

Self-directed Learning and English Proficiency by Korean Learners*¹

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The study investigates to what extent a commitment to and a self-evaluation of a specific self-directed learning activity explain Korean college students' EFL proficiency (using TOEIC reading scores). Of the Korean college students who participated, 52 completed log writing of self-directed learning activities, and 44 completed a self-evaluating survey and submitting a TOEIC reading score. Through statistical analyses, including correlations and regressions, the study finds that the number of minutes spent on reading aloud explained 10% of the variances of participants' TOEIC reading scores. Another finding of the study is that perceived effectiveness of note-taking for grammar learning on listening and perceived manageability of reading aloud explained 21% of the variances in TOEIC reading scores. On the basis of these results, the study proposes that commitment to reading aloud and learner-perceived effectiveness of note-taking for grammar learning on listening can function as significant predictors for EFL reading proficiency. Several practical suggestions are provided for EFL instructors and researchers for the more effective use of self-directed learning activities and self-evaluation results.

Key words: EFL self-directed learning, reading aloud, sense units, summarizing, log writing

1. INTRODUCTION

Self-directed learning is one of the frequently visited issues in discussions on visions of language learning as well as education in general (Ahn et al., 2005; Benson, 2001; Breen

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& Mann, 1997; Dickinson, 1987; Oh, 2005; Nunan, 1997; P. Park, 2007; Ryu, 2000; Tudor, 1996). In addition, many studies have suggested a variety of self-directed learning activities to improve EFL reading such as journal writing (Cafarella & Merriam, 1991; H. Park, 2009), reading with sense units (Moon, 2008), reading aloud (Fitzgerald & Graves, 2004; I. Y. Jung, 2012; Lee, 2008), and extensive reading (J.-E. Cha, 2009; Chung & Choi, 2014). For example, J.-E. Cha (2009) showed that extensive reading resulted in significant improvement in reading rate and reading comprehension among 10 high school students, and as a result recommended integrating extensive reading into EFL classes. Moon (2008) performed reading activities with sense units¹ in class for about four months and investigated the data from 142 high school students' pre- and post-achievement tests as well as a survey. The results showed significant improvement in both reading comprehension and motivation/self-confidence.

However, few studies have investigated what specific activity for self-directed learning introduced in classrooms statistically explains the extent of reading proficiency improvement. This information is essential, particularly when instructors and researchers determine how to allocate investment of time and effort in their language learning program.

Another issue interesting for the current study is the relationship between learners' evaluation of effectiveness of self-directed learning activities and their actual achievement. Although a body of research reported positive correlations on EFL learning with learners' self-evaluation or perceived effectiveness of a treatment in general, few studies discuss comparatively how much learners' self-evaluations of different learning activities' effectiveness explain English achievement. For example, Jo (2013) emphasized that learners' positive self-evaluation on a learning program has a significant correlation with learners' development of learning strategies. In addition, Park, H. (2009) investigated five middle school students' journal writings in English and also performed interviews about learners' satisfaction. The researcher found learning strategy development and self-confidence improvement in those students' writing. On the other hand, Park, P (2007) examined 27 college students' group work, self-assessment results of their own learning attitude, interview results, and reflective essays. The researcher found more active participation in a group project by a highly-motivated group, but no significant difference in self-confidence between high and low motivation groups. However, these studies did not provide any information on how much variation in learners' self-evaluation of learning activities explain learners' language learning.

The current study aims to suggest which specific activity and which specific evaluation by learners help estimate learners' proficiency employing correlations of Korean EFL learners' reading proficiency with different self-directed learning activities and their self-evaluations. In addition, the study explores how much Korean EFL learners' proficiency

¹ Refer to Nunan (1997), Selkirk (1984), Watson and Gibson (2004).

can be statistically explained using correlations and regression models with variables of specific self-directed learning activities and self-evaluation items. The study selects college students as target participants because they have more available time to work with the researcher in class and engage in their own self-directed learning activities outside the classroom than other student groups and non-college adult learners.

2. BACKGROUND

2.1. Definitions of Self-directed Learning

In addition to self-directed learning, other frequently used terminologies include learner autonomy and self-regulated learning (Benson, 2001; Breen & Mann, 1997; Deci & Ryan, 2002; Dickinson, 1987; Knowles, 1975; Nunan, 1997; P. Park, 2007; Y. H. Park, 2003; Tudor, 1996). Cho (2015), Grow (1991), and Y. H. Park (2003) commented that self-directed learning is the most frequently used term among these options. The current study also adopts Knowles' (1975) definition of self-directed learning (p. 18):

A process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating their learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

2.2. Activities for Self-directed Learning

Almost all of the previous studies pointed out the weakness of self-directed learning: It does not work particularly well for learners with low or no motivation. Kim, Paek, and Kang (2007) and Scharle and Szabo (2000) took this gap seriously and emphasized that, apart from granting a learner the initiative in learning, teachers provide specific and consistent mentoring to help learners reach the level of controlling their own learning. However, there are few studies finding the empirical effectiveness of self-directed learning activities in terms of language achievement. The researcher did find studies which employed practical activities to improve a specific reading skill for classroom students and presented experimental findings or cognitive explanations of the process. Integrating the findings of these previous studies, the current study selected six activities to investigate the relationship between learners' reading proficiency and self-evaluation.

First, Johnson (1970) introduced a pause location task (named chunking sense units in the current study), which requires language learners to read a passage and mark where they would

pause if reading the passage aloud. The researcher asserted that the task reflects the psychological reality of grammatical phrases and can help improve learners' chunking or grammatical parsing. Karcher (1994), Koda (1993, 1994, 2005), and Cunnings (2016) pointed out that second language learners' poor grammatical or syntactic parsing makes reading challenging. Based on these findings on parsing or chunking in reading, the researcher of the current study determined to include Johnson's (1970) pause location task as an important self-directed learning activity and introduce the task to participants using an easier name, chunking sense units.

Moreover, I. Y. Jung (2012) studied 24 Korea high school students and showed that the number of unnatural pauses (resulting from poor parsing) in reading a passage aloud has a negative correlation with academic achievement in English. Y. Park (2016) found that visually formatted texts with correct syntactic phrases improved Korean college students' reading comprehension in English. Kirođ lu and Demirel (2012) also found that chunked texts in class improved EFL reading comprehension among 18 Turkish college students. As a result of these findings, the researcher of the current study selected reading aloud as one of self-directed learning activities.

Extensive reading and summarizing have been identified and discussed as noteworthy activities for self-directed learning. Chung and Choi (2014) introduced extensive reading for Korean college students and conducted interviews to determine that extensive reading helped learners keep their interest in English reading and learning. Complementarily, Fisher and Frey (2007), Harmer (2007), Hwang (2010), and H. Jung (2013) showed that summarizing in a target language had a positive effect on reading and metacognitive development. In particular, H. Jung (2013) discussed the improvement 36 Korean college students experienced by summarizing in English as part of their EFL reading comprehension.

The final activity studied is journal writing. Brookfield (1985) and Caffarella and Merriam (1991) showed that writing a learner contract that includes the setting of a goal for learning and procedures helped improve self-directedness in learners. For Korean learners, H. Chang (2011), Cho (2015), Jo (2013), Joe (2012), E. J. Kim (2001) and Sim (2010) identified the positive effects of journal writing. In particular, Cho (2015) investigated 138 Korean college students' responses in a self-satisfaction survey and TOEIC scores in 10 months of working with a learning contract. The results showed a trend of improvement. In addition, E. J. Kim (2001) investigated the effects of self-directed learning for 47 adult learners working at a company. The researcher found significantly greater improvement on the Self-Directed Learning Readiness Scales (using a Likert scale) and in study time among learners who had used a learning contract. Finally, Sim (2010) provided 40 days of self-directed learning experiences for five high school learners, including setting a plan for individualized learning, writing a journal or letter to reflect on learning, working with feedback, and counseling. The results showed trends in learners' improvement in terms of responsibility, metacognition, problem-solving, motivation and self-reflection.

To summarize, reading aloud and pause location tasks or chunking sense units provide strong pedagogical support for improving foreign language learners' parsing skills. These activities are known to reinforce psycholinguistic processing for fluent speech production as well as listening and reading comprehension. Extensive reading helps keep interest in English reading learning. Summarizing has also been shown to be effective for improving reading and writing skills. Making a learning contract for individualized learning or writing a journal to reflect on learning is recommended as a good way to promote self-directed learning while providing consistent encouragement.

2.3. Evaluations of Self-directed EFL Reading

Most previous studies incorporating self-evaluations of self-directed EFL reading discuss motivation or attitudinal improvement for learning in general (Cho, 2015; Chung & Choi, 2014; Gremmo & Riley, 1995; Jo, 2013; H. Kim & H. Chang, 2005). There still remains a gap on how much learner-perceived effectiveness of each specific activity on four language skills actually contributes to their achievements. For example, Cho (2015) examined college students' self-efficacy, self-confidence, and population distributions of TOEIC reading scores between pre- and post-learning contract activities. The researcher found that about 5 to 10% of populations moved to either higher than 700 or 550 in TOEIC and that their self-confidence also increased. The research contributed empirical evidence that learning contracts as a self-directed learning activity function to increase self-confidence and develop English proficiency. However, it did not provide any information on specifically how much such learners' self-evaluation on their learning activities contributes to their achievements.

3. METHODOLOGY

3.1. Research Questions

The current research proposes to investigate the following two questions:

- 1) Among six activities recommended for self-directed learning in previous studies, which activity commitment for self-directed learning explains English proficiency among Korean EFL college learners and to what extent?
- 2) On six activities recommended for self-directed learning in previous studies, which aspect of evaluation explains English proficiency among Korean EFL college learners and to what extent?

To measure Korean EFL college learners' English proficiency, TOEIC reading scores are used. To compare their perceived efficiency for improving reading, target activities used include

note-taking for vocabulary learning, note-taking for grammar learning, reading aloud, chunking sense units, summarizing, and speaking practice with sample questions. The efficiency and amount of reading proficiency explained among those learning activities are compared based on the statistical results with positive correlations and weight loadings (coefficients) of a regression model, using SPSS 23. Comparisons among evaluations of the learning activities and their amount of explanation for reading proficiency follow the same statistical analyses.

3.2. Participants

The researcher recruited college students at a university in the city of *Ulsan* in Korea (population one million), through face-to-face and paper introduction in three classes of a general English course (entitled *English Reading and Writing*) where the researcher was responsible for teaching. Table 1 shows a summary of participants' demographic information.

TABLE 1
Participants' Demographic Information

	Tasks	<i>N</i>	<i>M</i>
Research Question 1	Log Writing	52	20.27
	TOEIC Reading	52	
Research Question 2	Evaluation Survey	44	21.58
	TOEIC Reading	44	

Note. Age

Among the participants who originally submitted the form agreeing to participate by the second week of class, 52 college students ultimately submitted their logs of self-directed activities performed, and 44 submitted their TOEIC reading scores and self-evaluations in survey. The average age of participants was about 20 years old, ranging from 19 to 24. Their TOEIC scores ranged from 160 to 495, with averages of 315.38 for Research Question 1 and 279.20 for Research Question 2. All were freshmen or sophomores, and their three main majors were international studies, law, and sociology and social welfare.

3.3. Data Collection and Analyses

From the first through fifth classes, the instructor and researcher provided introduction on the six activities, including examples, to encourage learners' active performance of self-directed learning. Participants were also asked to return the agreement forms for participation by the second week, with oral and written emphasis that their decision to participate had no effect on their grades in the class. Through example activities such as note-taking for vocabulary learning, note-taking for grammar learning, reading aloud, chunking sense units, summarizing in English (including filling in the blanks to complete

the summary), and speaking practice with sample questions, the researcher worked with students in order to familiarize students with the activities and motivate them.

Submission of TOEIC reading scores was an optional component of the course for every registered student. Depending on the scores submitted, students expected to obtain one to 10 points of extra credit. Only the TOEIC reading scores of participants who submitted a signed agreement form were collected and analyzed for the research.

In addition to the six activities mentioned above, the researcher introduced a log writing (a simplified version of journal writing) and extensive reading, emphasizing that the activities presented in the sample log were not exhaustive and that an individual participant could add any activities performed to enhance his or her own learning of English. Table 2 depicts a sample of log writing to the participants:

TABLE 2
Sample of Log Writing for the Participants

Date	Minutes for Note-taking (Words and Example Sentences)	No. of Words Noted	No. of Example Sentences Noted	Minutes for Reading Aloud	Title of Material to Read Aloud
Sep. 10 th	30	10	8	15	Letter in a Bottle
Sep. 14 th	25	8	8	20	How to Open Your Mind

Following H.-Y. Cha, T.-E. Kim, and K.-S. Kim (2010), P. Kim, Paek, and Kang (2007), Scharle and Szabo (2000), and Sim (2010), the researcher also offered a minimum of two consulting sessions as a way to provide consistent encouragement for every student in class; additional sessions were provided when requested by a student. The introduction to the research and instructions for self-directed learning activities were completed for every student within three classes. Those who decided to participate in the research were asked to write in an Excel file and upload their logs once a week to the web board established until the 14th week, except for the week of mid-term examinations. The on-line logs collected were coded in terms of activity name, title of material, time spent (minutes), and pages covered; results were summed up by participant. For the frequency analysis, titles of materials were categorized and coded into numbers representing genres. For example, novels used for reading aloud were coded as 1 while textbooks were coded as 2. Each response to open-ended questions was also first assigned a category whose members carried identical or similar responses to the other members.²³ For example, for a question asking why reading aloud is difficult to continue, a response saying “*because I lack patience*” was assigned as 1, the same category including a response saying “*I was lazy*.” The frequency of each category was then determined, which was analyzed for Spearman rho of binary correlations with the Likert scores among the evaluated categories in the survey, using correlation with SPSS 23.

² For strengths and limitations of these types of analysis procedures, refer to Welsh (2002).

Right after class in the 14th week, the survey for self-evaluation of self-directed learning (see Appendix) was administered to the participants.³ It included 12 open-ended questions (about *why* and *what*) and 40 multiple choice questions using a six-point Likert scale (i.e., *never, not usually, rarely, a little, usually, and very much*). Six of the multiple choice questions ask about manageability of the six learning activities, such as “*Reading aloud is difficult to continue for more than three weeks.*” These items were included in the survey because learners’ willingness or motivation to continue was reported to make an important contribution to learning in the previous research (Cho, 2015; Chung & Choi, 2014; Gremmo & Riley, 1995; Jo, 2013; H. Kim & H. Chang, 2005).

The current study adopted Yang’s (2011) conclusion that a six-point Likert scale is appropriate for differentiating a wide variety of respondents in social studies.⁴ Only the survey responses to the reading questions were analyzed and discussed in the current study, such as whether participants evaluated the self-directed learning activities as helping to improve their English reading, whether activities were too difficult to continue for more than three weeks, and the reasons (if any) they were difficult. The survey took less than 10 minutes to complete on average. Each Likert scale response for survey questions was coded as an ordinal measurement. The survey scores were analyzed in terms of frequency and binary correlation among survey items using SPSS 23. The scores marked on the Likert scale were coded. The responses to the question, “*What is the reason that note-taking for words is too difficult to continue for more than three weeks?*” were categorized and coded for frequency analysis.

Using the software SPSS 23, the researcher also performed a regression analysis with TOEIC reading scores as the dependent variable and the amount of time (minutes) spent and pages covered for several activities (whose correlation results were significant with TOEIC reading scores) as independent variables. The results showed how much variance in TOEIC reading scores was explained by the performance variance of the corresponding self-directed learning activity.

4. RESULTS AND DISCUSSION

The results below include different numbers of participants across tables, because there

³ In order not to lead learners’ generous evaluation on reading, but to guide their accurate relative evaluation on reading in the context of four language skills, the survey questions include evaluations of effectiveness on those four skills.

⁴ For more details, refer to Y. H. Park. (2003). The Likert scale excluded what is called “mid position” (such as *I don’t know* or *So-so*) in order to prevent the commonly biased tendency to avoid specifying a choice between positive and negative positions, following Eagley and Chaiken (1993), Holden, Fekken, and Jackson (1985), D.-Y. Park (2000), and J. Chang (2009).

are participants who did not complete one of three tasks (TOEIC reading, log writing, and evaluation surveys). Since the participation of three tasks was volunteered, the results below with different numbers of participants from the sample pool of three classes might be regarded as those with random sampling.

4.1. Commitment for Self-directed Learning and EFL Proficiency

The following is a summary of descriptive statistics of TOEIC reading scores and the amount of each activity performance for self-directed learning commonly collected from learners' logs.

TABLE 3
Descriptive Statistics of TOEIC Reading Scores and Self-directed Learning Activities ($n=52$)

Component	<i>M</i>	<i>SD</i>
TOEIC Reading	315.38	87.87
Log Writing (day)	24.04	19.41
Note-taking for Voc. (minute)	195.67	231.84
Note-taking for Voc. (no. of voc.)	249.98	198.91
Note-taking for Voc. (no. of voc. example sentences)	118.71	113.54
Note-taking for Grammar (minutes)	115.52	152.61
Note-taking for Grammar (no. of structures)	28.21	37.56
Reading Aloud (minute)	277.46	351.27
Reading Aloud (no of pages)	84.67	125.12
Chunking sense units (minute)	174.08	244.42
Chunking sense units (no. of pages)	26.63	39.02
Summarizing (minutes)	99.17	192.86
Summarizing (no. of paragraphs)	1.56	2.22
Speaking Practice with Sample Questions (minutes)	28.04	107.511
Speaking Practice with Sample Questions (no. of items)	5.88	21.983

As seen in Table 3, the participants' TOEIC reading scores were 315.38 on average. In addition, the relatively large standard deviations reveal that the performance for each activity of self-directed learning showed a large variance depending on individual participants.

In binary correlation analyses with TOEIC reading scores, only the factor minutes of reading aloud was found to have a significant correlation at the 95% confidence level (two-tailed); the Pearson correlation coefficient was .31 ($p = .02$). Table 4 summarizes the results of the correlation analyses.

As seen in Table 4, only minutes spent on reading aloud showed a significant correlation coefficient with TOEIC reading scores at the 95% confidence level (Pearson correlation

coefficient: .31, $p = .02$). The other performances did not seem to be successful factors for explaining the variance among participants. Interestingly, the correlation of the number of pages and minutes for reading aloud showed different significance, though they measured the performance of a same activity. These facts suggest that the sensitivity of those measures on reading proficiency was different. To integrate the results, minutes spend on reading aloud is the only promising candidate for best explaining variance in TOEIC reading proficiency.

TABLE 4
Binary Correlation Analyses with TOEIC Reading Scores ($n = 52$)

Learning Activities Performed	<i>r</i>	<i>p</i>
Log Writing (day)	.15	.28
Note-taking for Voc. (minute)	.05	.74
Note-taking for Voc. (no. of voc.)	.07	.62
Note-taking for Voc. (no. of voc. example sentences)	-.04	.76
Note-taking for Grammar (minute)	.09	.51
Note-taking for Grammar (no. of structures)	-.09	.54
Note-taking for Grammar (no. of example sentences)	-.09	.54
Reading Aloud (minute)	.31	.02
Reading Aloud (no. of pages)	.23	.10
Chunking sense units (minute)	.18	.21
Chunking sense units (no. of pages)	.26	.06
Summarizing (minute)	.21	.13
Summarizing (no. of paragraphs)	-.14	.31
Speaking Practice with Sample Questions (minute)	-.17	.23

To predict TOEIC reading scores, R squared and F value were calculated through a simple linear regression model: $R^2 = .10$, $F(1, 50) = 5.40$, $p = .02$. These results mean that the regression model with two activity commitments explained 10% of the variability of the TOEIC reading scores, which was statistically significant. Participants' predicted TOEIC reading score was equal to $293.71 + .08(\text{minutes for reading aloud})$ where minutes for reading aloud were measured as the sum of minutes from logs. Participant's score in TOEIC reading increased .08 for each minute committed to for reading aloud on logs. As a predictor for reading proficiency, reading aloud was significant at the 95% confidence level. One possible interpretation of these results is that reading aloud measured in terms of minutes spent, different from other activities, has a great probability of functioning as a good predictor of EFL reading proficiency. In terms of finding a good balance between the time EFL learners and instructors invest and learners' expected achievement, the result implies that learners' commitment to reading aloud outside the classroom makes a difference of 10% in their achievement, which is obviously not a factor easy to ignore, particularly for those who know that classroom instruction itself is never enough to master foreign languages.

4.2. Evaluation of Self-directed Learning and EFL Proficiency

Table 5 summarizes the descriptive statistics of TOEIC reading scores and evaluation scores of self-directed learning activities on the six-point Likert scale used in the survey.

TABLE 5
Descriptive Statistics of Scores in TOEIC Reading and Evaluation of Effectiveness ($n = 44$)

Component	M^6	SD
TOEIC Reading	279.20	84.14
Note-taking for Voc. on Listening	4.14	.85
Note-taking for Voc. on Reading	4.66	.94
Note-taking for Voc. on Speaking	4.39	1.04
Note-taking for Voc. on Writing	4.86	.70
Note-taking for Voc. on Self-confidence	4.50	.88
Manageability of Note-taking for Voc.	3.66	1.20
Note-taking for Grammar on Listening	3.91	.09
Note-taking for Grammar on Reading	4.45	.88
Note-taking for Grammar on Speaking	4.27	1.04
Note-taking for Grammar on Writing	4.57	.82
Note-taking for Grammar on Self-confidence	4.30	1.05
Manageability of Note-taking for Grammar	3.64	1.10
Reading Aloud on Listening	4.36	1.12
Reading Aloud on Reading	4.70	.95
Reading Aloud on Speaking	4.57	1.00
Reading Aloud on Writing	4.05	1.01
Reading Aloud on Self-confidence	4.32	1.10
Manageability of Reading Aloud	4.05	1.12
Chunking sense units on Listening	4.32	.86
Chunking sense units on Reading	4.82	.82
Chunking sense units on Speaking	4.39	.90
Chunking sense units on Writing	4.48	.90
Chunking sense units on Self-confidence	4.45	.88
Manageability of Chunking sense units	3.93	1.26
Summarizing on Listening	3.73	.82
Summarizing on Reading	4.32	.91
Summarizing on Speaking	4.02	.90
Summarizing on Writing	4.27	1.00

⁶ Because 17 participants did not submit their self-evaluations of the self-directed learning activities, only data from 44 of the 61 participants were analyzed.

Summarizing on Self-confidence	4.02	.98
Manageability of Summarizing	3.48	1.15
Speaking Practice with Sample Questions on Listening	4.20	.85
Speaking Practice with Sample Questions on Reading	4.32	1.05
Speaking Practice with Sample Questions on Speaking	4.55	1.11
Speaking Practice with Sample Questions on Writing	4.16	1.18
Speaking Practice with Sample Questions on Self-confidence	4.16	1.06
Manageability of Speaking Practice with Sample Questions	3.81	1.09
Manageability of Note-taking for Voc.	3.66	1.20
Note-taking for Grammar on Listening	3.91	.091

As seen in Table 5, according to the mean of the Likert scale scores in the survey, the most effective activity was reading aloud on listening (4.36), followed by chunking sense units (4.32); chunking sense units on reading (4.82), followed by note-taking for vocabulary learning (4.66); reading aloud on speaking (4.57), followed by speaking practice with sample questions (4.55); and note-taking for vocabulary learning on writing (4.86), followed by note-taking for grammar learning (4.57). In other words, the participants perceived reading aloud to improve their listening and speaking ability best, chunking sense units to improve their reading best, and note-taking for vocabulary learning to improve their writing best.

In binary correlation analyses with TOEIC reading scores, only minutes of reading aloud were found to have a significant correlation at the 95% confidence level (two-tailed); the Pearson correlation coefficient was .312 ($p = .02$). Table 6 presents the results of the correlation analysis.

Table 6 indicates that only two evaluations have significant correlations with TOEIC reading scores at the 95% confidence level: to what extent note-taking for grammar learning is perceived to be effective for listening (Pearson correlation coefficient: .39, $p = .01$) and to what extent reading aloud is perceived to be manageable to continue for more than three weeks (Pearson correlation coefficient: .31, $p = .04$).⁶ The results imply that the higher a learner's evaluations on these two questions, the higher proficiency he or she has in TOEIC reading.

⁷ The original question presented in the survey was *Note-taking for grammar is difficult to continue for more than three weeks*. For the analysis, each response on a six-point Likert scale was reversely coded for the analysis. For example, 1 on the Likert scale was coded as 6. Thus, the higher the score in Table 6, the more manageable the activity feels.

TABLE 6
Binary Correlation Analyses with TOEIC Reading Scores ($n = 44$)

Effectiveness by Learning Activities on the Four Language Skills	<i>r</i>	<i>p</i>
Note-taking for Voc. on Listening	.99	.52
Note-taking for Voc. on Reading	.09	.56
Note-taking for Voc. on Speaking	-.10	.50
Note-taking for Voc. on Writing	.0	.98
Note-taking for Voc. on Self-confidence	.17	.26
Manageability of Note-taking for Voc.	.23	.14
Note-taking for Grammar on Listening	.39	.01
Note-taking for Grammar on Reading	.13	.40
Note-taking for Grammar on Speaking	-.24	.11
Note-taking for Grammar on Writing	.08	.59
Note-taking for Grammar on Self-confidence	.01	.95
Manageability of Note-taking for Grammar	.14	.36
Reading Aloud on Listening	.25	.10
Reading Aloud on Reading	.11	.49
Reading Aloud on Speaking	.07	.67
Reading Aloud on Writing	.09	.58
Reading Aloud on Self-confidence	.09	.57
Manageability of Reading Aloud	.31	.04
Chunking sense units on Listening	-.11	.48
Chunking sense units on Reading	-.02	.89
Chunking sense units on Speaking	-.03	.83
Chunking sense units on Writing	.08	.61
Chunking sense units on Self-confidence	-.03	.85
Manageability of Chunking sense units	.17	.28
Summarizing on Listening	.11	.46
Summarizing on Reading	.22	.15
Summarizing on Speaking	-.07	.64
Summarizing on Writing	.07	.65
Summarizing on Self-confidence	-.01	.96
Manageability of Summarizing	.17	.29
Speaking Practice with Sample Questions on Listening	.22	.15
Speaking Practice with Sample Questions on Reading	.12	.45
Speaking Practice with Sample Questions on Speaking	-.07	.61
Speaking Practice with Sample Questions on Self-confidence	-.02	.90
Manageability of Speaking Practice with Sample Questions	.13	.42

To predict TOEIC reading scores, a multiple regression was calculated with Likert scale evaluation scores on efficiency, with note-taking for grammar learning on listening and manageability of reading aloud as two independent variables and TOEIC reading scores as the dependent variable. A significant regression was found with most explanations of the variance in TOEIC reading scores. Tables 7 and 8 summarize these results.

TABLE 7
Regression with Manageability of Reading Aloud & Note-taking for Grammar on Listening

<i>r</i>	<i>R</i> ²	Adjusted <i>R</i> ²
.46	.21	.18

Note. Predictors: (constant), manageability of reading aloud, effectiveness of note-taking for grammar learning on listening
 Dependent variable: TOEIC reading

TABLE 8
Coefficients of the Regression Model

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	<i>B</i>	Standard Error	<i>Beta</i>		
1 (Constant)	78.94	61.24	1.29		.21
Note-taking for Grammar on Listening	32.16	13.03	.35	2.47	.02
Manageability of Reading Aloud	18.43	10.60	.25	1.7	.09

Note. Predictors: (constant), manageability of reading aloud, effectiveness of note-taking for grammar learning on listening
 Dependent variable: TOEIC reading

Tables 7 and 8 show that a regression equation was found ($F(2, 41) = 5.55, p = .01$), with an R^2 of .21. The results imply that the regression model with two factors explained 21% of the variability of TOEIC reading scores. Participants' predicted TOEIC reading score was equal to $78.94 + 32.16$ (perceived effectiveness by note-taking for grammar learning on listening) $+ 18.43$ (perceived manageability of reading aloud) where perceived effectiveness and manageability were coded as 1 = never and 6 = very much on the Likert scale. A participant's TOEIC reading score increased by 32.16 for each effectiveness score for note-taking by grammar learning on listening and 18.43 for each manageability score for reading aloud on the survey's Likert scale. Perceived effectiveness by note-taking for grammar learning on listening was the only significant predictor at the 95% confidence level. Still, these two evaluations seemed to be better references than the evaluations on other activities, particularly when estimating which learner had a higher or lower proficiency in EFL reading based on certain results of a simple and short self-evaluation survey of learning.

Based on the results presented thus far, a multiple regression was calculated to predict TOEIC reading proficiency based on the two significant factors found in the earlier regression models: minutes spent on reading aloud and perceived effectiveness by note-

taking for grammar learning on listening. A significant regression equation was found ($F(2, 33) = 3.32^*$, $p = .05$), with an R^2 of .17. Tables 9 and 10 summarize the results:

TABLE 9
Regression with Manageability of Reading Aloud and Note-taking for Grammar on Listening

<i>r</i>	R^2	Adjusted R^2
.41	.17	.12

Note. Predictors: (constant), minutes spent on reading aloud, perceived effectiveness by note-taking for grammar learning on listening,
Dependent variable: TOEIC reading

TABLE 10
Weight Loadings of the Regression Model

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>
	<i>B</i>	SE	Beta		
Constant	125.95	59.72		2.18	.04
Reading Aloud (minute)	.03	.04	.11	.70	.49
Note-taking for Grammar on Listening	36.83	14.69	.40	2.51	.02

Note. Predictors: (constant), note-taking for grammar learning on listening, perceived manageability of reading, pages read for chunking sense units
Dependent Variable: TOEIC reading

As seen in Tables 9 and 10, the regression model with two independent variables explained 17% of the variability of TOEIC reading scores, which was statistically significant. Participants' predicted TOEIC reading scores were equal to $125.95 + .03$ (minutes spent on reading aloud) + 36.83 (perceived effectiveness by note-taking for grammar learning on listening). Participants' TOEIC reading score increased 36.83 for each perceived effectiveness score of note-taking for grammar learning on the Likert scale, .03 for each perceived effectiveness score of reading aloud on the Likert scale. Perceived effectiveness by note-taking for grammar learning was the only significant predictor of TOEIC reading scores at the 95% confidence level.

Related to general learning theory, learner-perceived effectiveness by note-taking for grammar learning on listening explains or predicts better than learners' commitment (i.e., minutes spent on reading aloud) in the final regression resolution. This finding seems to support the strongly positive effect of motivation on learners' achievement and simultaneously emphasize the importance of choosing self-directed learning activities that fit learners' urgent needs well. The participants of this study, with an average TOEIC reading score of 279.20, responded most sensitively to the effect by note-taking

for grammar learning on listening, which showed a moderately positive correlation (Pearson correlation coefficient: .40, $p < .01$) with their proficiency scores in the final regression model.

In the comparison of semi-partial (or part) correlation scores in the final regression model, learner-perceived effectiveness by note-taking for grammar learning on listening explained 40% of the variability of TOEIC reading scores utilized in the regression model, while minutes spent on reading aloud explained 11%. These findings imply that the efficiency or quality of experience with a specific self-directed learning activity better predicts, or predicts at least as well as the physical quantity of commitment to another specific activity. All throughout co-working, both instructors and learners need to focus on enhancing successful experiences with those activities for self-directed learning in addition to encouraging increased commitment.

5. CONCLUSION

The current study provided empirical findings to specify effective activities for self-directed learning and their statistical amount of explanation for English reading proficiency using statistical analyses of participants' commitment to those activities and their evaluations of the activities' effects. Minutes spent on reading aloud explained 10% of the variances in TOEIC reading scores at the 95% confidence level. In addition, effectiveness of note-taking for grammar learning on listening and manageability of reading aloud perceived by the participants were found to explain 21% of the variances in TOEIC reading scores at the 95% confidence level. In the final regression model, with 17% of explanation of variances in TOEIC reading scores, the study found that learner-perceived effectiveness of note-taking for grammar learning functions as a significant predictor. These findings provide useful information for EFL instructors and researchers who are interested in developing meaningful measurements to estimate learner's EFL reading proficiency through a brief survey, including EFL learners' commitment to reading aloud for self-directed learning or their self-evaluations.

Another practical implication of these findings is the pedagogical priority in determining the amount of attention to self-directed learning activities for EFL instructors and learners. The findings of the study herein emphasize the distinguished importance of learners' commitment amount to reading aloud as an indicator of monitoring learners' progress in the middle of learning and a predictor of learners' achievement at the end of a learning period. Considering motivation by self-directed learning activities in general discussed in previous research, this activity also needs to be introduced with a special priority to enhance efforts for learning to read.

Despite these interesting findings, the current study has limits. It did not classify participants into groups depending on EFL reading proficiency due to the small sample size. Grow (1991), Johnston (1984), H. S. Kim (2013), and Nunan (1997) discussed different rates of acceleration in achievement by self-directed learning depending on learners' proficiency level or stage in self-directedness development. With more subtle control or through more detailed analysis of learners' proficiency level or self-directedness development, further research can pursue more generalizable and reliable conclusions on how to maximize the effectiveness of learning by using self-directed learning activities.

Finally, the current study has also a limit in that the regression models suggested included statistically non-significant factor (i.e., learner-perceived manageability of reading aloud). Replacement of such a non-significant factor with more promising ones and extension of the data set may help obtain a better regression model explaining or predicting EFL learners' achievement in reading.

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APPENDIX

Sample of Survey [Translated Version into English]

The following questions ask about the effects of the activities you probably performed to improve your English skills. Please, check (✓) your answer in the blanks or answer the questions.

	Never	Not usually	Rarely	A little	Usually	Very much
11. Reading aloud helps improve English listening.						
12. Reading aloud helps improve English reading.						
13. Reading aloud helps improve English speaking.						
14. Reading aloud helps improve English writing.						
15. Reading aloud helps increase self-confidence.						
16. Reading aloud is difficult to continue for more than three weeks.						
17. What is the reason that reading aloud is difficult to continue more than three weeks?						

Applicable levels: Tertiary

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