Think-Pair-Share as a Formative Assessment Strategy: EFL Learners' Reading Comprehension and Vocabulary Learning

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ABSTRACT

Practicing innovative, constant, dynamic, ongoing and process-oriented assessment techniques with constructive and communicative feedback can consolidate and stabilize learners' instruction and learning. This study investigated the impact of the think-pair-share (TPS) formative assessment (FA) strategy on Iranian EFL learners' reading comprehension skill and vocabulary knowledge. Sixty male intermediate EFL participants from two intact classes took part in the revised Cambridge Preliminary English Test and forty-eight students were chosen by analyzing their scores considering two standard deviations above or below the mean. The participants were from Allameh Jafari high school of Marand. They were assigned to two intact groups of twenty-four learners. This quasi-experimental study was implemented by using a pretest and posttest design to quantitatively collect data so as to compare the experimental group (EG) and the control group (CG). The EG was assessed through the TPS assessment technique, while the CG was assessed using the product-oriented summative assessment (SA) tool. To find out the effect of the assessment techniques on reading comprehension and vocabulary knowledge, the two groups of the study were assessed for twenty weeks. Then, Independent Samples T-test and the one-way ANCOVA were used to compare and analyze the pretest and the posttest scores of the participants in the two groups. The findings indicated that the EG with the TPS FA technique outperformed the CG with the SA strategy in reading comprehension and vocabulary learning. The findings can be pedagogically rewarding for learners, teachers and theoreticians and may cast light on SLA research in applying FA techniques.

KEYWORDS: Formative Assessment; Reading Comprehension; Summative Assessment; Think-Pair-Share; Vocabulary Learning

INTRODUCTION

Formative assessment (FA) can assist students to improve their reading comprehension abilities and vocabulary knowledge. The depth and breadth of learners' comprehension and vocabulary mastery can be assessed using the think-pair-share (TPS) cooperative model to consolidate their achievement after/while teaching and learning process. TPS as an FA technique is used to explore strengths and weaknesses of the learners and to figure out their current level of knowledge. One of the techniques of active learning that is considered to improve learners' comprehension is TPS. According to Ageasta and Oktavia (2018), TPS motivates students to understand texts and for Akhtar and Saeed (2020), TPS is an assessment model that can be practiced to activate learners to think, analyze or process new information and helps them to reflect on learning. Furthermore, Dwigustini and Widiya (2020) have argued that TPS makes learners interested in reading and solves some of the reading related problems. Similarly,

Supriyani, Sudirman and Mahpul (2017) have explained the contributive role of TPS assessment tool in improving learners' text comprehension.

The assistive function of TPS on reading instruction was also emphasized by Rifa'at and Suryani (2019). Rifa'i and Lestari (2018) have also stated that it makes students motivated to discuss classroom topics willingly and enhances their achievement rate. Likewise, Syafii (2018) has considered TPS as a cooperative learning method which increases each students' active involvement and participation. According to Hudri and Irwandi (2018), it creates special conditions for the discussion in the classroom and affects learners' interaction model. It manages the classroom techniques to provide students with more thinking time, cooperation, problem solving and group work. Language learners' ability to read the passage, work on its information, construct meaning and remember what they have already read constitutes their reading comprehension skill. Mastery in this skill is of crucial importance for EFL students in order to interact with the text and with their teacher and other learners in a communicative sense (Srimanee, Ruangnoi, & Abidin, 2021). Assessing reading comprehension and vocabulary command is of outstanding significance for English language learners. Specially, when students are assessed formatively, the stress and pressure of assessment on learners is reduced and they reveal their high and real performance in reading skill. Informal FA creates stress and anxiety free condition for students' learning. Different types of assessment are used in Iranian public schools. FA as an informal assessment model monitors learners' progress in a language area or in a specific concept. It does not assess students' acquired knowledge or abilities. Teachers also need to have the required FA knowledge to pave the way for their successful assessment practice in the field (Schildkamp, Kleij, Heitink, Kippers, & Veldkamp, 2020).

Iranian EFL learners may have problems in comprehending passages for different reasons. At first, the instruction methods may not be appropriate to stabilize their learning. The other source of difficulty comes from lack of appropriate interaction and involvement with the reading passages due to lack of continuous and informal classroom assessment strategies. Reading fluency is the next source of problem for them since reading comprehension skill is practiced limitedly and students have low and limited chance to read and articulate the sentences to be fluent readers of English. Their inability to comprehend passages may also originate from ineffective assessment techniques, being reluctant to read, not understanding reading vocabulary and lack of familiarity with reading comprehension strategies and techniques. Vygotsky' social constructivist theory of learning and scaffolding (Vygotsky, 1978) can account for the TPS since it stresses collaboration and cooperation in learning. Learners work together and assist each other while using TPS to process information with ownership and participation in social classroom context. As the interaction and participation form the base of the TPS, this FA technique can be theoretically associated with the input hypothesis (Krashen, 1985). That is, the input communicated by or with the teacher or among students is within the comprehension level of the students. Similarly, the high amount of information interacted by the learners can be attributed to input flooding (Hernández, 2018) since the quantity of information about the passages becomes salient and they can have additional exposure to rich content about the passages.

Reading comprehension and vocabulary learning have had the most critical role in EFL context since they are the apparent and necessary parts of the EFL curriculum. Reading comprehension passages provide learners with the required input that can later be used in communication. In addition, the vocabulary knowledge of the EFL learners can be utilized as the building block for communication and language use. They are the central areas in language teaching and learning, so teachers need to observe learners' progress in and to assess how sufficient their vocabulary learning and reading comprehension skill are to meet their communicative needs. Furthermore, students will have the opportunity to become more motivated while implementing the ongoing and dynamic TPS technique in assessing their vocabulary and reading comprehension skill due to providing immediate feedback, scaffolding, thinking, collaborating and sharing ideas and thoughts in the FA process.

Normally, the way we have learned very many of the words in our own language was by meeting them in the books and magazines we read. To guess the meaning of a new word, it was enough for us to observe it in the context, in a sentence or story. Meeting the word again and again in our reading helped us learn it to use in our own speaking and writing. Reading comprehension and vocabulary knowledge are closely interdependent, that one affects the other and vice versa. The students' vocabulary knowledge is similarly significant in improving their reading comprehension and mastery of other language skills (Dong, Tang, Chow, Wang, & Dong, 2020; Srimanee,

Ruangnoi, & Bin Zainol Abidin, 2021). The close interplay and interconnection between these two language areas makes applying the FA necessary and crucial for investigation in this study.

Most of the studies in the literature have disregarded the role of TPS as an assessment strategy on both reading comprehension and vocabulary learning and there has been little recognition of its effect on vocabulary learning in specific. Majority of the research was limited to the impact of TPS on language achievement in general or the existing studies have only analyzed the contributions of the TPS on reading comprehension skill as an instructional strategy. In all the studies reviewed in this study, TPS was recognized as a teaching tool that verified its contributive role on improving reading achievement of learners in mastering English language. In contrast, the main focus in the current study is on TPS as an FA tool which may affect reading comprehension and vocabulary learning of EFL leaners. The main purpose of this quasi-experimental study was to practice TPS which provides learners with interaction, involvement, thinking phase, sharing ideas and enough practice to lower or wipe out some of the aforementioned problems in reading comprehension skill and vocabulary learning of EFL learners.

REVIEW OF THE RELATED LITERATURE

Assessing different language skills informally in the classroom is one of the requirements of the modern and advanced language teaching and assessment techniques. FA of reading comprehension can be placed in this category. There exist different types of research concerning the TPS and language learning in the literature. To date, several studies have investigated the TPS strategy to teach or assess reading comprehension skill (Dwigustini & Widiya, 2020; Hudri & Irwandi, 2018; Mahfirah, 2018; Ridwan, 2016; Shore, Wolf, & Heritage, 2016; Yulianti, Lestari, & Yana, 2019). Wolf and Lopez (2022) have recently investigated the usability and validity FA of reading skill through applying technology. Their findings confirmed the accountability of FA techniques for both learners and teachers when it is accompanied by technology in the classroom, but some teachers had misunderstanding about the goals and limited uses of FA to improve reading comprehension skill.

As the literature review revealed TPS as an instruction technique improves learners' comprehension and social literacy skill (Dwigustini & Widiya, 2020; Mahfirah, 2018; Yulianti et al., 2019) and other language related achievements. The other studies have demonstrated the contributive effect of the FA strategies in language achievement (Akhtar & Saeed, 2020; Syafii, 2018; Wolf & Lopez, 2022). Likewise, this study can lead to EFL students' success in understanding the reading passages in their textbooks by being actively involved in the assessment process. Other studies in the literature have considered practicing FA to assess vocabulary knowledge with students of various levels by using different methodologies (Estaji & Mirzaii, 2018; Sam & Raju, 2019; Shi, 2017; Torosyan, 2014; Waluyo, 2018). In general, their findings revealed that FA can improve students' vocabulary knowledge, but they have not been specific in defining different FA tools in this regard.

More recently, Chandran and Hashim (2021) have studied the function of FA on vocabulary learning and have come to the similar findings. In the same category of research, Yarahmadzehi and Goodarzi (2020) have compared the formative mobile based and paper based assessment in learning vocabulary. In their study, using mobile phone for assessing formatively outperformed the paper and pen format. Regarding the methodology of the previous studies, they revealed that in vocabulary learning almost all of the previous researchers have explored the impact of the FA on learning vocabulary in general (Estaji & Mirzaii, 2018; Torosyan, 2014) and they were ignorant of the practice of 60 different types of FA techniques including the TPS. For example, they have included self-paced FA (Chandran & Hashim, 2021), formative mobile-based assessment (Sam & Raju, 2019; Waluyo, 2018; Yarahmadzehi & Goodarzi, 2020), in their studies. However, this study applied a different specific focus on one of the FA tools namely the TPS and the level of learners and context of the study were different from the literature. Therefore, this research has attempted to fill the vacancy in the previous studies and has investigated its function in learning vocabulary and improving reading skill among the EFL learners of intermediate level in quasi-experimental research. In summary, it has been shown from the literature review that very little is currently known about the role of the TPS as an assessment strategy in reading comprehension skill and mastering vocabulary by Iranian high school students in EFL context. There remain several aspects of TPS about which relatively little is known and such studies remain narrow in focus dealing only with TPS as a teaching technique. The current study aimed to address these discrepancies and explored the effectiveness of the TPS assessment strategy on text comprehension skill of the learners ignored in the previous studies.

Assessing learners' reading comprehension and vocabulary knowledge by practicing TPS might help EFL students understand passages, read fluently and willingly and furthermore, it may increase their interaction and participation rate in reading passages. In general, it might solve some of the abovementioned reading related problems and assist them to communicate more and report and share their knowledge with others by using more contextualized vocabulary. Similarly, their social interaction skills may be enhanced by utilizing TPS assessment tool. In particular, this study examined the following four main research questions.

1. Does the formative assessment think-pair-share technique influence EFL learners' reading comprehension?
2. Does the formative assessment think-pair-share technique influence EFL learners' vocabulary learning?
3. Does the summative assessment technique influence EFL learners' reading comprehension and vocabulary learning?
4. Is there a significant difference in the impact of think-pair-share technique between EFL learners' text comprehension skill and vocabulary learning?

Literature review directs us to suppose that there is a relationship between using TPS as the FA technique and learners' achievement in comprehending passages and learning vocabulary in EFL context. In other words, using TPS may help them read or understand passages effectively and use more contextualized vocabulary. The hypothesis that was tested in this study was that the formative TPS strategy might make EFL students' understanding skill and vocabulary learning better, but the final term SA could have little or no contribution on expanding these two language areas. The effect of the TPS seems to be different on these two language areas. In the next section, the method applied in the current research is scrutinized in details.

METHODOLOGY
PARTICIPANTS

The participants were male intermediate level students from Allameh Jafari high school of Marand. Their age was different from sixteen to nineteen. Sixty participants took part in the revised Cambridge Preliminary English Test (PET) and forty-eight students were chosen by analyzing their scores considering two standard deviations above or below the mean. In other words, twelve students were not included for the research since they were too low or too high achievers in that exam. The school principal has put these students into two intact classes with 30 students in each of them, but they were randomly selected for the purpose of the study as follows:

1. The experimental group (EG) with 24 participants was formatively assessed by the TPS technique.
2. The control group (CG) with 24 participants was summatively and conventionally assessed at the end of the term.

Consequently, the effectiveness of the above-mentioned assessment tools on the participants' text comprehension and vocabulary learning was examined in this study.

INSTRUMENTS

Some research materials were needed to extract the necessary data of the current study. The first instrument applied was the revised PET which consisted of 60 questions to check the proficiency level of the participants. The proficiency questions were in B1 level. The pre-test as the second instrument was applied to be certain about the current level of students prior to the treatment. The pretest had twenty-five vocabulary questions, fifteen text comprehension and ten cloze passage questions. The number and category of the questions for the post-test were the same, but different questions were implemented. In other words, the format and level of the pretest and posttest exams were the same. However, the test items were not similar for each of them. The questions in pre and post-test exams were taken from the question bank of the Konkur entrance exam. In Iran, it can be regarded as the English standard tests in high school level. Finally, ten reading passages along with ten vocabulary sets from the fourth grade of the high school textbook were also used and assessed in the current research.

DATA COLLECTION PROCEDURE

According to Dörnyei (2007), when it is impossible for the researchers to assign the participants to two groups of the study randomly, the quasi-experimental design can be selected. Therefore, this quasi-experimental study was implemented by using a pretest and posttest design to quantitatively collect data so as to compare the EG and the CG. However, to create comparisons between these two groups the initial group differences need to be taken account (Dörnyei, 2007).

For the purpose of this study, TPS was used as a collaborative and cooperative assessment strategy in which learners were provided with a passage or a topic/question about the passage in the assessment process. At first, they were asked to think or work together to answer questions about the assigned reading passages. They also cooperated or collaborated to solve problems about the passages. Then, they discussed their ideas and thoughts about the texts and finally they shared their ideas with their teacher, peers and classmates. It was used both individually and through team work to assess reading comprehension passages and vocabulary knowledge. Before conducting the research process, the TPS and SA models were introduced to all participants of the study so as to make them familiar with the assessment models that were to be implemented to them, that is, the students were instructed or trained with the testing technique in each study group before assessing their reading comprehension and vocabulary knowledge. In the second phase, the pretest was administered to the participants to explore whether the two groups of the study were homogeneous and comparable before the practice of the assessment techniques or not. That is, the pretest was given to the participants before the assessment of the reading passages and vocabulary sets. During the assessment phase, the reading passages and vocabulary sets in the EG were assessed by practicing the process-oriented and ongoing FA technique. It means that the participants were provided with a passage to read silently and then assessed applying the TPS assessment model. Ten reading comprehension passages along with ten vocabulary sets were included for the participants to read and then they were assessed in twenty sessions. The TPS assessment model lasted for 20 sessions, that is, one session of assessment was conducted every week. The study took almost five months. The time allocated for each assessment session to apply assessment strategies continued for 90 minutes.

To be fair in instruction for both groups and to teach the content of their textbook properly, the similar course book, teaching hours, comprehension passages, the same vocabulary, activities, tasks, exercises and the same instruction methods were practiced in both groups; however, the TPS as a process-oriented assessment model was implemented in the EG. The comparison group was examined by final term or midterm SA model and the activities, tasks and exercises presented in their school course textbook without providing any assistance or feedback in the form of TPS. Thus, the effect of the treatment was explored. The learners formed both large or small class groups in the TPS assessment process. Participants were continuously motivated to think about what they have read and they also pondered on the topics or questions provided by the teacher or the students. In the next phase, the students paired up and discussed their ideas in groups. In the TPS FA technique, learners used their own words and sentences to report and share what they have previously thought about the text or questions to others. As the TPS practice moved around the classroom, every student could think and discuss the selected passage and use the selected words. Meanwhile, the teacher and students provided communicative and constructive feedback to each other to cover the whole content of the passage. All the participants continued to think, discuss, pair and share every detail of the reading passages with contextualized vocabulary until they all had the chance to master the whole content of the passage and had new ideas and perspectives about the texts.

Whatever the participants communicated, discussed, shared and reported while assessing with the FA model using the TPS was regularly scored and necessary feedback was provided in the assessment sessions. That is, the ideas that were presented by the learners and every utterance or sentence communicated, interacted or thought upon by the students were taken into account to assess reading comprehension passages. After 20 weeks of practicing the TPS FA tool for the EG and the CG (SA), both groups were provided with a post- test to investigate the effect of this assessment tool on the selected language area, namely reading comprehension skill and vocabulary learning.

DATA ANALYSIS PROCEDURE

After the data collection procedure from both groups, the results of the pretest – posttest mean scores in comprehending passages and mastering vocabulary were used to compare and contrast them in SPSS software. The obtained scores were analyzed using the ANCOVA to achieve more exact and valid results by controlling the pretest scores since it initially contributes to lower the group differences in quasi-experimental research studies (Dörnyei, 2007). The one-way ANCOVA was chosen to weigh the research questions up. At last, different tables were used to discuss and report the findings embedded within the text.

RESULTS

The study consisted of two groups and it had a pretest and posttest design, so the univariate one-way ANCOVA was used to analyze the research data. While analyzing data by using the one-way ANCOVA, researchers needed to check the data to be certain whether what they wanted to analyze could practically be analyzed utilizing the one-way ANCOVA or not. This was the necessary criteria for using the one-way ANCOVA. To use this SPSS tool properly, passing some necessary assumptions are required to get reliable and valid results. In the following subsections, five of the most important assumptions for the ANCOVA including linearity, scatterplots, homogeneity of regression slopes, normality test and Levene's homogeneity of variances are tested and then the main ANCOVA analysis are performed accordingly.

CHECKING HOMOGENEITY AND NORMALITY OF THE DATA AS ASSUMPTIONS OF ANCOVA

Homogeneity of variances and normality of data are two of the critical assumptions for the ANCOVA. The ShapiroWilk and Kolmogrov Smirnov tests of normality were utilized to analyze whether the pretest scores obtained from two groups of the study were normal or not, since normality of data is thought to be a necessary factor for parametric tests in statistics. As it is evident in Table 1, the results of these normality tests revealed that the scores in pretest of the two groups were normal *(p> 0.05)* and the two study groups were not significantly different confirming that there was no violation regarding this assumption.

Table 1
Normality Tests

	Groups	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
pre-test	TPSG	.151	24	.164	.944	24	.199
	CG	.111	24	.200	.967	24	.604

Note. TPSG = Think-Pair-Share Group; CG = Control Group

Independent Samples T-test was applied to analyze Levene's homogeneity of variances as another assumption for ANCOVA as the study is comprised of two groups. The results shown in Table 2 revealed that the pretest mean scores in both groups were not significantly different *(p= .854>0.05)* in Levene's homogeneity of variances. Therefore, no violation was displayed regarding this assumption of the ANCOVA in this study.

Table 2
Levene's Test for Homogeneity of Variances on Pre-tests of Two Groups

Groups	Levene Statistic	df1	df2	Sig.
Pretests of two groups	.034	1	46	.854

The Independent Samples T-test analysis results in Tables 3 and 4 on pretest scores with the mean scores of (m=30.04) for the EG and (m=30.21) for the CG revealed no significant difference *(p= .839>0.05)* between the study groups before the treatment was applied in the form of TPS assessment.

Table 3
Descriptive Statistics: Independent Samples T-test on Pretests of the Two Groups

Groups	N	Mean	Std. Deviation	Std. Error Mean
TPS group	24	30.04	2.820	.576
Control group	24	30.21	2.843	.580

Table 4
Independent Samples T-test on Pretests of the Two Groups

					95% Confidence Interval of the Difference	
			t-test for Equality of Means			
			Mean	Std. Error		
T	df	Sig. (2-tailed)	Difference	Difference	Lower	Upper
-.204	46	.839	-.167	.817	-1.812	1.479
-.204	45.99	.839	-.167	.817	-1.812	1.479

THE ANALYSIS RESULTS FOR THE HOMOGENEITY OF REGRESSION SLOPES, SCATTERPLOTS AND LINEARITY OF THE ANCOVA ASSUMPTIONS

Two of the main required assumptions for the ANCOVA analysis are the scatterplots and the homogeneity of regression slopes. In SPSS statistics, researchers can check these assumptions when a grouped scatterplot of the covariate is plotted in the dependent variable and the independent variable. The analysis for these two assumptions were utilized on the pretest and posttest mean scores are displayed in Figure 1 for the reading comprehension variable and in Figure 2 for the vocabulary learning variable. The obtained data meets these assumptions and does not violate them in the one-way ANCOVA analysis. Mainly, it can be inferred from the Figures 1 and 2 that the scores have been distributed around the regression lines with no outliers and there is almost perfect parallelism in the regression lines confirming that the assumptions required for the ANCOVA analysis have not been violated in the research data. In addition, the pretest and posttest scores have approximately linear relationship and there is almost no outlier among the scores.

Figure 1
Homogeneity of Regression Slopes and Scatterplots for Pretest and Posttest Scores of Reading Comprehension
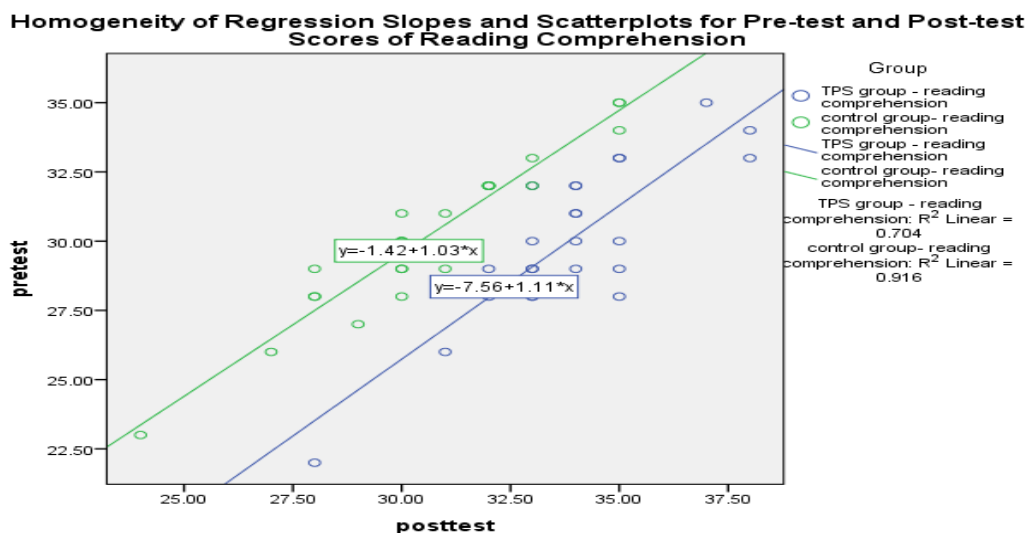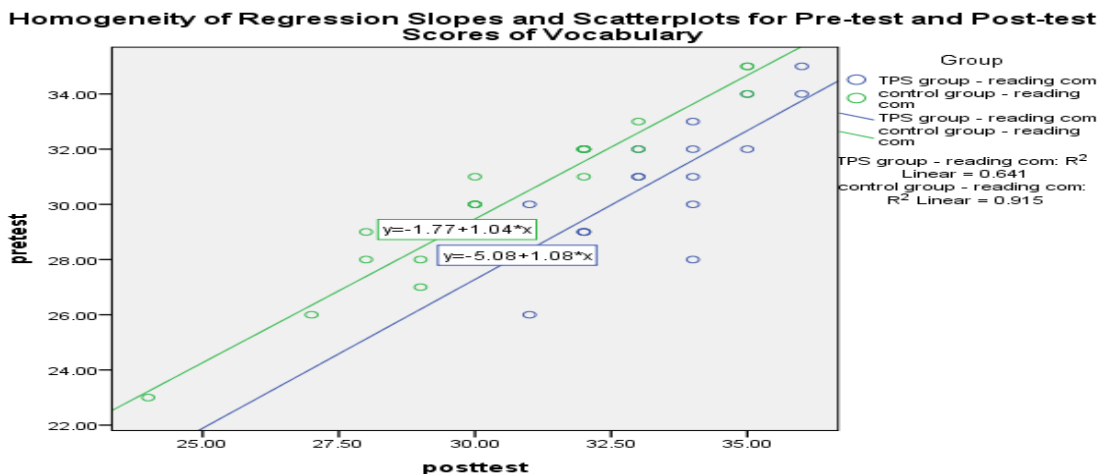
Figure 2
Homogeneity of Regression Slopes and Scatterplots for Pretest and Posttest Scores of Vocabulary

As the analyzed data meets the necessary assumptions of the ANCOVA, the main one-way ANCOVA analysis for the treatment impact on text comprehension skill and vocabulary learning of the two groups are implemented in the following subsections.

THE ANCOVA ANALYSIS RESULTS: THE EFFECT OF TPS ON READING COMPREHENSION

The effect of the process-oriented FA technique, the TPS on reading comprehension in the two groups was scrutinized to weigh the first and third research questions up. To explore the effect of the TPS group on reading comprehension skill of participants in EFL context, the one-way ANCOVA was used to compare the mean scores of both groups. The posttest mean scores of both groups were examined and the results were introduced in different tables. In Tables 5 and 6 the mean scores of the posttests in the treatment and the comparison groups in reading skill are compared.

The descriptive statistics in Table 5 revealed the superiority of the EG (M=33.88, SD= 2.133) over the CG (M=30.63, SD= 2.634) regarding the posttest scores. As the descriptive statistics cannot tell the significant difference between the mean scores of the two groups, the one-way ANCOVA was run in Table 6.

Table 5
Descriptive Statistics: One-Way ANCOVA *on Posttests of Reading Comprehension in the two Groups*

Groups	Mean	Std. Deviation	N
TPS Group (reading)	33.88	2.133	24
Control Group (reading)	30.63	2.634	24
Total	32.25	2.884	48

The one-way ANCOVA analysis for the posttest scores in reading comprehension displayed that the mean scores of the EG (m=33.88) and CG (m=30.63) were significantly different [F (1, 45) = 122.522, P=.000<0.05, partial eta squared= 0.731] as shown in Table 6. Therefore, it is inferred that the TPS has helped EFL learners to have higher reading comprehension achievement. To put it another way, it is inferred that SA did not significantly change text comprehension performance of the learners in the CG. However, the TPS assessment model was helpful in achieving comprehension reading skill among the leaners. As the the partial eta squared value of 0.731 revealed, there was also a strong relationship between the pretest and posttest scores in reading comprehension using the TPS FA technique. It indicates the large effect size when compared with Cohen's guidelines. This value describes that almost 73 percent of the variance in reading comprehension as the dependent variable is explained by the TPS technique as the independent variable.

Table 6
One-Way ANCOVA on Posttests of Reading Comprehension in two Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
					Tests of Between-Subjects Effects	
Corrected Model	340.785[a]	2	170.392	152.696	.000	.872
Intercept	34.895	1	34.895	31.271	.000	.410
Reading com.(pretest)	214.035	1	214.035	191.806	.000	.810
Group	136.722	1	136.722	122.522	.000	.731
Error	50.215	45	1.116			
Total	50314.000	48				
Corrected Total	391.000	47				
a. R Squared = .872 (Adjusted R Squared = .866) b. Computed using alpha = .05						

THE ANCOVA ANALYSIS RESULTS: THE EFFECT OF THE TPS ON VOCABULARY LEARNING

The possible contributive role of the continuous and constant FA model, the TPS was investigated on vocabulary learning as it was formulated in the second and third research questions. A one-way ANCOVA test was utilized to compare and contrast the posttest mean scores for vocabulary learning and then the analysis results were introduced in various tables. Tables 7 and 8 compare the analysis of the posttest mean scores for the EG and the CG in learning vocabulary.

The posttest mean scores were analyzed using the one-way ANCOVA and the results were displayed in Tables 7 and 8. Regarding the vocabulary learning, these tables revealed that the mean scores of the EG and the comparison group were significantly different *(p=.000<0.05)*. The descriptive statistics in Table 7 revealed the superiority of the EG (M=33.12, SD= 1.963) over the CG (M=30.71, SD= 2.612) when the posttest scores were considered. Consequently, it can be concluded that the FA strategy of the TPS has assisted EFL students to master contextualized vocabulary. In summary, it may be stressed that the SA technique did not change the students' vocabulary achievement in the CG, but the TPS assessment was effective in improving the leaners' vocabulary command. As the descriptive statistics cannot tell the significant difference between the mean scores of the two groups, the one-way ANCOVA was run in Table 8.

Table 7
Descriptive Statistics: One-Way ANCOVA *on Posttests of Vocabulary Learning in two Groups*

Groups	Mean	Std. Deviation	N
TPS Group (Vocabulary)	33.12	1.963	24
Control Group (Vocabulary)	30.71	2.612	24
Total	31.92	2.592	48

The one-way ANCOVA analysis on the posttest score results in Table 8 revealed that after adjusting the pretest scores in vocabulary learning of the two groups, there was significant difference between them in the posttest mean scores [$F_{(1, 45)}$= 65.188, P=.000<0.05, partial eta squared= 0.592] of the EG (M=33.12) and CG (M=30.71). Since the P-value was less than 0.05, it demonstrates the superiority of the EG over the CG regarding the effect of the FA technique of the TPS in the assessment process. The partial eta squared value of 0.592 indicates the large effect size when compared with Cohen's guidelines. This value describes that almost 59 percent of the variance in vocabulary learning as the dependent variable is explained by the TPS technique as the independent variable. Furthermore, the existence of a significant pre-test effect [$F_{(1, 45)}$ = 172.513, the partial eta squared= 0.793 P=0.000<0.05] in Table 8 indicates the increase of scores from the pretest to the posttest for both groups.

Table 8
One-Way ANCOVA on Posttests of Vocabulary Learning in two Groups

	Tests of Between-Subjects Effects					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	264.859[a]	2	132.430	117.293	.000	.839
Intercept	42.537	1	42.537	37.675	.000	.456
Vocabulary Learning (pretest)	194.776	1	194.776	172.513	.000	.793
Group	73.600	1	73.600	65.188	.000	.592
Error	50.807	45	1.129			
Total	49212.000	48				
Corrected Total	315.667	47				
a. R Squared = .839 (Adjusted R Squared = .832)			b. Computed using alpha = .05			

DISCUSSION

The study findings revealed that the TPS as an FA technique was confirmed to be beneficial in assisting EFL students' to read and understand passages and learn contextualized vocabulary. It helped them to develop an ability to realize what they learned and how they learned. To put it in a nutshell, this assessment technique improves both language areas in the same way. The students could make connections between different parts of the passage and assisted each other in putting different pieces of information about the text together. The students monitored their learning with awareness and attention because they were continuously engaged in the learning and assessment process. While this process, the learners got positive tips and hints from the instructor and their peers which consequently improved their language command in reading comprehension and vocabulary learning.

The findings revealed significant differences ($p<0.05$) in the mean scores of the posttests between the two groups in learning vocabulary($p=.000<0.05$) and improving reading comprehension skill ($p=.000<0.05$). That is, the TPS group performed better than the control group in understanding passages and mastering contextualized vocabulary and there existed significant differences between the two groups of the study, namely the EG and the CG. The findings confirmed the hypotheses regarding the first and second research questions that the TPS influenced EFL learners' reading comprehension and vocabulary knowledge. The third research hypothesis was confirmed in that the SA did not have any significant impact in improving these language areas. The results also indicated that the TPS had the same effect in enhancing EFL learners' reading comprehension and vocabulary leaning confirming the hypothesis about the fourth research question. The communicative feedback that was provided to the learners in the assessment process gave them the awareness to pose a question, think, discuss, share what they had read attentively. The students also learned from each other because of the process-oriented, ongoing and dynamic assessment technique since the information and content of the reading passage were continuously circulated and practiced among the students through the student-student or student-teacher or teacher-student interactions in the assessment process. The input flooding and adequacy of input about the reading passages for the learners and the use of learned vocabulary in a contextualized manner facilitated their understanding and consolidated vocabulary learning.

The findings closely correspond to the following studies mentioned in the literature (Dwigustini & Widiya, 2020; Hudri & Irwandi, 2018; Mahfirah, 2018; Ridwan, 2016; Shore et al., 2016; Yulianti et al., 2019) about the positive contribution of the TPS as an instructional technique on comprehending passages, whereas this study focuses on its effect both in comprehending passages and learning vocabulary and reveals the positive effect of the TPS on them with different text types and genres and with students having different level of knowledge. The research method and focus in the current study is different from the previous studies. Additionally, the findings are in agreement with the studies conducted by some researchers and they concluded that practicing FA enhances vocabulary learning (Chandran & Hashim, 2021; Estaji & Mirzaii, 2018; Sam & Raju, 2019; Shi, 2017; Torosyan, 2014; Waluyo, 2018).

The findings of this study on the FA technique of the TPS revealed its effective role in improving reading comprehension and vocabulary learning. That is, the TPS as an FA tool boosted EFL students' reading comprehension and vocabulary learning. The study findings agree with Dwigustini and Widiya (2020) regarding reading comprehension, but their findings also improved learners' motivation and learning excitement. In this study, learners' vocabulary command was mounted since the TPS assessment tool was practiced. Our tendency towards language learning was the integration of assessing reading comprehension skill with other language skills and language areas. Mahfirah (2018) and Yulianti et al. (2019) only concluded that the TPS can improve learners' reading comprehension while Ridwan's study in 2016 confirmed that besides enhancing students' reading comprehension, their involvement and confidence were also improved by using the TPS.

Hudri and Irwandi (2018) summarized that the TPS as a teaching technique can develop students' motivation, cooperation and confidence through thinking, pairing and sharing their ideas besides their reading comprehension. In line with the research findings in the literature, the participants reading comprehension were increased by applying the TPS in FA process in this study. In addition, their increased interaction, active invovlvement, deeper thinking about the passages, cooperation and collaboration with peers and the teacher and willingness to communicate with others were aslo obseved among the participants. Although the main focus of this study was on reading skill and vocabulary learning, it was concluded that by using TPS as an assessment tool, learners' active participation in sharing and reporting their ideas was condusive to their improved speaking ability which is in concordance with Syafii (2018). Considering the positive contribution of the FA tools in language learning, the findings generally agree with the studies carried out by Schildkamp et al. (2020) and Sam and Raju (2019). Furthermore, in a case study, Shore et al. (2016) with a different methodology concluded teachers' positive prospectives on using FA in general and their study did not focus on any language skill.

The findings about the TPS similarly concurred with the following studies in enhancing reading comprehension. In all of these studies, researchers focused on the role of the TPS in improving student's reading comprehension skill (Harida et al., 2016; Maulida, 2017; Rohman, 2017; Septya, 2019). They concluded the facilitating role of the TPS on reading comprehension skill only, while this study focused on contextualizing the vocabulary items as well. In other words, this study focused on reading comprehension and vocabulary learning, in contrast, all the above-mentioned studies just included reading skill in their research. The findings of this study about the contribution of the TPS as an FA tool on vocabulary learning revealed that they were in agreement with the studies conducted by Chandran and Hashim (2021) and Estaji and Mirzaii (2018) in practicing FA to enhance vocabulary learning. The findings of this study were congruent and in the same line with most studies on the effect of FA in vocabulary learning (Seifoori & Ahmadi, 2017; Torosyan, 2014).

Likewise, Shi (2017) indicated that the FA in general was effective to enhance students' vocabulary learning and found that it facilitated learning autonomy, motivation and confidence of Chinese students. In this study, the TPS as an FA tool was perceived as helpful for English language vocabulary assessment which leads to learning due to some strategies in the assessment process including team work, comprehensible interactional moves, scaffolding and interactive and communicative feedback. According to Waluyo (2018), the findings confirmed that the FA reinforces students' self-regulated learning strategies and students' levels of English proficiency influence the extent of their self-regulated learning development and involvement. This could be observed in the current study because most of the learners became autonomous, independent and confident in thinking, and sharing their thoughts and ideas about the reading passages. They could also contextualize the selected vocabulary in their reports and comments.

The TPS assessment technique is generally accompanied by discussing ideas, sharing ideas with others, working together, reporting and speaking among the learners. As the interaction and communication in the classroom is in the form of speech, other researchers may illuminate the effect of the TPS as an assessment tool on other language skills including speaking and listening in EFL or ESL context considering the fact that English language learners mostly practice spoken language to elaborate the passage and exchange the information about it. This study contributed to the impact of the TPS on understanding passages and vocabulary command in high schools for intermediate level learners; however, other researchers can replicate it for lower level high school students and advanced university students.

In large part, most of the research stressed the contributive role of the FA tools in general in that they enhance reading comprehension, but the current study focused on comprehending passages along with learning contextualized vocabulary by practicing an under-researched assessment technique formatively among EFL students. The TPS was indicated to boost understanding passages and learning vocabulary among EFL students. In accordance with the theories of SLA, the TPS assessment technique improved EFL students' achievement in text comprehension and vocabulary command due to increased student involvement, provision of communicative feedback, input flooding, comprehensibility of the input and the assistance and scaffolding provided to the students in the learning process. Students adapt themselves to the new learning situation when their background knowledge is activated and more time and chance of assessment is given to them to self-assess, manipulate the input, construct the new information and finally to discuss, share or report it to others. This continuously happens in the TPS during the different interaction and communication process when students practice this tool to assess reading skill and contextualized vocabulary.

The findings underline the theoretical bases of this study. They include scaffolding and the socio-cultural theory of Vygotsky (1978), regarding the fact that the learners continually interact with each other about the passage. In the TPS, thinking, discussing, sharing and reporting the information of the passage are in the ZPD level of the students since students can understand and interact with each other comprehensibly because of the approximation to the students' knowledge level. There exists a close correspondence with input hypothesis of Krashen (1985) since the input which is exchanged among students is crucially understandable and accessible owing to the resemblance of knowledge level among learners. It can be highlighted that students can understand each other and their teacher mutually due to providing the i+1 input level in the classroom context. According to what Ortlieb and Norris (2012) notes, teachers connect students' existing knowledge level to their higher possible knowledge level, whenever TPS assessment tool is utilized in the reading process to make them be able to think about, share and report what they read to others along with contextualization of the learned vocabulary of the text. In other words, by making this association, they analyze and discuss the main points of the text to other students through interaction and discussion. That is, learners can improve their reading command and ultimately become motivated to read more and more. English language classroom is the cultural and social context in which the students interact their ideas and thought while using the TPS assessment model in reading process. Students' knowledge is constructed when they are engaged in the active process of reading and sharing or interacting in their class by thinking about and analyzing what they read. Salient and sufficient access to the information in the selected text by using the TPS assessment tool formatively goes in the same line with the theory of input enhancement and input flooding (Hernández, 2018) and strengthens the application and implications of these theories of SLA in reading comprehension and vocabulary learning besides the structure and form of English language.

CONCLUSION

The findings displayed that all in all FA is more advantageous than SA in improving learners' language achievement when it is accompanied by appropriate teaching tools and techniques in coordination with different assessment strategies. In particular, the formative TPS assessment technique might contribute to EFL learners' text comprehension and vocabulary learning because of collaboration among learners, the provision of assistance through constructive and interactive feedback, assistive scaffolding, salient and ample exposure to the information and input communicated, students' involvement in interaction and communication, and comprehensibility and correspondence of input for the learners. Students' better performance in using vocabulary was due to the contextualization of selected vocabulary items in the TPS to share and report the content of the passages.

Generally, the study findings are advantageous to practitioners and theoreticians in language teaching and learning. In specific, the result of this study, may play a part in the SLA research by using suitable FA strategies in language teaching and assessing practice. Afterwards, the findings of this research may influence the performance of the EFL and ESL learners to achieve English language skills and sub-skills through implementing the dynamic and ongoing TPS assessment technique. Moreover, the result of the present study may empower teachers to make their practice efficient by utilizing appropriate FA techniques along with their teaching methods and techniques. They may enrich their teaching and learning process provided that they can practice FA strategies to provide instructors and learners with constructive hints and communicative feedback.

According to the findings, TPS helps learners develop their sharing, critical thinking, discussing and communicating abilities. This active and energetic engagement may improve EFL learners' speaking ability which needs further research. Meaning construction and assistance in the form of scaffolding in the learning process are two important features of using TPS which leads to students' higher comprehension and vocabulary achievement. TPS increases learners' interest to discuss ideas and makes them enthusiastic language learners. The other contribution of TPS for language learning is assisting reluctant readers to have active participation in the reading comprehension instruction and improves their self-confidence and courage as well. Students increase the feeling that learning is enjoyable when they work together and provide feedback and assistance to each other. TPS increases students' sense of creativity, imagination, innovation and problem-solving in using their abilities.

TPS as an FA tool is able to improve students' reading comprehension achievement because this strategy makes students involved in their learning process and provides facilitative feedback that is used to improve learning. Communication as the key factor in TPS is very important to understanding passages. Sharing and discussing the content of the passage enhances the communication skill of the students through the interactional moves of the TPS. Using TPS increased the quality and quantity of students' participation in the discussion, explanation, sharing their thoughts and ideas in their assessment and learning process. It also increased students' social skills including successful teamwork, self-confidence, speech ability and cooperation among others as stated in Vygotsky's theory of social constructivism. These skills develop their vocabulary knowledge and text comprehension.

Another possible conclusion about the TPS is that feedback is the mostly required element in the TPS. Feedback facilitates the students' involvement and active learning and then comprehension and vocabulary use. The TPS has encouraged students to reflect on the content of the passage and learning vocabulary. In summary, the current study findings will be pedagogically advantageous or may have implications for teachers, students, and curriculum designers. In addition, the findings of this study might be applied by material developers and policy makers. They can make use of them to prepare and publish suitable educational resources and instructional materials so as to improve the quality of the English language educational curriculum and plan lessons properly. There exist many various kinds of FA strategies; therefore, other interested researchers can carry out further studies to assess and evaluate students in other contexts with different FA models to know how other ongoing classroom assessment techniques can be applied to improve different language areas including grammar, pronunciation and other language skills in SLA research and educational setting. Declaration of interest: none.

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