

INVESTIGATING THE COMPARATIVE EFFECTS OF SUSTAINED SILENT READING, ASSISTED REPEATED READING, AND TRADITIONAL READING¹

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Abstract: This quasi-experimental study aims to investigate the effects of Sustained Silent Reading (SSR), Assisted Repeated Reading (ARR), and Traditional Reading (TR) instructions integrated into an EFL reading program on EFL reading comprehension, silent reading rate, reading motivation, and attitudes toward EFL reading, by also addressing the potential effect of proficiency level. Adopting a mixed-method pretest-posttest research design, this 10-week study was conducted with mixed-proficiency university-level Turkish EFL learners divided into three experimental groups. A method incorporating 150-minute SSR or ARR instructions into the 150-minute intensive reading instruction in two groups was implemented, as compared against a TR group that received 300-minute traditional intensive reading instruction weekly. Data came from a reading comprehension and rate test, reading motivation questionnaire, participant reflections, and interviews. Findings indicated that SSR yielded significant benefits for reading comprehension of both low and high-proficiency participants. Moreover, SSR and ARR showed positive effects on intrinsic reading motivation, whereas TR contributed slightly to extrinsic reading motivation. Regarding the possible effect of proficiency, while SSR yielded more advantages for higher-proficiency learners, ARR and TR were comparatively more beneficial for lower-

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proficiency learners. Implications for pedagogy and future research for university-level EFL reading classes are discussed.

Keywords: assisted repeated reading, attitudes, motivation, reading comprehension, silent reading rate, sustained silent reading, traditional reading

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It is a central and well-established tenet of reading research that reading ability is improved by reading *per se*. As also posited by second/foreign language reading research, reading is a major and rich source of language input, particularly in English as a foreign language (EFL) contexts where the exposure to the target language is minimal (Grabe, 2009). Nonetheless, the development of EFL reading is oftentimes taken for granted without the contemplation of the complexity, dynamism, or multifacetedness (Grabe, 2009; Koda, 2005; Nassaji, 2003) of the reading skill itself.

Indeed, reading is not just necessarily making meaning from print; rather, it is “a multivariate skill” entailing and requiring several “cognitive, linguistic, and nonlinguistic skills” (Nassaji, 2003, p. 261). Basically, reading is built upon the simultaneous operation and interaction of lower and higher-level cognitive processing skills, all of which take place in an efficient, effortless, and automatized fashion. However, along with such cognitive skills, a number of researchers (e.g., Grabe, 2009; Koda, 2005) have also provided solid arguments toward the importance of linguistic and non-linguistic factors in the reading process as well, affecting the interaction of lower and high-level cognitive processes. On that account, nurturing the factors such as silent reading rate and motivation through rich, meaningful, and sustained L2 reading input can possibly contribute to an effective and fluent reading process (Grabe & Stoller, 2020; Taguchi et al., 2006).

Moreover, the findings of several studies in the field (e.g., De Naeghel et al., 2012; Schaffner et al., 2013; Schaffner & Schiefele, 2016; Stutz et al., 2016; Troyer et al., 2019) posited that reading amount mediated the positive effect of motivation and especially that of intrinsic motivation on reading comprehension. On the other hand, extrinsic motivation was sometimes found to have no statistically significant direct or indirect effect on reading comprehension (Schaffner & Schiefele, 2016). Moreover, it has also been argued that the relationship of reading motivation, amount, and comprehension depends on the social and cultural background of a student (Troyer et al., 2019).

Problem Statement

While providing rich, meaningful, and sustained L2 reading input is one of the central conditions for the development of effective and fluent EFL reading skills, an overriding problem of many EFL reading classes —especially in the Turkish context— is the insufficiency of such input and time devoted to reading itself. Instead, learners in these contexts are generally preoccupied with traditional intensive reading —or “study reading” (Waring & Husna, 2019)— activities or pre or post-reading activities in the textbooks, as a necessity of a reading instruction which somewhat limits exposure to extensive reading opportunities. This situation affects the reading achievement of students as well as their attitudes towards reading itself (Suk, 2015). With one or more exceptions, in the Turkish state and private universities, students who do not pass the proficiency exam of the university are enrolled in a one-year preparatory program to learn English and this period is often the only chance for them to devote their time to reading in English. As a result, they, in actuality, cannot develop their comprehension abilities sufficiently to cope with their future comprehension reading needs in academic or business contexts. To cope with such problems, preparatory school university students might be provided with alternative reading instructional approaches such as SSR and ARR integrated into the existing EFL reading curricula.

SSR and ARR as Alternative Reading Instructional Approaches

SSR —as one form of extensive reading (ER)— has been proposed as an in-class practice to engage students in pleasure reading. It is an approach in which a certain period of class time is regularly scheduled to silent reading, where students self-select their reading materials suitable to their proficiency levels and read them without interruption. Although there is a considerable number of SSR studies in the L1 context conducted in particular among K-12 students in the United States, those in the L2 context, most of which were conducted with primary or high school students in the ESL context, are comparatively limited. Studies conducted on the possible effects of SSR in the ESL context indicated that SSR as a type of reading instruction led to improved reading comprehension, motivation, and attitudes (e.g., Elley & Mangubhai, 1981; Pilgreen & Krashen, 1993). However, studies conducted in ESL contexts are also limited to primary (e.g., Elley & Mangubhai, 1981) and high school students (e.g., Pilgreen & Krashen, 1993), and to the knowledge of the

researchers, there are not any studies conducted with university-level students in ESL contexts.

On the contrary, there are comparatively more studies conducted with university-level EFL learners on the possible effects of SSR in the EFL settings, which yielded the following benefits: improved *reading comprehension and reading rate* (e.g., Ducey-Perez, 1991; Masoumi & Sadeghoghli, 2017; Sims, 1996; Suk, 2015) as well as *reading motivation and attitudes toward reading* (e.g., Atay, 2004; Hwang, 2018; Lin et al., 2012; Mermelstein, 2014; Mason & Krashen, 1997; Sakurai, 2014). For example, in an investigation with Taiwanese university-level EFL learners, Sims (1996) showed that the experimental group that received SSR instruction performed significantly higher on the reading comprehension compared to the control group taught by skill-based instruction. In another study, Mason and Krashen (1997) reported that Japanese EFL university students engaged in SSR weekly for 90-minute over a semester, and many of whom were “...once reluctant students...became eager readers” (p. 93). In a comparatively recent study by Suk (2015), Korean EFL university-level learners ($N = 171$) engaged in 30-minute SSR integrated into 70-minute traditional reading instruction per week for a 15-week treatment period, were compared to a control group who received traditional reading instruction. Findings showed SSR helped the experimental group enhance their reading comprehension and rate. With Iranian EFL learners ($N = 60$), Masoumi and Sadeghoghli (2017) compared an SSR group that engaged in a 24-session-long study (each lasting 90 minutes) to a control group and found SSR helps reading comprehension. Overall, although the literature shows that SSR seems to yield several benefits for EFL learners, findings of these SSR studies cannot be generalized due to: (a) limited variety of contexts in which the studies were conducted (i.e., Iran, Japan, South Korea, Taiwan); (b) lack of details regarding the reading amount of time (e.g., Elley & Mangubhai, 1981) and (c) short amount of time devoted to reading (e.g., 10-15 minutes) (e.g., Matsui & Noro, 2010; Suk, 2015); (d) methodological problems (i.e., lack of a control group (e.g., Pilgreen & Krashen, 1993; Sakurai, 2014); and (e) the use of pre and posttests that are uneven in difficulty (e.g., Taguchi et al., 2004) or that are above participants’ level (e.g., Ducey-Perez, 1991).

ARR —as a form of repeated reading (RR)— has also been posited as a useful practice to foster students’ reading skills (e.g., Chen & Ying, 2009; Taguchi et al., 2004, 2012). ARR is an approach where learners read a text accompanied by the simultaneous presentation of its aural version; that is, they read and listen to a text at the same instant. The studies conducted on the

possible effects of ARR in ESL contexts —although limited in number— found that it contributes to oral reading fluency (e.g., Blum et al., 1995). However, all these earlier studies were conducted with elementary school students and there are no studies conducted with university-level students in the ESL contexts to the best of the researchers' knowledge.

On the other hand, there is a comparatively higher number of studies conducted with university-level students in the EFL contexts. Albeit still limited in number, these empirical studies reported the following benefits of ARR: *reading comprehension* (e.g., Chen & Ying, 2009; Gorsuch & Taguchi, 2008, 2010; Taguchi et al., 2012), and *reading motivation* and *positive attitudes toward reading in L2* (Gorsuch & Taguchi, 2010). However, there are also some other studies that did not report significant gains regarding the possible effects of ARR on reading comprehension (e.g., Taguchi & Gorsuch, 2002), silent reading rate (e.g., Taguchi, 1997; Taguchi & Gorsuch, 2002), or reading motivation (Taguchi et al., 2012). For example, one of the earlier ARR studies in the literature was conducted with sixteen Japanese university-level EFL learners by Taguchi (1997). In a 10-week time period (in 28 sessions), learners read sections from graded readers in a repeated fashion seven times (four unassisted, three audio-assisted). Throughout the sessions, learners' silent reading rate increased from the first toward the seventh reading whereas they did not seem to transfer those gains to new unpracticed texts. By extending Taguchi's (1997) study, Taguchi and Gorsuch (2002) investigated the transfer effects in a further study and reported that their ten-week (28 sessions) ARR program where Japanese university-level EFL learners ($N = 9$) read texts seven times (four unassisted, three audio-assisted) facilitated learners' reading rates from pre to post-test (from session 1 to 28); yet the gains throughout the program were not statistically significant. Besides, regarding comprehension, the performance of the experimental and control group was similar, in terms of the moderate gains.

Although limited in number, there are also few empirical studies which investigated the effect of ARR on *EFL reading motivation*. For example, Gorsuch and Taguchi (2010) implemented an 11-week ARR program where university-level Vietnamese EFL learners ($N = 30$) read extracts from short stories (16 texts), five times for each text (three unassisted, two audio-assisted). As pointed out by the researchers, participants' motivation to read increased and they held positive attitudes toward reading in English. On the other hand, there are cases where although ARR might be useful in motivating learners, it might also result in demotivating them. For example, it was reported by

Taguchi et al. (2012) that their participant (Naomi, an advanced Japanese EFL learner) indicated some boredom and demotivation owing to repetitive reading. In sum, it can be stated that possible effects of ARR have not been investigated thoroughly in EFL contexts due to (a) a limited number of studies in EFL contexts and a small number of participants with varying proficiency levels (e.g., Gorsuch & Taguchi, 2010; Taguchi et al., 2012); (b) variations across studies regarding the number of repetitive readings (i.e., three, five, or seven repetitions) (Gorsuch & Taguchi, 2008; Taguchi et al., 2004); and (c) lack of control group (e.g., Taguchi, 1997).

Taken together, earlier studies have indicated that while SSR tends to improve comprehension and motivation (e.g., Matsui & Noro, 2010; Suk, 2015), ARR tends to improve reading rate (e.g., Taguchi et al., 2004). However, despite their established presence and benefits, empirical evidence regarding the practice of SSR (e.g., Suk, 2015) or ARR (e.g., Gorsuch & Taguchi, 2010) in university-level EFL reading contexts is limited. Moreover, to the knowledge of the researchers, there are no studies comparing the relative benefits of SSR and ARR, and traditional approaches. Therefore, this study aims to contribute to the literature by investigating and comparing possible effects of a traditional reading program, SSR practice integrated into the traditional syllabi, and ARR practice integrated into the traditional reading syllabi on reading comprehension, silent reading rate, and motivation of Turkish university EFL students at two different proficiency levels. More specifically, the following research questions were formulated.

1. Is there an effect of three different treatments, namely sustained silent reading (SSR), assisted repeated reading (ARR), and traditional reading (TR) on EFL learners' reading comprehension and silent reading rate, reading motivation, and attitudes toward reading at two different proficiency levels (i.e., lower and higher proficiency participants)?
2. *Within* the same treatment group, does the possible effect of SSR, ARR, and TR treatments on EFL learners' reading comprehension and silent reading rate, and reading motivation significantly vary according to two different proficiency levels (i.e., lower and higher proficiency participants)?
3. Is there a difference among lower-proficiency and higher-proficiency EFL learners in terms of their gains *across* SSR, ARR, and TR treatments regarding their reading comprehension and silent reading rate, and reading motivation?

METHOD

Design

This study adopted a quasi-experimental between-groups pretest/posttest with a control group design. The methodological approach that is adopted is a mixed-method research design (Creswell, 2013; Dörnyei, 2007). More specifically, an embedded (i.e., nested) experimental model (Creswell, 2013), where neither qualitative nor quantitative data is given more priority over another, was adopted for the study.

Participants and Setting

The participants of the study were Turkish EFL university-level pre-service teachers who did not get a passing score on the proficiency exam of the university and therefore were placed in the English Preparatory Program. Initially, there were 69 participants; however, during the process of data collection, 28 of them dropped out (due to either dropouts or failure to complete tests) as they could also choose not to participate at any time. Therefore, 41 participated in this study voluntarily. At the time of the study, the participants were attending the 6-hour reading component of the EFL Preparatory Program in the Foreign Language Education Department at a state university in Turkey. The instructor of the reading component was the first author of this study. Although the study focuses on the reading component, the students were at the same time attending writing, speaking, and listening courses (each being 6 hours) offered by other instructors. Their background data indicated that the majority of participants devoted little or no time to reading in English outside of school. The participants (34 female, 7 male) were all native Turkish speakers aged between 17 and 31 ($M = 18.85$, $SD = 2.06$).

Due to the contingency conditions of the program, among these 41 students, those who performed above the median in the Michigan English Placement Test (MEPT henceforth) were labeled as higher-proficiency and those who performed below were defined as lower-proficiency participants. For the purposes of the study, the conveniently selected participants were randomly divided into three experimental groups: SSR, ARR, and TR. Each group comprised lower and higher-proficiency participants grouped heterogeneously: SSR, ARR, and TR. Overall, participants' proficiency levels ranged between intermediate (CEF Level= B2) and advanced (CEF Level= C1) levels.

Treatment

The treatment lasted 10 weeks (i.e., for 10 sessions- one treatment session per week) and differed across three groups. In the SSR and ARR groups, 150-minute sustained silent or assisted repeated reading instructions were integrated into 150-minute traditional intensive reading instruction per week. The TR group, on the other hand, received 300-minute intensive reading instruction per week. The procedure in each experimental group is tabulated in Table 1.

Table 1. Instructional procedures and time allotments in groups

		SSR	ARR	TR
Instructional treatment	Instruction	3 class hours of SSR (150')	3 class hours of ARR (150')	3 class hours of TR (150')
	Active reading time	1 class hour (50')	1 class hour (50')	Approximately 5-10'
Traditional reading instruction	Instruction	3 class hours (150')		
	Active reading time	Approximately 5-10'		
<i>Note.</i> SSR= Sustained silent reading, ARR= Assisted repeated reading, TR= Traditional reading				

As indicated in Table 1, the TR instruction comprised 300-minutes of traditional reading instruction weekly, which consisted of reading activities such as skimming, scanning, translating, answering comprehension questions, follow-up writing activities as well as listening and follow-up speaking activities. The materials comprised units including short texts from commercial English coursebooks. The instructional procedure started with pre-reading (e.g., prediction questions coupled with visuals, listening, etc.) and discussion activities to activate participants' schemata. Then, vocabulary exercises to pre-teach key vocabulary were covered, followed by reading the text silently and engaging in post-reading comprehension questions and discussion.

On the other hand, the instruction in the SSR group comprised 150-minute SSR treatment integrated into 150-minute traditional reading instruction, and within the 150-minute SSR instruction, 50-minute entailed active reading time. The treatment materials were 79 graded readers at different stages published by

different publishing houses including Oxford Bookworms Library, Pearson Readers, etc. In light of the major principles guiding ER (Day & Bamford, 2002) and SSR (McCracken, 1971), participants self-selected graded readers they would read and the instructor made sure that they picked readers at their level. Their reading was silent, independent, and uninterrupted so that they could focus on understanding what they read, also because all participants read different materials suitable for their proficiency and interest. In other words, the instructor, based on findings of a quick survey selected the books that could appeal to their interests and were also suitable for their proficiency level based on the results of MEPT. Participants were directed to the grade levels they should read according to their English proficiency level (according to MEPT results). As Cho and Krashen (2019) indicated, “we need to make sure our students have access to interesting and comprehensible reading material” (p. 235). All the reading was done in the classroom environment and the participants were not allowed to take materials home. Each treatment session started with the distribution and a 30-minute discussion of the reading logs to be filled in by the students with information concerning how many pages and content of what they read during the previous session. Then, participants engaged in SSR for 50-minutes (During the pilot test, although we had devoted 100-minutes to reading itself, preliminary findings indicated that the students expressed boredom with reading with the reading activity taking 150 minutes, so we decreased it to 50 minutes). After 50-minutes of reading, they shared the content of what they read with their classmates by engaging in a different reading activity each week, which primarily involved discussing individualized questions, speaking, and writing about the graded readers they were reading. This was in consideration of the statement that “simply creating silent reading venues will not guarantee that students’ time will be used productively” (National Reading Panel, 2000, as cited in Hiebert et al., 2012, p.111). Finally, the instructor collected back the readers and the participants were asked to write a reflection report.

In the ARR group, the instruction comprised 150-minute ARR treatment integrated into 150-minute traditional reading instruction and involved 50-minute of active reading time. The materials that all the participants read were chapters from two graded readers: *The Amsterdam Connection* (by Sue Leather- Cambridge University Press) (L4) and *Misery* (by Stephen King-Pearson) (L6), again selected according to MEPT results and their interests. Participants read the same texts at the same time, which they reread three times: the *first* and *third* reading was silent (i.e., unassisted) whereas the *second*

reading was audio-assisted, where the participants both read and listened to the text simultaneously. Accordingly, in each treatment session, participants first got their readers, quickly skimmed the previous chapter to remember what they had read in the previous session, and had a whole-class oral discussion. Then, they silently read the text one time for general comprehension, read it silently for the second time through audio-assistance, and read it silently for the third (i.e., final) time, all of which lasted for 50-minutes. Afterwards, they engaged in a reading activity (as in SSR) and wrote their reflections at the end of the session.

Data Collection

Data came from a) Michigan English Placement Test (MEPT), b) comprehension and silent reading rate test, c) motivation for reading questionnaire (MRQ), d) participant reflections, and e) interviews.

- a) **MEPT:** MEPT (2006) is a paper-based English placement test which comprises 100 questions divided into four categories: listening comprehension ($n = 20$), grammar ($n = 30$), vocabulary ($n = 30$), and reading comprehension ($n = 20$). It was administered both to determine the participants' English level and to make sure there were not any pre-existing differences across the treatment groups.
- b) **Comprehension and silent reading rate test:** Comprehension and silent reading rate were measured by the test which was based on the reading sections in the written test from B1 (Level 2) and B2 (Level 3) CEFR levels of the Pearson Test of English General (PTE General). Each level comprises two texts and a total of nine items (five multiple-choice, four open-ended), each of which is worth one point. Generally speaking, the test battery comprised four texts and eighteen questions. The test was used for measuring both comprehension and silent reading rate at the same time (as also implemented in Carney, 2016; Suk, 2015, and others).
- c) **Motivation for reading questionnaire (MRQ):** Reading motivation was measured by using an adapted version of the motivation for reading questionnaire (MRQ) (Wang & Guthrie, 2004). MRQ, with 41 items aligned to a 5-point Likert scale, comprises two constructs (i.e., intrinsic and extrinsic motivation) and eight dimensions (i.e., *Curiosity, Involvement, Preference for challenge, Recognition, Grades, Social, Competition, and Compliance*).

Moreover, to support and clarify statistical findings as well as elicit in-depth information regarding students' attitudes toward the treatment and EFL reading, qualitative data were collected via reflections and interviews:

- d) **Reflections:** After each session, participants wrote reflections regarding their reading experience in the classroom. Each participant wrote a total of 10 reflections over the 10-week treatment period.
- e) **Interviews:** At the end of the study, all the participants randomly divided into focus groups were invited for face-to-face semi-structured focus-group interviews which were conducted in Turkish and audiotaped. A total of 16 questions categorized into five sub-headings were asked (i.e., reading habit, graded readers, reading activities, improvement, reading motivation/ attitudes) (adapted from Suk's 2015 categorization of interview questions). The aim was to reveal their attitudes toward the reading practices (i.e., SSR, ARR, and TR) and toward EFL reading. Each interview session lasted between 15-30 minutes (20 minutes on average). A total of six interview sessions (approximately a total of 120 minutes long) were held, each of which includes 6-8 randomly selected participants from the same treatment group.

Data coming from a) MEPT (only pre-test), b) comprehension and silent reading rate test (pre and post-test), c) motivation for reading questionnaire (MRQ) (pre and post-test), d) reflections (during), and e) interviews (only post-test) were collected during a 10-week time period. At the beginning of the semester, before administering the tests, the participants first took the MEPT. Afterwards, following a practice session prior to the experiment, they took the pre-test battery (reading comprehension and silent reading rate test, and MRQ) in the classroom environment, which was also administered as post-tests at the end of the study. Prior to taking the pre-test battery, participants were provided some orientation, which introduced to them the sample test items.

During the treatment period, participants wrote weekly reflections in the classroom environment just after each treatment session in whichever language (i.e., Turkish or English) they preferred. At the end of the 10-week treatment period, all the participants who were randomly grouped within their treatment groups were interviewed in focus-group semi-structured interviews. The data collection procedure is summarized in Table 2.

Table 2. Data collection procedure

Group		Treatment (10-week)		
SSR	Pre-tests	SSR + TR	Post-tests	Interviews
ARR		ARR + TR		
TR		TR		
<i>Note.</i> SSR= Sustained silent reading, ARR= Assisted repeated reading, TR= Traditional reading				

Data Analysis

Data coming from the test battery were first marked by the researchers. Regarding *reading comprehension*, the answers to both the multiple-choice and open-ended questions were marked by assigning 1 point for each correct answer, where the answers for the latter were also marked with an external coder. For *silent reading rate*, the word per minute (wpm) for each participant was calculated by the following formula: Words per minute = (Number of words read x 60) / time spent for reading (in seconds). Reading rates were calculated by taking the average of the time records of four texts. Regarding the *MRQ*, data were first inspected for missing values and were then entered into SPSS.

For analysing quantitative data, due to the small number of participants in each group and not having normally distributed data, non-parametric tests were used: To investigate the effects of SSR, ARR, and TR instructions on reading comprehension, silent reading rate, reading motivation by addressing the effect of proficiency level over 10 weeks, Kruskal-Wallis H test, Wilcoxon Signed-rank test, and Mann-Whitney U test were run. For all the quantitative analyses, statistical significance was set to 0.05 ($p \leq 0.05$).

Qualitative data coming from participant reflections and interviews were analyzed by using Dörnyei's (2007) four-phased procedure which comprises (a) pre-coding and coding, (b) growing ideas, and (c) interpreting and drawing conclusions. Qualitative data analysis followed inductive reasoning through an exploratory state of mind.

FINDINGS AND DISCUSSION

Preliminary analyses of reading logs regarding reading amount indicated that the SSR group participants read between 43.928 and 117.960 words, with a mean of 65.524 words (*SD* = 21.479), whereas the ARR group participants read approximately 25.983 words (only during the treatment sessions) over the 10-week treatment period. On the other hand, the TR group participants read around 8.866 words during the treatment.

Regarding the quantitative analyses, Table 3 provides descriptive statistics for the variables across the groups.

Table 3. Descriptive statistics for pre and posttest scores across groups

	Reading comprehension (Pre/Post)			Silent reading rate (Pre/Post)			Overall reading motivation (Intrinsic & extrinsic together) (Pre/Post)		
	SSR	ARR	TR	SSR	ARR	TR	SSR	ARR	TR
n	15	14	12	15	14	12	15	14	12
Mean	10.53/12.73	10.78/11.57	10.50/10.50	104.13/79.25	134.53/98.31	101.24/108.85	159.26/158.4	159.35/158.92	152.41/159.83
Median	10.00/13.00	10.50/11.00	10.00/11.00	98.90/74.80	135.82/88.41	99.39/101.54	165/158	159/156	154.5/158

	Reading comprehension (Pre/Post)			Silent reading rate (Pre/Post)			Overall reading motivation (Intrinsic & extrinsic together) (Pre/Post)		
	SSR	ARR	TR	SSR	ARR	TR	SSR	ARR	TR
SD	1.88/1.71	1.76/1.91	2.02/2.06	31.43/21.07	28.83/26.76	19.74/36.11	19.7/16.29	17.55/13.31	20.42/21.32
SE	0.48/0.44	0.47/0.51	.58/.59	8.11/5.44	7.70/7.15	5.70/10.42	5.08/4.2	4.69/3.55	5.89/6.15
Skewness	.199/.370	-.212/.722	.040/.593	1.896/2.145	-.681/1.307	.356/.274	-.525/.590	-.056/1.468	-.169/.026
Kurtosis	-.273/-.529	-1.164/-.114	-.326/.651	5.320/6.107	.158/1.730	-.779/.044	-.961/.991	.334/2.225	.843/-.822
Note. SSR= Sustained silent reading, ARR= Assisted repeated reading, TR= Traditional reading									

Regarding *reading comprehension*, as indicated in Table 3, the SSR group had statistically significant gains ($Z = -2.959$, $p = 0.003$), with a large effect size ($r = 0.54$), whereas the ARR and TR groups made slight gains which were not statistically significant. However, the ARR group made slightly higher

gains than the TR group in comprehension, and the TR instruction did not seem to have a noticeable effect on participants' comprehension (see Figure 1).

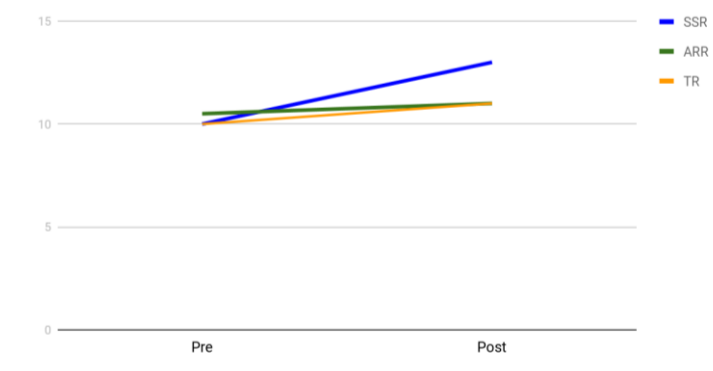


Figure 1. General reading comprehension median scores across groups and time

Overall, these findings can be ascribed to the sustained and rich exposure to L2 input and the reading amount (i.e., an average of 65.524 words) that the SSR group had. Qualitative data from student reflections and interviews also seem to support this finding. For example, one participant stated that “*I read 5 books until this time and (reading them) provided me to[...] understand more efficiently*” (P1, SSR, Reflection). Interview data similarly indicated that the majority of the SSR participants ($n = 10$, 67%) thought they improved their comprehension. On the other hand, ARR and TR instructions did not have a considerable effect on comprehension presumably due to the comparatively limited reading amount, which is considered a predictor of successful reading comprehension (Guthrie et al., 1999). Participant accounts also seem to explain these results: “*I think this [reading comprehension] is something that will improve with more reading*” (P21, ARR, Interview).

As to *within-group* effects in terms of proficiency regarding comprehension, only in the SSR group, both lower ($p = .026$) and higher ($p = .049$) proficiency participants made statistically significant gains from pre to post-test. As also indicated in Table 4, the benefits that higher proficiency SSR-group participants made were slightly higher than those of the lower proficiency. These differences could perhaps have been larger if the number of participants had been greater. In the ARR group, however, neither lower nor higher proficiency groups made any improvement in reading comprehension.

Likewise, neither lower nor higher proficiency TR group participants' reading comprehension scores showed a change. In sum, SSR practice improves reading comprehension significantly more than ARR and TR, especially at higher proficiency levels.

Table 4. Descriptive statistics for reading comprehension and silent reading rate across group, time, and proficiency levels

Group	Proficiency	<i>n</i>	Reading comprehension (Pre/Post) Mdn (SD)	Silent reading rate (Pre/Post) Mdn (SD)
SSR (<i>n</i> = 15)	Lower	6	10.5 (SD = 1.21)/ 12.5 (SD = 1.94)*	104.2 (SD = 18.56)/ 74.25 (SD = 10.31)*
	Higher	9	10 (SD = 2.29)/ 13 (SD = 1.59)*	97.61 (SD = 38.9)/ 74.8 (SD = 25.89)*
ARR (<i>n</i> = 14)	Lower	8	10 (SD = 1.59)/ 11 (SD = 2.18)	119.08 (SD = 23.78)/ 86.34 (SD = 23.01)*
	Higher	6	12 (SD = 1.96)/ 11.5 (SD = 1.54)	160.96 (SD = 14.26)/ 93.15 (SD = 32.76)*
TR (<i>n</i> = 12)	Lower	7	10 (SD = 2.38)/ 10 (SD = 1.86)	94.25 (SD = 22.09)/ 99.44 (SD = 29.86)
	Higher	5	11 (SD = 1.30)/ 11 (SD = 2.19)	101.56 (SD = 18.12)/ 120.38 (SD = 47.06)
<p><i>Note.</i> * significant at the $p < 0.05$ level SSR= Sustained silent reading, ARR= Assisted repeated reading, TR= Traditional reading</p>				

Regarding *silent reading rate*, there was a statistically significant difference across groups at the pre-test, where the ARR group had a comparatively higher silent reading rate. Therefore, a one-way ANCOVA (Analysis of Covariance) test was run, by taking the differences at the pretest as the covariate. Findings obtained through the adjusted posttest scores

indicated, as illustrated in Table 3, that silent reading rate scores of SSR and ARR groups significantly decreased, whereas those of the TR group indicated a slight (and nonsignificant) increase. These findings were also valid for lower and higher proficiency learners in each group (see Table 4). Moreover, participants in the ARR group experienced more decreases than those in the SSR group (see Figure 2).

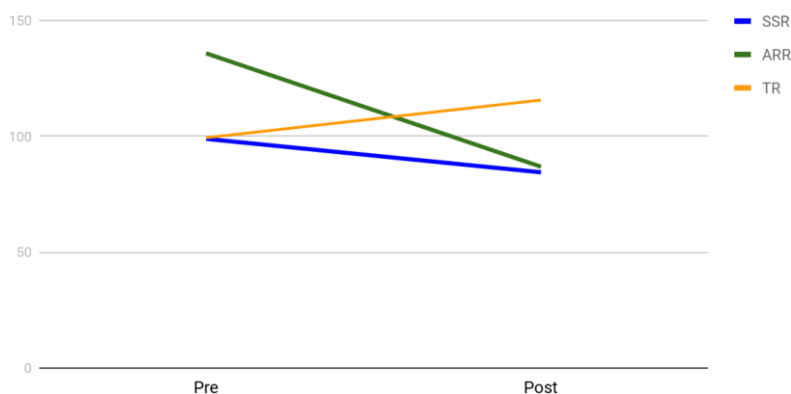


Figure 2. Silent reading rate and comprehension mean scores across groups and time (adjusted posttest means)

As mentioned above, the finding that the SSR and ARR group —although not significantly— decreased their reading rate, unlike the TR group members who had a tendency to increase their reading rate, can be explained by the fact that the TR group members were used to reading short passages to answer questions, which may have promoted their noticing and focusing attention to certain details. Moreover, in cases where proficiency level is not sufficient enough to enable learners to both read fast and equally comprehend what they read, there may be a tradeoff between reading rate and comprehension (see also Chang & Millett, 2013; Cushing-Weigle & Jensen, 1996; Karlin & Romanko, 2010; Matsui & Noro, 2010). In other words, the SSR group who practiced reading for pleasure and the ARR group who read the same short texts repetitively might have tended to read slowly to be able to answer reading comprehension questions. Data coming from reflections and interviews confirm these findings.

I read slower at the posttest to read the texts more in-depth, to comprehend more. (P14, SSR, Interview).

While I was reading, I recognized something important for me. That was the speed of my reading. I was reading quickly but I didn't get some information [...]. But then, when I read slowly, I thought that was better because by doing like this I could get some information about what the book said. (P6, ARR, Reflection)

As also can be seen from these accounts, SSR and ARR participants increased their reading comprehension at the expense of silent reading rate.

With regard to effects of three different treatments on participants' *intrinsic motivation for reading*, as indicated in Table 5, there was no significant change in terms of their intrinsic motivation although there was a slight increase in the motivation of SSR and ARR group, whereas there was a slight decrease in the lower and higher proficiency TR group participants' intrinsic motivation (see also Figure 3).

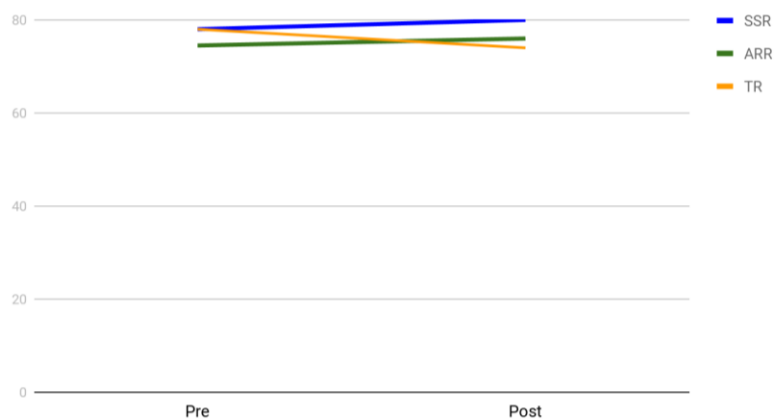


Figure 3. Intrinsic motivation median scores across groups and time

As supported in the field that intrinsic motivation is strongly correlated with the amount and breadth of reading (De Naeghel et al., 2012; Schaffner et al., 2013; Schaffner & Schiefele, 2016; Troyer et al., 2019) and given that the SSR participants in this study had a greater amount of time devoted to reading itself, one could expect a significant increase of the SSR group members' intrinsic motivation for reading. However, the findings were not statistically significant. One reason for this may be that, as some of the participants pointed

out, the amount of time devoted to reading itself was not sufficient. Some SSR group participants pointed out that there was not enough time allocated to pleasure reading in the class. As one participant indicated, “*I wish that we could read more*” (P13, SSR, Reflection). Besides, another stated “[...] *we should have much more time to read books*” (P2, SSR, Reflection). Another reason might be, as supported by some researchers (e.g., Schaffner et al., 2013; Stutz et al., 2016), that the quality of leisure time reading is more important than quantity. In other words, the reading materials selected for pleasure reading may not have well-matched the SSR group participants’ interests or reading skill level.

As also indicated in Table 5, in terms of *extrinsic motivation for reading*, there was no significant change in scores of any groups: SSR and ARR groups’ extrinsic motivation slightly decreased although there was a slight increase in the TR group’s extrinsic motivation (see also Figure 4).

Table 5. Descriptive statistics for intrinsic and extrinsic reading motivation across group, time, and proficiency levels

Group	Proficiency	<i>n</i>	Intrinsic motivation (Pre/Post) Mdn (SD)	Extrinsic motivation (Pre/Post) Mdn (SD)
SSR	Mixed	15	78 (8.26)/ 80 (7.71)	86 (12.51)/ 80 (11.35)
	Lower	6	71 (10.53)/ 75.5 (8.96)	74.5 (14.29)/ 80 (7.94)
	Higher	9	79 (4.29)/ 80 (6.12)	88 (10.02)/ 81 (12.91)
ARR	Mixed	14	74.5 (7.99)/ 76 (6.13)	85 (12.11)/ 79.5 (10.28)
	Lower	8	72 (8.5)/ 75(6.38)	85.5 (11.58)/ 79.5 (9.63)
	Higher	6	77 (7.48)/ 79 (6.05)	84.5 (13.73)/ 80.5 (11.41)
TR	Mixed	12	78 (9.48)/ 74 (8.36)	78 (12.66)/ 84.5 (13.76)
	Lower	7	76 (10.65) / 73 (8.94)	80 (9.89)/ 85 (12.66)
	Higher	5	79 (4.63)/ 75 (7.72)	76 (15.84)/ 82 (16.68)
<i>Note.</i> SSR= Sustained silent reading, ARR= Assisted repeated reading, TR= Traditional reading				

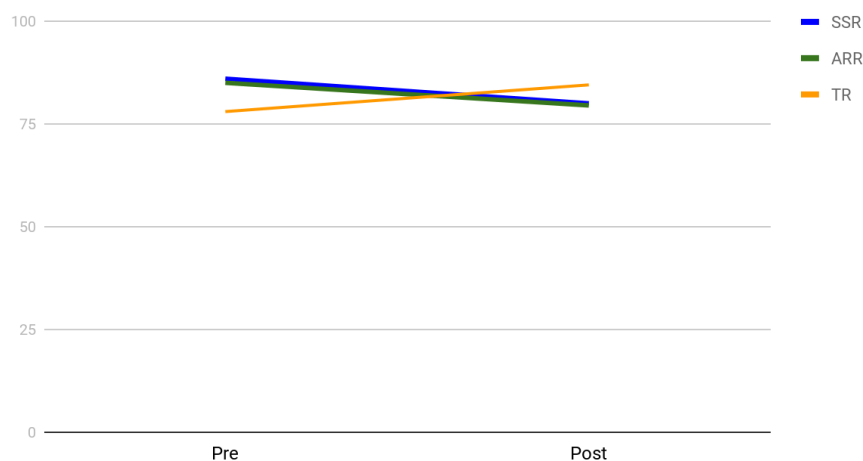


Figure 4. Extrinsic motivation scores across group and time

In the SSR group, while lower-proficiency SSR participants increased their extrinsic motivation, higher-proficiency participants decreased it. In the ARR group, both lower and higher-proficiency participants slightly decreased their extrinsic motivation. Unlike those of SSR and ARR, extrinsic motivation of the TR group (both lower and higher-proficiency participants) showed a tendency towards an increase, although not significantly (see Table 5). Indeed, scores of the TR group indicated a significant increase in extrinsic motivation in terms of *Recognition* ($Z = -2.051, p = .040$) and in *Competition* ($Z = -1.980, p = .048$). As also indicated by earlier researchers (e.g., Schiefele et al., 2012; Troyer et al., 2019; Wigfield & Guthrie, 1997), *recognition* and *competition* are components of extrinsic motivation. Accordingly, this finding may be due to the nature of TR instruction and materials because the aim of intensive reading is to help students obtain detailed meaning from the text and answer follow-up questions accurately (Renandya, 2007).

Overall, regarding *reading motivation*, that SSR and ARR participants decreased their extrinsic motivation and increased their intrinsic motivation slightly can most probably be interpreted with pleasure reading and non-evaluative reading activities, as evinced by the qualitative data. Comments of the participants seem to explain the tendency for an increase in terms of the intrinsic motivation of the SSR and ARR participants. Reflections, for example, demonstrated that the majority of the SSR group participants were

motivated to read more and experienced positive attitudinal changes. As one participant noted, *“I liked reading thanks to this course. I want to go on reading some books. I have already had some books but I did not want to read them. Thanks to this course, I want to read them now”* (P14, SSR, Reflection). Also, a participant from the ARR group noted the following: *“I don’t notice how the time passes in reading sessions. I am thinking about going to the city centre and buying some English novels from a secondhand bookshop”* (P23, ARR, Reflection).

On the other hand, TR group participants’ comments also seem to explain the slight increase in their extrinsic motivation and a decrease in intrinsic motivation. Findings of the TR group may be due to the nature of the 6-hour intensive traditional reading instruction, the instructional materials (i.e., short unchallenging coursebook texts), and activities. These materials may have been considered to be boring by the students. Also, these texts were not motivating for them since they had to read them to answer questions rather than for pleasure. To exemplify, one participant pointed out, *“The things that we do in the class are classical, and sometimes it could be boring”* (P41, TR, Reflection). Similarly, another participant indicated the following regarding while and post-reading activities in the TR instruction: *“This lesson is good for learning words. On the contrary, I became really bored while we were doing the activities”* (P30, TR, Reflection). For example, one participant stated that *“The topic was actually good. However, I really got bored in the reading part”* (P32, TR, Reflection). As can be seen from these reflections, although some participants experienced some benefits regarding vocabulary knowledge and enjoyed reading about different topics, the reading materials and activities were perceived as boring, traditional, and external reinforcements.

CONCLUSIONS

This study investigated the possible effects of SSR, ARR, and TR instructions integrated into the EFL reading instruction programs on EFL students’ reading comprehension, silent reading rate, reading motivation, and attitudes at two different proficiency levels. The findings in relation to *reading comprehension* indicated that, unlike the ARR and TR instructions, the SSR instruction integrated into the EFL reading program yielded significant benefits both for the lower and higher proficiency participants. This finding concurs with those of earlier studies (e.g., Masoumi & Sadeghghli, 2017; Sims, 1996, Suk, 2015). Findings also indicated that this benefit was slightly more effective

for the higher proficiency SSR group. As a contribution to the field, findings also indicated that the SSR treatment had significantly higher effects on the improvement of reading comprehension than the ARR and TR group.

Regarding *silent reading rate*, both higher and lower proficiency SSR and ARR participants experienced a significant decrease whereas the TR participants of both lower and higher proficiency slightly improved their reading rate. As also corroborated by the qualitative data, SSR and ARR participants experienced a tradeoff between reading comprehension and rate, as was the case in earlier studies (e.g., Chang & Millett, 2013; Cushing-Weigle & Jensen, 1996; Karlin & Romanko, 2010; Matsui & Noro, 2010). However, finding that the TR group also did not have a significant increase in their reading rate indicates the fact that the proficiency level had a significant role in this tradeoff; in other words, their proficiency level did not enable them to both read fast and comprehend well. As also corroborated by earlier studies (e.g., Chang & Millett, 2013; Cushing-Weigle & Jensen, 1996; Karlin & Romanko, 2010; Matsui & Noro, 2010), they had to slow down -on purpose- and sacrificed their rate for the sake of comprehension, as also evinced by the qualitative data. Indeed, the SSR group made significant gains in comprehension.

Regarding the effect of SSR, ARR, and TR instructions on *L2 intrinsic and extrinsic reading motivation and attitudes toward reading*, findings showed a tendency in the SSR and ARR groups toward an increase in their *intrinsic motivation for reading* and decrease in their *extrinsic motivation for reading* whereas in the TR group, the case was the opposite. Moreover, findings indicated a tendency towards an increase in the extrinsic motivation of the TR group, especially in the sub-components of *recognition* and *competition*. This finding also corroborates with arguments in the field: As posited in the field, extrinsic reading motivation comprises three constituents: recognition, competition, and grades (Schiefele et al., 2012; Wigfield & Guthrie, 1997; Troyer et al., 2019).

Qualitative data also supported that SSR and ARR participants revealed positive motivational and attitudinal changes toward the instruction they received, bolstering the findings of earlier studies on SSR (e.g., Hwang, 2018; Lin et al., 2012; Sakurai, 2014; Suk, 2015) and ARR (e.g., Gorsuch & Taguchi, 2010). More specifically, SSR helped participants establish a reading habit in English, become more eager readers, and hold more positive attitudes towards reading in L2, as indicated in some earlier studies as well (e.g., Atay, 2004; Pilgreen & Krashen, 1993; Mason & Krashen, 1997; Mermelstein, 2014;

Sakurai, 2014). Similarly, ARR helped participants form a reading habit (as in Gorsuch & Taguchi, 2010). As Chang and Millett (2015) indicated, through audio-assisted reading, “L2 readers may be pulled faster through texts and enjoy the benefits of reading quickly.” (p. 100). In this study, although audio-assistance was mostly favored, reading the same text three times repeatedly sometimes demotivated some students and generated discomfort, which was also reported in the earlier studies (e.g., Chang & Millett, 2013; Taguchi et al., 2004, 2012, 2016).

According to the findings of the study, “hybrid” reading programs can be developed according to the needs of different proficiency-level students: For lower-proficiency learners, reading programs could focus more on traditional reading and assisted repeated reading instruction. Higher-proficiency participants, on the other hand, could be provided with more meaningful reading opportunities than the traditional reading classes could provide, and teachers could specifically make sure that they read books at their level by creating meaningful and suitable reading opportunities. As Cho and Krashen (2015) also indicated, considerable improvements can be made “...through reading, and without pain” (p. 141). Students should be given a sufficient amount of time both in the classroom and, if they wish, outside the classroom environment. Moreover, reading activities (e.g., group discussion) might create an opportunity for a more enjoyable and beneficial classroom environment.

In conclusion, alternative reading instructions such as sustained silent or assisted repeated reading should not be considered and implemented as spur-of-the-moment activities, yet as a way to create lifelong learners (Gardiner, 2005) and sustain traditional intensive reading instruction.

This study has several limitations: First of all, it has limited external validity as it was conducted in an EFL context with a small sample size of Turkish university-level students. This factor might have affected the results of the study. Future studies, therefore, should involve larger sample sizes. Moreover, random sampling procedures might provide more reliable data for future studies. Although the treatment or any other treatment-related issues did not affect participants’ course grades, there might have been a research bias effect due to the fact that one of the researchers was also the instructor of the *Reading Skills* course that served as the treatment of the study. Moreover, the fact that the participants, in addition to the 6-hours treatment, had a total of 18 more hours of English instruction on listening, writing, and speaking skills might have been a confounding factor for the findings of the present study. Furthermore, the presence of both lower and higher-proficiency participants in

the same section could be considered another limitation of the study, especially for the students' self-selection of the materials. In addition, the number of hours devoted to reading itself (i.e., 50 minutes per week) or a possible mismatch of the materials with learners' interests and proficiency could have adversary effects on the results. Finally, this study adopted a mixed-method design, yet detailed and longitudinal qualitative explorations would be desirable and meaningful.

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