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Relationship between General Reading Ability and Vocabulary Recognition Skills: Do Students Perform Differently with respect to Vocabulary Types?

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Abstract

Findings of earlier research suggested that vocabulary knowledge plays a pivotal role in understanding the meanings contained in academic texts. Hence, Ethiopian university learners' success in their academic studies largely depends upon the breadth and depth of their vocabulary knowledge. Consequently, the current study aims at identifying the relationship between general reading ability and vocabulary recognition skills with respect to parts of speech. The population included 3rd-year undergraduate students at three universities in southern Ethiopia. Out of 89, only 59 of the test-takers' scores were used for computation. The study used tests to determine learners' reading levels and vocabulary recognition skills. The purpose of the cloze test was to determine students' general reading ability by categorizing them into different reading levels. On the other hand, the vocabulary recognition test was aimed at identifying how students fared with parts of speech. Correlation coefficients and descriptive statistics were used to find out the relationship between the tests and how students performed in relation to the parts of speech, respectively. The findings revealed that the tests are highly correlated. Besides, the students' performance in view of the parts of speech showed a discernible pattern. More specifically, the students had little difficulty with 'past participle' and 'adjective' while they had much difficulty with 'gerund' and 'adverb'. Finally, the study outcome suggests that course designers and instructors who offer skills courses specifically Reading Skills and Communicative English Skills should give more coverage to vocabulary activities which focus on gerunds and adverbs.

Keywords: /Ability groups/Comprehension/General reading ability/Parts of speech/Performance/Reading levels/

1. Introduction

There appears to be a consensus among scholars that reading is the most important skill for students, especially, at tertiary level. In this regard, reading is a powerful tool that enables learners to construct meaning and acquire knowledge. As part of academic requirements, Ethiopian university students are expected to read different written sources and prepare their assignments. To succeed in their academic life, these students have to spend a great deal of their time in the library and elsewhere reading soft or hard copies and writing their term

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² Detail is given at the back of this manuscript.

papers. Ethiopian students join universities with poor English language background (Amlaku, 2010; Wendiyafray, *et al.*, 2016; Bekalu, 2019), and this negatively affects their academic success which largely depends upon their ability to understand the reading resources they are required to read.

Considering the usefulness of reading skills, all stakeholders in the teaching-learning process need to give paramount importance to developing learners' reading skills so that learners could understand written texts. Consequently, teachers need to devise ways by which learners' reading ability develops. Towards this end, teachers can teach word-structures and context clues so that learners can figure out the meanings of words contained in a text (Baumann, *et al.*, 2005).

In this regard, earlier researchers suggested that vocabulary knowledge might have a direct relationship with students' ability to comprehend written texts (Grabe, 2009a). This means that vocabulary knowledge was found to be pivotal in assisting learners to comprehend written resources (Cromley & Azevedo, 2007; Cain, 2010). Thus, vocabulary knowledge was closely tied to "words/characters' semantic meaning identification" (Silva & Cain, 2015; LervAag, *et al.*, 2018). In this connection, Anyiendah, Odundo, and Kibuyi (2020) asserted that vocabulary recognition skills had a direct bearing on students' reading comprehension performance.

Similarly, later researchers found out that vocabulary size and reading comprehension were closely related. Hence, vocabulary size was identified as a predictor of reading comprehension (Hudson, 2007; Laufer & Ravenhorst-Kalovski, 2010; Kieffer & Lesaux, 2012; Shahar-Yames & Prior, 2018; Gunobgunob-Mirasol, 2019). That is to say, the larger the vocabulary size the better students' reading comprehension of a text would be.

Eventually, other researchers tried to show the relationship between vocabulary and general reading ability by computing test scores. Thus, they reported that students' vocabulary test scores highly correlated with their reading comprehension scores and thus they predicted the students' reading ability (Cromley & Azevedo, 2007). In the same vein, Reed, Petscher, and Foorman (2016) asserted that students with improved comprehension of reading texts were those having better performance in vocabulary tests and conversely students who poorly comprehended the written texts were those with poor scores in vocabulary tests. When these researchers referred to students' vocabulary and reading scores, it should be noted that total scores in both tests were used to do the comparison.

The motivation for undertaking the current research hinges upon the argument that using only gross scores may not help to show how students at different reading levels in the cloze test and those belonging to different ability groups in vocabulary recognition test performed in relation to different vocabulary types. In other words, we might not be sure if students at independent reading level in the cloze test fall under high-scorers' category in the vocabulary recognition test. Similarly, we may not claim students identified as average scores in the vocabulary recognition test had attained instructional reading level in the cloze test. In the same vein, we might not be certain if low-scorers have the same difficulty of recognizing vocabulary as those at frustration reading levels. As a result, to have a clear picture of students' performance in both tests, the analysis should be done at reading levels (i.e. independent, instructional, and frustration) and ability groups (i.e. high scorer, average scorer, and low scorer). Furthermore, our knowledge might still be constrained unless analysis was done with respect to types of vocabulary (i.e. parts of speech). In other words, we might not know which group of learners had much difficulty with which type of vocabulary.

Despite researchers' attempt to show to what extent vocabulary recognition skills were related to reading comprehension by computing their total test scores, it seems that not much attention was given to identify if learners at different reading levels and ability groups performed differently with respect to various vocabulary types (i.e. parts of speech). Hence, the current study tried to answer the following research questions:

1. How do students belonging to different reading levels (independent, instructional, and frustration) in cloze test perform with respect to parts of speech?

2. How do students belonging to different ability groups (high-scorers, average-scorers, and low-scorers) in the vocabulary recognition test perform with respect to parts of speech?
3. Is there a relationship between different reading levels (independent, instructional, and frustration) in the cloze test and different ability groups (high-scorers, average-scorers, and low-scorers) in the vocabulary recognition test with respect to their performance of the parts of speech?

2. Literature Review

2.1 Conceptualizations of the Nature of Reading

The literature on reading shows that there were competing theories regarding the nature of reading. These were the componential approach and the unitary hypothesis. The componential approach posited that reading consisted of separate skills or components although it lacked empirical evidences (Davis, 1968; Munby, 1978; Heaton, 1988; and Hughes, 1989 as cited in Wendiyafrw, 2022). At the same time, Drum *et al.* (1981), Pollitt *et al.* (1985), and Davey (1988) as cited in Wendiyafrw (2022) attempted to verify the existence of separate skills by applying multiple-regression. Consequently, Grabe (1991), Lumley (1993), and Liu (2010) as cited in Wendiyafrw (2022) contend that the componential approach served as a base for designing courses, writing textbooks, and constructing tests in language teaching. In this connection, these scholars asserted that the separate skills should be tested through discrete-point test items such as multiple-choice, matching, true-false, and gap-filling.

On the other hand, proponents of the unitary hypothesis (Rost, 1993; Oller, 1979; and Lunzer *et al.*, 1979; Rosenshine, 1980 as cited in Wendiyafrw, 2022) argued that reading should be regarded as unidimensional and a single entity as the skill components seemed to load on the same source or factor. Thus, these researchers cast doubt on the divisible nature of reading and the existence of separate skills. As a result, they claimed that language ability should be assessed using integrative tests such as cloze tests and dictations as reading was regarded as a holistic entity.

However, Weir and Porter (1994) citing Rost (1993) and Alderson (2000) based on Weir's (1994) study contended that reading should no longer be seen as a single entity rather it should be regarded as bi-divisible entity. Specifically, Alderson (2000) argued that reading ability consisted of two components: word recognition and comprehension. Thus, reading assessments should encompass testing word recognition skills besides testing comprehension.

2.2 Reading Comprehension

Karademir and Ulucinar (2017) claimed that reading requires readers to decode, comprehend, analyze, and integrate the ideas contained in the text to their current knowledge. Moreover, Granda and Ramírez-Avila (2020) asserted that reading comprehension involves processing and understanding a text and making connections between prior knowledge and a new content.

Apart from describing what reading involves doing, Liu (2010) cited in Wendiyafrw (2022) reported that scholars tried to make distinctions between comprehension levels: literal, referential, and critical reading. Literal reading refers to understanding explicitly or plainly stated concepts in the text. On the other hand, referential reading is more difficult than the literal one as it requires readers to work out the implied meanings of concepts and make connections between them in the text. Hence, readers are expected to draw conclusions, make inferences, and predict outcomes. Still, critical reading is the most difficult one since it requires applying high-order thinking. At this level, readers are expected to do critical evaluation of what they have read. Even though this classification is intuitively appealing, it lacks empirical support (Alderson, 2000).

Eventually, reading levels of test-takers can be determined based on students' cloze test scores. Rankin and Culhane (1969) as cited in Wendiyafraw, *et al.* (2016) and Wendiyafraw (2022) identified three levels of reading performance: independent reading level, instructional reading level, and frustration reading level. At the independent reading level, test-takers are expected to understand the text all by themselves or independently. Besides, those at instructional level are believed to understand the text with the assistance they get from their teacher. Finally, test-takers at the third level, frustration level, find the text too difficult to understand even if they are given teacher's assistance.

Table 1: Reading Levels of Students (a comparison of cloze test and multiple-choice comprehension test)

Multiple-choice comprehension test scores scale	Cloze test scores scale	Reading level	Interpretation
>90%	>60	Independent level	Material is too easy.
75-90%	40-60	Instructional level	Material is about the right level of difficulty.
<75%	< 40	Frustration level	Material is too difficult.

*Taken from Rankin & Culhane (1969)

In this connection, the cloze test in the current study helps to show the reading comprehension levels of the test-takers so as to compare them with ability groups in the vocabulary recognition test.

2.3 Vocabulary Knowledge and Recognition

Laufer and Ravenhorst-Kalovski (2010) argued that vocabulary knowledge predicts reading comprehension. To understand a given text, students need to know the meanings of the words that make up the whole text. Hence, vocabulary recognition is a crucial aspect of reading comprehension (Perfetti, 2007). In the same vein, Schatschneider *et al.* (2007) stress the significance of vocabulary knowledge to text comprehension. If vocabulary is so important to text comprehension, then teachers should give emphasis to vocabulary teaching. In this connection, Harmon and Wood (2018) emphasize that vocabulary teaching helps to enhance learners' ability to comprehend texts deeply.

One way of developing students' vocabulary knowledge is to provide activities that raise their awareness about parts of speech. In this regard, Porosoff (2018) provides descriptions of the parts of speech as follows: "*Adjectives* describe traits; *verbs* show behaviour; *adverbs* show how the actions are performed; *nouns* show who or which the performers of the actions are...".

By the same token, reading assessments should include items testing vocabulary knowledge or vocabulary recognition skills as vocabulary knowledge and reading comprehension are closely related (Laufer & Ravenhorst-Kalovski, 2010). To achieve the objectives of the current study, the test items should be organized in terms of the parts of speech. Ultimately, their vocabulary test scores will be compared to their cloze test scores.

3. Methodology

3.1 Design and Setting of the Study

As explained earlier, the study aimed to identify if the participants belonging to different reading levels and ability groups have variations in performance with respect to different vocabulary types. Hence, the study followed the descriptive correlational design to meet the specific research objectives. The study was conducted at three government universities in southern part of Ethiopia, namely: Arba Minch, Jinka, and Hawassa universities.

3.2 Rationale for Sample Selection and Sampling Method

The population of the study included third year undergraduate students who were attending their education at the universities mentioned above. Purposive sampling method was used to select the departments whereas availability sampling method was to select 113 students who initially participated in the study. More specifically, 37 were HO (Health Officer) students while 76 were English language majors. The rationale for selecting health students was two-fold:

1. The students were believed to be high scoring and more proficient in using the English language than students in other colleges. Besides, the data shows that HO students constituted 75%, 52%, and 30% of the independent, instructional, and frustration reading levels, respectively. Similarly, they formed 82%, 33%, and 38% of high, average, and low-scorers, respectively. Hence, we can see that health students formed the highest proportion of high-scorers and students at independent reading level.
2. The researchers selected these students to compensate for the scarcity of high-scoring students in English language majors.

The reason for selecting English majors is that they have already taken skill courses and are familiar with different reading strategies to deal with different reading texts.

To keep the normal classroom routine, course instructors assisted in administering the tests. Thus, the participants had to sit for two tests at different occasions. Out of 113 test-takers, only 89 (i.e 37 HO students and 52 English language majors) completed the tests, but 24 test-takers had to be avoided because they had shown lack of interest to complete the test items. Out of 89, only 59 of the test-takers' scores were used for computation. That is to say, 30 students who scored <38 in the vocabulary recognition test and < 25 in the cloze test were avoided because of the cut-off points to designate reading levels and ability groups in both tests.

3.3 Methods of Data Collection

Tests were the only methods for collecting the required data as the current study mainly focused on identifying students' performance in test situations. The tests, thus, used were cloze test and vocabulary recognition test. The tests had different purposes: the cloze test was used to assess students' reading ability or reading level whereas the vocabulary recognition tests was to measure students' vocabulary knowledge. Regarding their nature, the cloze test was prepared from a narrative reading text from which 50 words were systematically deleted and replaced by blank spaces having equal gaps. Consequently, the students were required to complete the gaps with grammatically correct words. Besides, the vocabulary recognition test consisted of 24 multiple-choice items which were organized in terms of parts of speech: verbs, adjectives, nouns, gerunds, and adverbs.

To make the analysis much easier, the researchers used different cut-off points to designate reading levels and ability groups. Rankin and Culhane's (1969) scale was used to determine the cut-off points for reading levels while convenience cut-off points were used for ability groups. Hence, according to Rankin and Culhane, test-takers whose scores above 60 were believed to have attained 'independent reading level'; 40-60, instructional reading level; and below 40, frustration reading level. As a result, test-takers' scores were organized as follows: independent reading level (61-90), instructional reading level (40-60), and frustration reading level (26-39). Similarly, the ability groups for vocabulary recognition test were designated as high-scorers (71-96), average-scorers (50-70), and low-scorers (38-49).

3.4 The Test Validation Process

Khoshsima (2014) reported that the cloze test was developed by Wilson Taylor in 1953 based on Gestalt Psychology of "closure" which emphasized human's tendency to fill patterns. In addition, Brown (2004), citing Oller (1979), claimed that cloze procedures were good measures of test-takers' overall reading proficiency or

comprehension. As Oller (1979) and Harmer (2002) provided a detailed outline of the cloze procedure, it is believed to be a standardized test which needs no more validation.

On the other hand, the vocabulary recognition test, which had already been piloted and undergone item analysis, was taken by permission from Wendiyafray's (2013) PhD dissertation. Even so, the researchers decided to get it validated. Hence, the test items were given out to PhD TEFL scholars who reviewed how qualified the items were. Then, they assessed the test items using a rating scale that ranged from 'unacceptable to acceptable'. The vocabulary items identified as unacceptable and less acceptable were sorted out and presented to a panel of PhD TEFL scholars in Arba Minch University. Then, they discussed and suggested ways by which the items could be improved. On the basis of the discussion outcomes, the researchers tried to modify the test items.

3.5 Methods of Data Analysis

The nature of data collection tool may presuppose the type of data to be collected. In the current study, the researchers used tests which yielded quantitative data (i.e. test scores). Consequently, the researchers used quantitative methods to analyze the data. Hence, correlation coefficients were used to determine the relationships between the two tests (i.e. cloze test and vocabulary recognition test). In addition, descriptive statistics such as frequency counts and percentages were used to show how the test-takers performed with respect to the parts of speech. In order to do the computations, it was necessary to run normality tests which revealed that the scores were not normally distributed because of non-linearity of the scatter plots particularly at both ends of the graph. As a result, Kendall's tau, a non-parametric test, which assumes for non-normal distribution and outliers, was used to work out the relationship between the tests. Eventually, Microsoft Excel was applied to work out frequencies and percentages whereas SPSS version 22 was used to run the normality test and correlation coefficients.

4. Findings

4.1 Participants' Cloze Test Scores

Table 2: Cloze Test Scores

Reading levels	Scale	Range of scores	Number of test-takers	Percentage	Total number of test-takers	Percentage
independent level	>60	90-95	1	6%	16	27%
		85-89	2	13%		
		79-84	0	0%		
		73-78	5	31%		
		67-72	3	19%		
		61-66	5	31%		
		55-60	3	14%		
instructional level	40-60	50-54	3	14%	21	35%
		45-49	6	29%		
		40-44	9	43%		
frustration level	<40	36-39	5	23%	22	38%
		31-35	6	27%		
		26-30	11	50%		

As in Table 2, students at independent reading level (27%) were rather less in proportion than those at instructional reading level (35%) and frustration reading level (38%). For further analysis, the scores gained in each reading level were classified into a number of groups. At independent reading level, 31% of the test-takers

were concentrated at two sub-groups: 73-78 and 61-66. Nevertheless, the situation changed at instructional and frustration reading levels. At instructional reading level, we could see the highest proportion of students (43%) who scored 40-44. Similarly, at frustration reading level we could observe the highest number of students (50%) whose scores fell under 26-30 sub-group.

4.2 Participants' Vocabulary Recognition Test Scores

Table 3: Vocabulary Recognition Test Scores

ability groups	range of scores	scores gained	no of test-takers	percentage	total no of test-takers	percentage
high scorers	71-96	92-98	3	18%	17	29%
		85-91	0	0%		
		78-84	2	12%		
		71-77	12	71%		
		65-70	4	19%		
average scorers	50-70	60-64	7	33%	21	36%
		55-59	3	14%		
		50-54	7	33%		
low scorers	38-49	46-49	12	57%	21	36%
		42-45	4	19%		
		38-41	5	24%		

As in Table 3, the proportion of high-scorers (29%) was much less than average-scorers (36%) and low-scorers (36%), which could be attributed to the cut-off points and the students' scores. Moreover, the scores gained were further broken down to distinct sub-groups in order to show the highest proportion of scorers in each ability group. Apparently, 71% of the high-scorers scored within the range of 71-77. However, the situation changed with average scores where the scores were fairly distributed except that 33% of them scored between 60-64 and 50-54. Like that of high-scorers, we could see the highest proportion of low-scorers (57%) whose scores fell between 46-49.

4.3 Correlations between Tests

Table 4: Relationship between Cloze Test and Vocabulary Recognition Test

		Vocabulary Recognition Skills Test	Cloze Test
Kendall's tau_b	Vocabulary	Correlation Coefficient	1.000
	Recognition Skills	Sig. (2-tailed)	.962**
	Test	N	59
Cloze Test		Correlation Coefficient	.962**
		Sig. (2-tailed)	1.000
		N	59

** . Correlation is significant at the 0.01 level (2-tailed).

In Table 4, the cloze test and vocabulary recognition test seemed to have the highest correlation coefficient (.962) which was significant at 0.01 level. That is to say, good performers got the highest scores on both tests while poor performers attained the lowest scores on the tests. This result was obtained when all test-takers' scores were computed together. However, what would happen if the comparison was done at different levels? Could we maintain such kind of relationship?

4.4 Performance of Test-Takers in Both Tests with respect to Parts of Speech

Table 5: Performance of Test-Takers by Parts of Speech

No	category	no of items	Students' Test scores in Cloze Test			Students' Test scores in Vocabulary Recognition Test		
			total scores gained	total scores expected	percentage	total scores gained	total scores expected	percentage
1	past participle	4	165	236	70%	171	236	72%
2	adjective	3	120	177	68%	124	177	70%
3	Verb*	6	190	354	54%	200	354	56%
4	noun	4	119	236	50%	134	236	57%
5	gerund	3	89	177	50%	97	177	55%
6	adverb	4	103	236	44%	108	236	46%
Total		24	N=59			N=59		

Note: 'Total scores gained' refers to the sum of scores that ability groups and students at different reading levels got.

'Total scores expected' is the sum of scores if all the test-takers in both tests get all items right.

* 'Verb' refers to the bare infinitive.

As shown in Table 5, there seems to be some similarity between students' performance in the cloze test and the vocabulary recognition test with respect to the parts of speech. This finding partly explains the high correlation (.962) between the two tests explained in the preceding section (i.e. Table 4). Besides, the difficulty level of the parts of speech increases as we move from top to bottom except for 'verb' and 'noun' in the vocabulary test. In other words, test-takers appeared to have little difficulty with 'past participles' and 'adjectives' while they seemed to experience the most difficulty with 'adverbs' and 'gerunds'. The next sections show how participants at different reading levels and ability groups perform with respect to parts of speech.

4.5 Relationship between High Scorers in Vocabulary Recognition Test and Participants at Independent Reading Level in Cloze Test

Table 6: Performance of High Scorers and those at Independent Reading Level

No	Category	No of items	High Scorers			Independent Reading Level		
			Scores gained	Scores expected	percentages	Scores gained	Scores expected	percentages
1	Past participle*	4	62	68	91%	57	64	89%
2	Adjective	3	46	51	90%	41	46	85%
3	Verb	6	77	102	75%	71	96	74%
4	Noun	4	48	68	71%	48	64	75%
5	Gerund	3	40	51	78%	35	48	73%
6	Adverb	4	43	68	63%	40	64	63%
Total		24	N=17			N= 16		

Note: 'scores expected' refers to the case in which test-takers get all of the items right.

scores expected = no of items x N

'Scores gained' refers to the sum of scores gained by N for each category. For category 1(past participle), for example, a student may score 4 or 3 or 2 or 1 or 0.

* 'past participle' refers to verb functioning as adjective.

As can be seen in Table 6, the performance of high scorers in the vocabulary recognition test and students at independent reading level in the cloze test were compared. Apparently, the two groups had more similarities in performance than differences with respect to the parts of speech. Specifically, the scores appeared to be sequentially placed in descending order. That means, the difficulty level increased from top to bottom. In this case, we could see that ‘past participle’ is the easiest whereas ‘adverb’ seems to be the most difficult for both groups. However, the sequence appears to be disrupted with high scorers’ performance of ‘gerund’ which should come next to ‘adjective’. Still, we could see the same disruption in the performance of students at the independent reading level. That is to say, their scores on ‘noun’ should have come next to ‘adjective’.

4.6 Relationship between Average Scorers in Vocabulary Recognition Test and

Participants at Instructional Reading Level in Cloze Test

Table 7: Performance of Average Scorers and Participants at Instructional Reading Level

No	Category	No of items	Average Scorers			Instructional Reading Level		
			Scores gained	Scores expected	Percentages*	Scores gained	Scores expected	Percentages
1	Past participle	4	63	84	75%	57	84	68%
2	Adjective	3	40	63	63%	43	63	68%
3	Verb	6	74	126	59%	67	126	53%
4	Noun	4	52	84	62%	41	84	49%
5	Gerund	3	31	63	49%	28	63	44%
6	Adverb	4	37	84	44%	35	84	42%
Total		24	N=21			N=21		

* Percentages are worked out by: scores gained/scores expected x 100. Thus, comparisons are done using only the percentages.

Average scorers in vocabulary recognition test and students at instructional reading level mostly had similar performances as shown in Table 7. Observing the performance of students in both groups, we may realize that the scores are sequentially ordered from high to low. That is to say, the difficulty increases from top to bottom. When we examine the students’ difficulty with the parts of speech, they seemed to have the least difficulty with ‘past participle’ while the most difficulty with ‘adverb’. Nevertheless, the sequence seems to have been disrupted when we look at the performance of average scorers. This disruption occurred with the particular learners’ performance of ‘verb’ which should have come next to ‘noun’. However, we don’t see any disruption with the students at instructional reading level. In spite of this, we could still see a similar pattern of performance between the two groups. Perhaps this could be attributed to almost half of the participants belonging to both groups. However, the inclusion of almost half of test-takers who belonged only to one of the groups did not have much effect on the strength of the relationship between the two tests.

4.7 Relationship between Low Scorers in Vocabulary Recognition Test and Participants at Frustration Reading Level in Cloze Test

Table 8: Performance of Low Scorers and Participants at Frustration Reading Level

No	Category	No of items	Low Scorers			Frustration Reading Level		
			Scores gained	Scores expected	Percentages	Scores gained	Scores expected	Percentages
1	Past participle	4	46	84	55%	51	88	58%
2	Adjective	3	38	63	60%	36	66	55%
3	Verb	6	49	126	39%	52	132	39%
4	Noun	4	34	84	40%	30	88	34%
5	Gerund	3	23	63	37%	26	66	39%
6	Adverb	4	28	84	33%	28	88	32%
Total		24	N= 21			N=22		

In Table 8, the students' performance was most incongruent compared to the data in the preceding two tables. In other words, we don't see any discernible pattern as in Tables 5, 6, and 7. In the order of ascending difficulty, 'adjective' seems the easiest and 'noun' is easier than 'verb' for low scorers. Similarly, 'gerund' seems easier than 'noun' for students at frustration level. At the same time, 'gerund' seems to have equal difficulty with 'verb'. However, 'adverb' appears to be the most difficult for both groups.

5. Discussions

5.1 Relationship between Tests

The data in Table 4 showed that there was strong relationship between the two tests. This suggested that high scorers on one of the tests were also getting high scores on the other test. The same applied to average and low scorers. That is to say, equivalent groups had similar performances in recognizing the appropriate vocabulary for a given social context. This finding conformed with earlier studies which found that students' reading comprehension scores highly correlated with their vocabulary test scores (Leach, Scarborough, & Rescorla, 2003; Valencia & Buly, 2004; Cromley & Azevedo, 2007). However, these studies expressed their findings in more general terms. In other words, they did not make their focus on how students at different reading levels performed in terms of different vocabulary types.

However, we should take caution that trying to compare students' reading comprehension and vocabulary knowledge using total scores might not show how students belonging to different ability groups and reading levels performed. As a result, the researchers believed that the analysis should be done at equivalent levels as shown below:

- *high scorers* with students at *independent reading level*
- *average scorers* with students at *instructional reading level*
- *low scorers* with students at *frustration reading level*

Consequently, the current study tried to do the analysis at these levels. Owing to the small number of students who belonged to the paired groups (high-scorers & students at independent reading level, average-scorers & students at instructional level, and low-scorers & students at frustration reading level), it was not possible to run correlations. Hence, comparisons were done using the percentage for each part of speech.

As in Table 6, high-scorers and students at independent reading level had more similarities than differences. There is a discernible pattern in the level of difficulty in terms of the parts of speech. The 'past participle' was the easiest while 'adverb' the most difficult for these learners. The similarity in pattern could be attributed to the presence of a large number of participants who belonged to both groups. Similarly, average-

scorers and students at instructional level demonstrated the same performance with the parts of speech except for little variations in order. Unlike Table 6 and Table 7, no discernible pattern of performance was observed with low-scorers and students at frustration reading level. This finding was in conformity with that of Menghetti, et al. (2006) that low comprehenders showed high variability in their cognitive and metacognitive profiles. This variability might be attributed to the cut-off points for both groups and the very small number of students who belonged to both groups.

5.2 Students' Performance Viewed in contrast to Early Studies

In the current study, specifically in Table 5, the students exhibited a discernible pattern in the difficulty they had with parts of speech. Nevertheless, we could see little variations in the order of difficulties that students had with parts of speech as in Tables 6, 7, and 8. More specifically, we could observe the highest variation with low scorers and students at the frustration level. Despite the little variations, we could still see that three of the groups had some commonalities. That is to say, 'past participle' was the easiest whereas 'adverb' was the most difficult for most of the groups.

While the focus of the current study was on the difficulty the participants had with parts of speech, the direction taken by other related studies was on the frequency of the use of parts of speech in different genres. In relation to this, Khaisaeng and Dennis (2017) found that 'nouns' were the most frequently used compared to other parts of speech. Similarly, Potiantong (2010) reported that the study participants used 'nouns' most often while they used 'pronouns' quite rarely. In the same vein, Chusrikul's (2008) finding was quite the same as that of Potiantong (2010). Chusrikul surveyed the vocabulary used by grades 6, 9, and 12 who used 'nouns' most frequently in comparison to 'pronouns' and 'interjections'. In addition, Surin (2005) made an inventory of vocabulary types in cosmetic advertisement headlines wherein he found that 'nouns' were the most frequently used.

In all the studies mentioned above, 'noun' was the most frequently used part of speech. This may imply that the students might have found 'noun' quite easy to use in those different genres. As in Table 5, 'noun' took up the middle position. This means that it had an average difficulty to all of the participants in the current study. In other words, these participants could have used 'nouns' with some difficulty in their academic tasks.

6. Conclusion and Recommendations

The first research question dealt with how students' belonging to different reading levels in the cloze test performed with respect to different parts of speech. There appears to be conformity in the performance of students who belonged to the different reading levels (as in Tables 6, 7, & 8). However, the only disparity in performance was exhibited in the performance of students at frustration level. This means that students at independent reading level and those at instructional reading level have more similarities than students at frustration reading level. Moreover, they had little difficulty with 'past participle' and 'adjective' while they faced the most difficulty with 'adverb'. Thus, the students seemed to have little difficulty with words that describe nouns but the most difficulty with words which describe verbs. This needs further study in the future to find out why students have little difficulty with 'adjective' and most difficulty with 'adverb'.

Regarding the second research question, it was aimed at identifying how students at different ability groups in vocabulary recognition test performed in relation to the different parts of speech. Unlike the participants' performance in Table 5, we could observe variations in the difficulty order of the parts of speech across the ability groups. The disparity occurred to high scorers at 'gerund' while average scorers showed variation in their performance of 'verb' and 'noun'. On top of that, low scorers' discrepancy was much worse—they showed more variations with four parts of speech: 'past participle', 'adjective', 'verb' and 'noun'. This

may suggest that students' performance has shown more variation in the vocabulary recognition test than in the cloze test. This might be attributed to the nature of the tests: in the cloze test they supply function and content words whereas in the vocabulary test they select from the given alternatives of content words.

In spite of the variations in the order of the parts of speech, these students have the same difficulty with the parts of speech as those at different reading levels. They have little difficulty with 'past participle' but most difficulty with 'adverb'. This may suggest that both tests are testing the same or complementary abilities.

Eventually, the focus of the third research question was to find out if there was a relationship between students placed under ability groups and reading levels with respect to their performance of the parts of speech. Students assigned at different ability groups and reading levels do have similarities and differences in their performance of parts of speech. The variations become more conspicuous when the analysis is done at smaller groups than bigger ones (i.e. the whole test-takers taken together).

Hence, the current study may have implications for course design and classroom instruction. It may shade some light on vocabulary needs of students and the specific vocabulary types with which learners need teachers' assistance. Based on the findings of the current study, the following recommendations are put forward:

- As vocabulary knowledge is most essential to understand the contents of academic texts, course designers and instructors, who specifically offer Reading Skills and Communicative English Language Skills courses, have to give more coverage to the parts of speech with which the particular students have much difficulty. In this regard, most students in the current study seemed to have much difficulty with 'gerund' and 'adverb' when we observe the data in Graph 1. Hence, it is essential that 'gerund' and 'adverb' should be given emphasis.
- Performance variations might have resulted from disjunctions in cut-off points for both tests. As there are no standard cut-off points for Ethiopian students' language test performance, the researchers recommend future researchers to undertake a study on this issue.

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Authors' Contributions:

Author 1: Developed proposal, designed tools, collected data, analyzed data, wrote up the report, and eventually revised the report based on comments from reviewers.

Author 2: Collaborated with tools validation and data collection.

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The authors declare that there is no conflict of interest.

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