The process of AT-based cooperative assessment in EFL reading

In addition, each week, one group was assigned to find a passage with a topic relevant to that of the main passage and share it as a supplementary reading material with class. Sometimes, the instructor specified the topics, but mainly the groups decided on them. The following week, the assigned

group briefly discussed the passage in class to arouse others' interest in reading it. Every week, the instructor also shared another supplementary passage for those who were interested in extensive reading.

Post-intervention

Finally, the questionnaires were administered to the participants, and the semi-structured focus group interview was conducted with five random groups, each lasting for approximately 15-20 minutes. As a final step, the RC posttest was administered to the participants.

Data Analysis

Both quantitative and qualitative approaches were used to analyze the data. In order to explore the effect of AT-based cooperative assessment on the learners' RC, Wilcoxon Rank Test was used. In order to determine the best linear combination of the four reading tasks for predicting RC, multiple regression was run. Finally, content analysis of the transcribed data was performed in order to identify some iterative ideas and then group them into some specified coding frames.

RESULTS

Before the first research null hypothesis was tested, the normality of the distribution of the pretest and posttest scores was assessed. The results are given in the following tables.

Table 1: Test of normality for pretest scores

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest of RC	.135	60	.008	.902	60	.000

Lilliefors Significance Correction

Table 2: Test of normality for posttest scores

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Posttest of RC	.162	60	.000	.902	60	.000

Lilliefors Significance Correction

Table 1 and Table 2 show the results of Kolmogorov-Smirnov and Shapiro-Wilk tests for both set of scores. A non-significant result indicates normality. Based on the results, it was revealed that both the pretest and posttest scores were not normally distributed, $p < .05$. Consequently, the non-parametric Wilcoxon signed rank test was used to compare the means of the pretest and posttest on the participants' RC.

Research Question One

The numerical data for answering the first research question was obtained through the pretest and posttest scores. The formulated research hypothesis was: AT-based cooperative assessment has no significant effect on the RC of Iranian EFL learners.

Table 3: Percentiles of the pretest and posttest scores

	N	Percentiles		
		25th	50th (Median)	75th
RC pretest	60	23.0000	25.0000	26.0000
RC posttest	60	29.2500	32.0000	38.0000

Table 4: Wilcoxon signed rank test statistics

	post-test – pre-test
Z	-6.751
Asymp. Sig. (2-tailed)	.000

As Table 3 shows, the median score on RC increased from the pretest (Md = 25) to the posttest (Md = 32). The results of the Wilcoxon signed rank test (Table 4) reveal a statistically significant increase in RC posttest scores, $z = -6.746$, $p < 0.001$, with a large effect size ($r = 0.87$). Therefore, the first null hypothesis was rejected, suggesting that AT-based cooperative assessment had statistically significant effect on the RC of Iranian EFL learners.

Research Question Two

The numerical data for answering the second research question were obtained from the average scores of each reading task given by the two raters across 12 sessions. The second research question was: Among summarizing, outlining, graphic organizing, and self-questioning, which one is a stronger predictor of Iranian EFL learners' RC?

Table 5: Multiple regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.885	.783	.767	2.30

In order to assess the predictive power of each reading task in relation to the RC posttest, a multiple regression analysis was run. Table 5 shows how much of the variance in the dependent variable (RC posttest scores) is explained by the model (the four tasks). For a small sample, according to Pallant (2013), Adjusted R Square should be considered. In this case, the value is 0.76; it means that the model explains 0.76 percent of the variance in RC posttest scores.

Table 6: ANOVA for testing the statistical significance of the regression model

Model	Sum of Squares	Mean Square	F	Sig.
Regression	1054.189	263.547	49.605	.000
Residual	292.211	5.313		
Total	1346.400			

Table 6 shows the overall significance of the regression model. Based on the results, the regression model has an acceptable predictive power in relation to RC (F = 49.605, p < .05). Therefore, the data is suitable for running the multiple regression analysis.

Table 7: Coefficients results for interrelationship between the four reading tasks and RC

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	14.267	1.540		9.262	.000	11.180	17.353					
Summarizing	-.172	.217	-.069	-.791	.432	-.607	.263	.574	-.106	-.050	.519	1.928
Outlining	1.129	.281	.461	4.020	.000	.566	1.692	.834	.477	.253	.300	3.338
Graphic organizing	.699	.270	.296	2.584	.012	.157	1.240	.813	.329	.162	.302	3.314
Self-questioning	.571	.212	.262	2.698	.009	.147	.996	.754	.342	.169	.418	2.390

In order to ensure how much of the variability in the RC could be accounted for by the four tasks, regression coefficients of all the variables were computed (Table 7). Standardized coefficients, beta values, were checked to compare the contribution of each independent variable.

As Table 7 shows, only the summarizing task does not have predictive power. In contrast, predictive power is observed for the other three tasks, among which outlining has the largest beta value (0.461). Hence, among summarizing, outlining, graphic organizing, and self-questioning, outlining was a stronger predictor of Iranian EFL learners' RC.

Research Question Three

The third research question was concerned with the participants' perception of implementing AT-based RC. The related qualitative data were collected via a perception questionnaire and a semi-structured focus group interview.

In order to analyze the data, the most frequent responses given to the questionnaire were first classified into certain categories. Then, the interview responses, if in Persian, were transcribed or translated into English and were finally coded and analyzed using content analysis. The researchers categorized main themes into three groups: (1) Outcomes, (2) beneficial elements, and (3) major difficulties.

Outcomes

The participants perceived course effectiveness in terms of reading outcomes and improvement of group work skills. Most students (88%) reported the improvement of their reading skills at the end of the course. Based on the students' perception, understanding the main ideas versus details, and, also, faster reading were two reading skills improved considerably among others.

The students also found text evaluation new and interesting. Some extracted responses are: "I can guess main ideas easily."; "I am reading faster than I was in the past."; "What was interesting for me was the evaluation of a passage after reading. We criticized the writer and made suggestions for improving the text."

Almost all students (94%) mentioned that their interpersonal and communication skills were improved. Some representative examples are: "We showed respect for diverse ideas."; "We were responsible for our friends' learning."; "We learned how to support each other." Moreover, many extractions showed that the course could positively change the students' initial attitude toward group work. "I always thought Iranian people are not good at group activities. But the reading course completely changed my mind. People need to be trained in group work." said one student. "At the beginning, it was like a duty. But later, I noticed how useful group work could be!" said another student.

Beneficial Elements

The participants' responses were coded on the basis of four mediating elements of activity system – artifacts, rules, division of labor, and community. The students attributed course efficacy to division of labor (35%), artifacts (30%), rules (23%), and community (12%), respectively.

The participants enjoyed cooperation and division of the reading tasks. The most effective tasks for the students were outlining (86%) and graphic organizing (85%). Outlining was, in their opinion, detail-based and demanded full understanding of the passage. They mentioned that graphic organizing was both efficient and difficult owing to its novelty, while the rest (15%) rated it as an easy and enjoyable task to carry out. Concerning self-questioning, 62% of the participants perceived it effective because it helped them read carefully, infer implicit text information, and think beyond the text information. With respect to summarizing, the results were confounding. On the one hand, 58% of the participants perceived summarizing a difficult task. One student commented: "Summarizing was difficult for me. Your writing was important. You should know grammar well. You should use your own words." On the other hand, 42% of the respondents assessed summarizing the easiest task because of their prior experience with summary writing.

Regarding the most effective artifacts, although a small minority of the participants concluded that doing group assignments were time-consuming, a majority of them (89%) enjoyed the assignments. A few excerpts are: "We learned many things from other groups who shared some interesting passages."; "It was a very good idea to share extra readings with class. I read more than 30 passages, and it was great!"

In addition, the participants liked using the Telegram messaging service for a reading class although a few of them (17%) reported that they did not checked the Telegram group since they could do the assignments without its help. It is worthy to mention that Telegram was not the major artifact used in the current study. Rather, it was employed as an affordance that provided

the participants with some useful materials. In other words, it was not an inherent part of the course, and the participants could still do their assignments without significantly using Telegram.

Concerning rules, both self-assessment and peer-assessment of the process and product of cooperative reading were found effective parts of the course by many students (79%). Finally, although many participants appreciated the instructor's teaching activities, community was the least favored part of the AT-based reading instruction.

Major Difficulties

In response to the question if they had any problems with cooperative reading, 80% of the students reported they faced with no serious difficulty except for a noisy class. However, a few of them referred to some problems listed below:

- ❖ Occasional absence of group members (24%)
- ❖ Reporting the ratings to the peers (19%)
- ❖ Having no access to group members out of class (12%)
- ❖ Submitting the individual homework assignments as an integrated group work to the instructor (9%)

For instance, one student commented: "When one member was absent, sharing the roles was difficult."; "It was better to submit our works individually, not as a pack." said another student. Notable in their responses was the difficulty in assessing the summarizing and self-questioning tasks. For a majority of the students (85%), summarizing was the most difficult task to do peer-assessment. One student said: "Summaries were usually long, and it took my time to read carefully and rate them." In addition, some of the respondents (69%) reported that self-questioning was difficult for doing peer-assessment since judging others' inferential questions was challenging.

DISCUSSION

The present study was conducted to investigate whether AT-based cooperative assessment had any statistically significant impact on the RC of Iranian EFL learners. Regarding the first research question, the results indicated that AT-based reading instruction could positively affect the RC of the participants. The results can lend support to previous findings in the literature that (e.g., Cole & Engeström, 1993; Menendez, 2009; Turk, 2006). As an instructional approach to RC, AT-based cooperative assessment was an integration of CL, multi-strategy instruction, and self- and peer-assessment practices. The results, accordingly, confirm the positive effect of multi-strategy-based CL on the students' RC (Klingner & Vaughn, 1999; Palincsar & Brown, 1984; Soonthornmanee, 2002; Zoghi, Mustapha & Maasum, 2010). Concerning the role of self- and peer-assessment, the findings also substantiate previous findings regarding the positive effect of self-assessment and peer-assessment on RC (e.g., Baniabdelrahman, 2010; Moheidat & Baniabdelrahman, 2011; Shams & Tavakoli, 2014).

A reasonable inference of the positive results is that AT brings multiple variables into focus – artifacts, rules, community, and division of labor. As an instructional framework, AT helped the researchers integrate some potential elements to improve the participants' RC, such as multi-strategy-based instruction, CL, and group assessment. AT-based cooperative assessment allows learners to construct meaning along a continuum from collaboration, interdependence, and cooperation to individual understanding. The students first tried to comprehend the passages through collaboration and cooperation in their own groups which were monitored by the instructor. Subsequently, the students did the assigned tasks individually at home for deeper comprehension, self-monitoring, and reflection. Hence, AT-based cooperative assessment moves within one's ZPD from assisted to unassisted learning.

Concerning the second research question, the results of multiple regression analysis indicated that the outlining task was the best predictor of

the RC, while summarizing was not a significant predictor. That is to say, summarizing could not help learners achieve better scores on the posttest. These findings are in contrast to the previous results reported in the literature regarding the positive role of summarizing in RC (e.g., Armbruster, Anderson & Ostertag, 1987; Bensoussan & Kreindler, 1990; Wittrock & Alesandrini, 1990).

As a non-significant predictor of the RC, summarizing was also perceived by many participants as a difficult task to carry out and assess. Although summarizing was not a new learning experience to the students, probably task requirements were beyond the participants' level of English proficiency, particularly with regard to the condensation rule of summarization. This confirms Bensoussan and Kreindler's (1990) claim that summarizing is probably well suited to advanced foreign language students.

Regarding outlining, the results verify previous findings, demonstrating outlining as an effective tool for enhancing RC (e.g., Slater, Grave & Piche, 1985; Tan Jr., 2015; Tuckman, 1993). The second most significant predictor of RC was graphic organizing, which is congruent with Jiang's (2012) and Praveen and Rajan's (2013) findings, showing the significant effect of graphic organizers on students' RC. Regarding the role of self-questioning in RC, the results are consistent with previous findings, representing the significant impact of question generating strategy on students' RC (e.g., Dorkchandra, 2013; King, Biggs & Lipsky, 1984; Sarani & Jabbari, 2010).

One possible explanation for such results may be because of the fact that the participants were introduced to propositional units, through which they could easily identify the hierarchy of main ideas and the supporting details. During training sessions, the participants were instructed to rate the importance level of idea units, using a four-point scale (1-4). This probably matches well with the outlining task requirements.

Finally, with respect to the third research question, the findings indicated the participants' positive perception of the AT-based RC. In other words, the qualitative findings supported the quantitative results. In addition, the

students evaluated the efficacy of AT in terms of its four mediating elements. According to the results, division of labor was perceived the most favored element of AT-based RC. In this study, division of labor was defined based on the rules of CL. Such findings are in line with the results of Suh's (2009) study, showing that CL integrated into EFL reading created a more positive reading attitude and promoted higher reading fluency in L2 classes. The results are also in line with Ballantine and McCourt Larres's (2007) findings, showing that the participants' interpersonal, communication and problem-solving skills were improved. Finally, in contrast to Snyder and McNeil's (2008) results, the findings of the present study indicated that the students' initial perception of group work could positively change as a result of participating in AT-based RC classes. That no freeloading was observed by the instructor, or reported by the students, could be related to division of labor, through which group members were assigned some specified tasks. Accordingly, their individual accountability was reinforced.

CONCLUSION AND IMPLICATIONS

Relying on AT and CL, this study was an attempt to confirm that AT-based cooperative assessment had a positive effect on the RC of Iranian EFL learners. The findings can offer evidence for implementing AT framework in EFL reading classes by providing learners with suitable artifacts, certain rules, a supportive community, and a variety of group-based activities to achieve a satisfactory outcome. Such a conceptualization of the efficacy of AT-based RC accentuates that it is high time to transform EFL reading instruction from the traditional teacher-book-students triangle into an expanded constructivist learning context.

The findings of the present study point to a number of pedagogical implications. Of particular interest in this study is designing generative tasks, such as outlining, graphic organizing, and self-questioning, which can be beneficial for students to deepen their understanding of the texts and construct their own personal sense. Moreover, more effort is required on the

part of the instructor with respect to group management and instruction. To this end, it is essential for students to receive intensive training to rigorously contribute to group work. Instructors can also be provided with training in CL and the benefits of doing so. The study, in addition, provides empirical evidence for how reading, writing, and speaking could be integrated to promote learners' RC. Such a finding underlines the need for teachers and syllabus designers to pay close attention to integrated tasks in EFL classrooms.

Concerning the useful insights into the benefits of AT-based cooperative assessment for EFL RC, a number of areas of further research can also be developed. Relying on the students' favorable perception of AT-based RC, it is worth investigating whether AT-based cooperative assessment has any effect on learners' motivation for reading. In this study, only the students' group learning type was taken into account. Further studies are consequently required to investigate if other individual differences, such as personality traits or learning styles, affect students' performance on the four reading tasks – summarizing, outlining, self-questioning, and graphic organizing.

In addition to some general limitations, such as small sample size and convenience sampling, the self-selection approach to group formation minimizes the probability of drawing the same conclusions from the findings because the groups were not representative samples of randomly-formed groups. Furthermore, the researcher's observation cannot be regarded as a completely reliable source of data since she could not invite another instructor as a research aide to observe group dynamics in class. Therefore, the results of instructor-assessment of the process of cooperative reading need to be interpreted with caution. Finally, it is worth mentioning that the pre-experimental design of the qualitative strand might limit the generalizability of the findings. However, the study was conducted based on an activity system, providing the students with a plethora of mediators or variables. This is not a limitation but the inherent nature of AT as a research framework, making quantitative research rather limited. That is why a mix-methods research was employed in the current study.

It is hoped that AT-based cooperative assessment shines a light on the interwoven individual and collective activities. Given the great deal of interest in CL, the prospects for implementing AT-based cooperative assessment in EFL settings are promising.

REFERENCES

Alderson, J. C. (2000)*. Assessing reading*. Cambridge: Cambridge University Press.

Allan, D. (2004). *Oxford placement test 2: Test pack*. Oxford: Oxford University Press.

Armbruster, B. B., Anderson, T. H., & Ostertag, J. (1987). Does text structure/summarization instruction facilitate learning from expository text? *Reading Research Quarterly*, *22*(3), 331- 346.

Bachman, L. F., & Palmer, A. S. (1996). *Language testing in practice: Designing and developing useful language tests*. Oxford: Oxford University Press.

Ballantine, J., & McCourt Larres, M. P. (2007). Final year accounting undergraduates' attitudes to group assessment and the role of learning logs. *Accounting Education: An International Journal*, *16*(2), 163-183.

Baniabdelrahman, A. A. (2010). The effect of the use of self-assessment on EFL students' performance in reading comprehension in English. *Electronic Journal for English as a Second Language*, *14*(2), 1-22.

Bauer, B. (2018). *English language learners and reading comprehension: Exploring the role of Vygotsky's sociocultural theory of mind (SCT)* (Unpublished Master's Thesis, University of California State). Retrieved from http://digitalcommons.csumb.edu/

Bensoussan, M., & Kreindler, I. (1990). Improving advanced reading comprehension in a foreign language: Summaries vs. short answer questions. *Journal of Research in Reading*, *13*(1), 55-68.

Block, D. (2003). *The social turn in second language acquisition*. Washington, DC: Georgetown University Press.

Clapper, T. C. (2015). Cooperative-based learning and the zone of proximal development. *Simulation & Gaming*, *46*(2), 148-158.

Cole, M., & Engeström, Y. (1993). A cultural-historical approach to distributed cognition. In G. Salomon (Ed.), *Distribute cognitions: Psychological and educational considerations* (pp. 1-46). Cambridge: Cambridge University Press.

Commander, M., & de Guerrero, M. C. (2013). Reading as a social interactive process: The impact of shadow-reading in L2 classrooms. *Reading in a Foreign Language*, *25*(2), 170-191.

Daniels, H. (2001). *Vygotsky and pedagogy*. New York, NY: Routledge/Falmer.

Dorkchandra, D. (2013). The effects of question generating strategy instruction on EFL freshmen's reading comprehension and use of English tenses. *Journal of Liberal Arts, Prince of Songkla University*, *5*(2), 32-45.

Droop, M., & Verhoeven, L. (1998). Reading comprehension problems in second language learners. In P. Reitsma & L. Verhoeven (Eds.), *Problems and interventions in literacy development* (pp. 193-208). Boston, MA: Kluwer.

Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit.

Engeström, Y. (1993). Developmental studies of work as a testbench of activity theory: The case of primary care medical practice. In S. Chaiklin, & J. Lave (Eds.), *Understanding practice: Perspectives on activity and context* (pp. 64-103). Cambridge: Cambridge University Press.

Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualization. *Journal of Education and Work*, *14*(1), 133-156.

Falchikov, N. (1986). Product comparisons and process benefits of collaborative peer group and self-assessments. *Assessment and Evaluation in Higher Education*, *11*(2), 146-166.

Gheisari, N. (2017). Private speech in teacher-learner interactions in an EFL context: A sociocultural perspective. *Iranian Journal of Language Teaching Research 5*(2), 53-74.

Grabe, W. (2009). *Reading in a second language: Moving from theory to practice*. Cambridge: Cambridge University Press.

Grabe, W. (2014). *Key issues in L2 reading development*. Retrieved from http://www.nus.edu.sg/

Grenfell, M. (1992). Process reading in the communicative classroom. *The Language Learning Journal*, *6*(1), 48-52.

Grigoryan, T., & Babayan, N. (2017). Activity theory in studying innovations: The interconnected phases of activity system. *Humanities and Social Sciences Review*, *7*(1), 331-336.

Hassaskhah, J., Barekat, B., & Farhang Asa, N. (2014). Reading performance of Iranian EFL learners in paper and digital texts. *Journal of Teaching Language Skills, 33*(1), 1-21.

Jiang, X. (2012). Effects of discourse structure graphic organizers of EFL reading comprehension. *Reading in a Foreign Language*, *24*(1), 84-105.

Johnson, D. W., & Johnson, R. T. (1990). What is cooperative learning? In M. Brubacher, R. Payne, & K. Rickett (Eds.), *Perspectives on small group learning: Theory and practice* (pp. 68-79). Toronto, ON: Rubicon.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (2013). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in University Teaching*, *25*(4), 1-26.

Johnson, K. E. (2006). The sociocultural turn and its challenges for second language teacher education. *TESOL Quarterly*, *40*(1), 235-257.

Kelahsarayi, T. R., & Sadeghi, K. (2017). Activity theory in education: Research and practice. *Iranian Journal of Language Teaching Research, 5*(2), 141-144.

King, J. R., Biggs, S., & Lipsky, S. (1984). Students' self-questioning and summarizing as reading study strategies. *Journal of Reading Behavior*, *16*(3), 205-218.

Klapper, J. (1992). Reading in a foreign language: Theoretical issues. *The Language Learning Journal*, *5*(1), 27-30.

Klingner, J. K., & Vaughn, S. (1999). Promoting reading comprehension, content learning, and English acquisition through collaborative strategic reading (CSR). *The Reading Teacher*, *52*(7), 738-747.

Lantolf, J. (2000). Second language learning as a mediated process. *Language Teaching*, *33*(2), 79- 96.

Leont'ev, A. N. (1978). *Activity, consciousness, and personality*. Englewood Cliffs, NJ: Prentice-Hall.

Liaw, S. S., & Huang, H. M. (2014). Investigating learner attitudes toward e-books as learning tools: Based on the activity theory approach. *Interactive Learning Environments*, *24*(3), 625-643.

Liu, J. (2015). Reading transition in Chinese international students: Through the lens of activity system theory. *Journal of English for Academic Purposes*, *17*, 1-11.

Maftoon, P., & Akef, K. (2009). Developing rating scale descriptors for assessing the stages of writing process: The constructs underlying students' writing performances. *Iranian Journal of Applied Linguistics*, *12*(2), 85-116.

McWhaw, K., Schnackenberg, H., Sclater, J., & Abrami, P. C. (2003). From co-operation to collaboration: Helping students become collaborative learners. In R. M. Gillies & A. F. Ashman (Eds.), *Co-operative learning: The social and intellectual outcomes of learning in groups* (pp. 54-68). New York, NY: Routledge.

Menendez, R. M. (2009). *Cultural-historical activity perspectives on the effects of participation in teacher-mediated, computer-mediated reading instruction* (Unpublished Doctoral dissertation, University of Miami). Retrieved from https://www.learntechlib.org/p/126027/

Moheidat, A. S., & Baniabdelrahman, A. A. (2011). The impact of Omani twelfth-grade students' self-assessment on their performance in reading in English. *Asian EFL Journal*, *13*(1), 48-84.

Nuttall, C. (1996). *Teaching reading skills in a foreign language* (2nd ed.). Oxford: Macmillan Heinemann.

Palincsar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction*, *1*(2), 117-175.

Pallant, J. (2013). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (5th ed.). New York, NY: McGraw-Hill Education.

Pitt, M. J. (2000). The application of games theory to group project assessment. *Teaching and Learning in Higher Education*, *5*(2), 233-241.

Plastow, N., Spiliotopoulou, G., & Prior, S. (2010). Group assessment at first year and final degree level: A comparative evaluation. *Innovations in Education and Teaching International*, *47*(4), 393-403.

Praveen, S. D., & Rajan, P. (2013). Using graphic organizers to improve reading comprehension skills for the middle school ESL students. *English Language Teaching*, *6*(2), 155-170.

Reid, J. M. (1987). The learning style preferences of ESL students. *TESOL Quarterly*, *21*(1), 87-110.

Saghaieh Bolghari, M., Birjandi, P., & Maftoon, P. (2017). Iranian EFL Learners' Perception of the Efficacy of Activity Theory-based Reading Comprehension. *Iranian Journal of Applied Language Studies*, *9*(2), 139-172.

Sarani, A., & Jabbari, A. (2010). *The effect of generative study strategies on EFL learners' reading comprehension and recall of short stories*. Paper presented at the Proceedings of the 3rd international conference of ICT for Language Learning, Florence, Italy.

Shams, N., & Tavakoli, M. (2014). The effect of peer, self, and traditional assessment on Iranian EFL learners' L2 reading comprehension. *Journal of Applied Linguistics and Language Research*, *1*(1), 29-44.

Slater, W., Graves, M. F., & Piche, G. L. (1985). Effects of structural organizers on ninth grade students' comprehension and recall of four patterns of expository text. *Reading Research Quarterly*, *20*, 189-202.

Snow, C. (2002). *Reading for understanding: Toward a research and development program in reading comprehension*. Santa Monica, CA: RAND.

Snyder, L. G., & McNeil, K. R. (2008). Enhancing students' perceptions of collaborative projects with pre-group instruction methods. *Research in Higher Education Journal*, *1*, 1-18.

Soonthornmanee, R. (2002). The effect of the reciprocal teaching approach on the reading comprehension of EFL students. *RELC Journal*, *33*(2), 125-141.

Stetsenko, A. (2005). Activity as object-related: Resolving the dichotomy of individual and collective planes of activity. *Mind, Culture, and Activity*, *1*2(1), 70-88.

Suh, J. S. (2009). Reading concepts in cooperative work by EFL college students. *English Teaching*, *64*(2), 151-171.

Tan Jr., J. G. (2015). Using outline to enhance reading comprehension in a high school English language classroom. *American Journal of Educational Research*, *3*(7), 893-896.

Thorne, S. L. (2004). Cultural historical activity theory and the object of innovation. In O. St. John, K. van Esc & E. Schalkwijk (Eds.), *New insights into foreign language learning and teaching* (pp. 51-70). Frankfurt: Peter Lang.

Turk, D. (2006). *Improving the process? A study of learner autonomy, interaction and technology-enhanced language-learning environments* (Doctoral dissertation, University of Canberra). Retrieved from http://www.canberra.edu.au

van Rijk, Y., Volman, M., de Haan, D., & van Oers, B. (2017). Maximizing meaning: creating a learning environment for reading comprehension of informative texts from a Vygotskian perspective. *Learning Environments Research*, *20*, 77-98.

Wittrock, M. C. (1974). Learning as a generative process. *Educational Psychologist*, *11*(2), 87-95.

Wittrock, M. C., & Alesandrini, K. (1990). Generation of summaries and analogies and analytic and holistic abilities. *American Educational Research Journal*, *27*(3), 489-502.

Wyeld, T. G. (2013). Using activity theory to study cooperative learning. *International Journal of Innovation and Learning*, *13*(4), 430-450.

Yang, H. (2012). *Chinese teacher agency in implementing EFL curriculum reform: An activity theory perspective* (Unpublished Doctoral dissertation, University of New South Wales). Retrieved from: http://nsworks.unsw.edu.au/fapi/datastream/unsworks/

Yang, H. (2013). Activity theory in SLA. In P. Robinson (Ed.), *The Routledge encyclopedia of second language acquisition* (pp. 8-10). New York, NY: Routledge.

Zoghi, M., Mustapha, R., & Maasum, T. N. (2010). Collaborative strategic reading with university EFL learners. *Journal of College Reading and Learning*, *41*(1), 67-94.