

Can a dictionary help one read better?

On the relationship between E.F.L. learners' dictionary reference skills and reading comprehension

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Lexicography has come to be "an international profession" (Ilson, 1986). There has never been a period when more information has been exchanged internationally, and the compilation of dictionaries has become more systematic than ever before. In particular, the user's perspective has been increasingly emphasised as learners' dictionaries have developed.

Since research into dictionary look-up strategies has just begun, very few studies have been conducted on the relationship between dictionary reference skills and reading comprehension. I should like to single out two studies for comment.

The first is the report by Bensoussan et al. (1984), who set out to determine what effect the use of dictionaries has on reading comprehension amongst university students of English as a foreign language. They tested over 700 students at two institutions in Israel during two consecutive years and came to the conclusion that the use of monolingual or bilingual dictionaries does not affect performance in reading comprehension tasks (as measured by multiple-choice questions on each of the three texts used). Reinhard Hartmann (forthcoming) has argued, however, that in spite of the impressively large sample, these results must be considered inconclusive. There are doubts as to whether all the interacting variables were properly controlled. For example, the level of the task and its mode of assessment may have been too artificial or inappropriate when we consider the proficiency level of the subjects - advanced learners, in this case.

The second was a part of the series of studies on the teaching of English in high schools in Okayama, Japan, undertaken by the Okayama Prefecture Senior High School Circle of English Education. They developed what they termed a "dictionary using skills test" and administered it to high school students in Okayama, in order to

discover how effectively students of English could use English-Japanese dictionaries¹. Based on the data obtained from 1,055 subjects, Notohara, a senior member of this project, conducted further research on the relationship between dictionary-using skills and language proficiency. He showed that there was a positive correlation ($r = .58$) between the results of the dictionary using skills and the results of the English proficiency tests (Notohara, 1987). This does not indicate automatically that a positive relationship exists between dictionary reference skills and reading comprehension itself, but it can provide us with sufficient reason to suspect that the results of Bensoussan et al.'s study may not have reflected the true picture (see also Diab, this volume).

My present study seeks to fulfil the following important purposes:

- (a) to determine if there is any significant difference in the subject's performance between reading with the help of a dictionary and that without its help;
- (b) to identify what kinds of reference skills are most relevant to better performance in reading comprehension tasks;
- (c) to identify possible measures of dictionary reference skills.

The study drew as its sample 17 first-year and 15 second-year junior high school students studying at a preparatory school near Tokyo. Although the number of subjects is very small, they were specially selected for this study. Usually, in Japan, those who begin studying English are advised not to use dictionaries until they reach a certain degree of proficiency, so it would be difficult to use junior high school students as subjects for such a study. However, these subjects were in a slightly different situation. They attended their own local junior high school each day, and came to the preparatory school twice a week to take special English lessons. When they entered the preparatory, most of them took a special training course in basic dictionary skills, including training in rapid look-up of words as well as basic dictionary conventions such as where to find idioms, how to find inflected words correctly and the like. They were encouraged to use dictionaries from the beginning, and to read as much as possible. Grammar was also taught in class, but only the very basics necessary for dictionary look-up. The students were told not to worry too much about details, and were rather encouraged to read more with the help of a dictionary. Most students finished five to seven volumes of elementary English readers, each of which has three or four short stories², in the first year of the preparatory school. Some students even finished reading 20 volumes in the first year. The students in this preparatory school were more likely to have been exposed to dictionaries than ordinary junior high school students.

¹ For details of the test and its analysis, see Tono (1988).

² These readers are usually used with second- and third-year junior high school students.

The Dictionary Reference Skills Test Battery (D.R.S.T.B.) was developed for the purpose of the study, and consisted of six subtests in four categories:

- (a) Placing words in alphabetical lists:
 - (i) one-word entries; (ii) two-word entries.
 - (Subjects were to locate words in alphabetically-ordered word lists.)
- (b) Finding meanings:
 - (iii) one-word entries; (iv) two-word entries.
 - (Subjects were to look up words in a dictionary and find meanings.)
- (c) Finding the most appropriate meanings:
 - (v) polysemes.
 - (Subjects were to identify the correct meaning among those under the same entry, on the basis of contextual information.)
- (d) Finding idioms:
 - (vi) idiomatic phrases.
 - (Translate into Japanese of English sentences containing idioms.)

Samples of test questions are appended to this paper. Selection of the categories and subtests was made on the basis of information concerning reference skills from Mitchell (1983) and Tono (1984). The validity and reliability of the test battery were also to be investigated. Two sets of reference skill tests were developed, to serve two different levels of students. Reading comprehension tests consisted of a short English passage and multiple-choice questions to check subjects' understanding of the text. Subjects were asked to read two different passages: one with the use of dictionaries, the other without. After reading each passage, they were to choose correct statements about the contents. The time allowed was the same in each case.

The subjects were tested in class, as part of their regular classroom activity. They were presented with copies of the D.R.S.T.B., and the instructor read the rubric aloud before each subtest. The working times for each subtest were as follows:

	<u>First year</u>	<u>Second year</u>
(i)	2 minutes	2 minutes
(ii)	2 minutes	2 minutes
(iii)	4 minutes	4 minutes
(iv)	4 minutes	4 minutes
(v)	7 minutes	10 minutes
(vi)	7 minutes	10 minutes

Table 1: Allocation of times for D.R.S.T.B. subtests.

Subtests (v) and (vi) for the second-year junior high school students were given more time because the difficulty level of the sentences was much higher. The reading

comprehension tests were administered by subjects being asked to read the text without using a dictionary and answering the questions for this first test (RC1) in the first 20 minutes. After the scripts had been collected, the subjects were requested to work on the second test (RC2), this time with a dictionary. Working time was also 20 minutes. Both RC1 and RC2 had ten different statements about the contents of the passages, each of which was allowed ten points. If a subject chose a statement which was wrong, s/he would lose ten points. In the same way, if s/he skipped it as a false statement, ten points were awarded. The maximum possible score was 100. For D.R.S.T.B., a full score was 100, with some weighting of individual subtest scores.

Table 2 reports the means and standard deviations of all subscales and the total test battery. This gives a comparative indication of subscale difficulty and sample spread. It should be noted that D.R.S.T.B. for the second-year students was relatively more difficult than that for the first-year students. Further, the second-year students mostly used larger and extensive dictionaries, which may have contributed to the relatively low scores of these students' D.R.S.T.B.³ To compare RC1 and RC2 scores, *t*-tests were performed. Table 3 indicates the results, which show that on each level there was significant difference between the scores of RC1 (without dictionaries) and RC2 (with dictionaries). The subjects performed better in reading comprehension with dictionaries than without.

First-year students (n = 17)

<u>Subscale</u>	<u>Number of items</u>	<u>Allocation of points</u>	<u>Mean</u>	<u>S.D.</u>
(i)	10	10	9.24	.88
(ii)	10	10	7.98	1.84
(iii)	10	20	17.65	2.76
(iv)	10	20	14.24	4.11
(v)	10	20	12.41	3.68
(vi)	5	20	13.41	3.34
Total	55	100	73.35	11.18

Second-year students (n = 15)

<u>Subscale</u>	<u>Number of items</u>	<u>Allocation of points</u>	<u>Mean</u>	<u>S.D.</u>
(i)	10	10	8.80	1.11
(ii)	10	10	7.53	1.78
(iii)	10	20	15.47	2.78
(iv)	10	20	14.93	3.92
(v)	10	20	9.60	3.12
(vi)	5	20	10.67	6.14
Total	55	100	67.07	12.35

Table 2: Means and standard deviations for all subscores in the total test battery.

³ The dictionaries used by the students were, first year: Elwa Kihongo Sho-Jiten (Basic English-Japanese Dictionary), Kodansha, 1981; and second year: Global English-Japanese Dictionary, Sanseido, 1983.

	RC1		RC2		t
	Mean	S.D.	Mean	S.D.	
<u>First year</u>	77.06	18.71	96.47	6.81	4.67*
<u>Second year</u>	65.29	16.13	82.94	10.72	4.92*

Table 3: Means, standard deviations and t-test results for RC1 and RC2; * $p < .01$.

A correlational design was chosen to analyse the relationship between D.R.S.T.B. and RC1/2 achievement. Pearson r coefficients were obtained between D.R.S.T.B. and RC1 and RC2 and between D.R.S.T.B. subscores and RC1/2. (See Table 4.) In the case of the first-year students, D.R.S.T.B. correlates with RC2 (i.e., with dictionaries), while in the second-year, D.R.S.T.B. correlates more positively with RC1/2. No strong relationship was found between D.R.S.T.B. subscores and RC1/2.

D.R.S.T.B.	<u>First-year students (n = 17)</u>		<u>Second-year students (n = 15)</u>	
	RC1	RC2	RC1	RC2
(i)	.38	.56	.15	.36
(ii)	.25	-.42	.43	-.28
(iii)	-.01	-.10	-.23	-.14
(iv)	.22	.18	.12	.19
(v)	.28	.14	.03	.22
(vi)	.01	.25	.28	.07
Total	.16	.52	.56	.11

Table 4: Pearson r correlations for D.R.S.T.B. with RC1 and RC2.

In the present discussion, I have attempted to investigate the relationship between dictionary reference skills and reading comprehension. My results support the contention that a significant difference in performance exists between reading comprehension with dictionaries and that without dictionaries for both levels of students. The subjects made a significantly higher proportion of errors when they did not use dictionaries than when they did use them.

This result appears contradictory to those of the study by Bensoussan et al. Besides the differences in research design and analysis, we should note that all the subjects in my study received special training in dictionary use at a preparatory school, which could be the primary reason for this difference. That is to say, with good instruction and adequate practice, the use of dictionaries could make a significant difference in the performance of reading comprehension tasks.

While it could be hypothesised that this difference is attributable to the use of dictionaries, it should be noted that the correlations between D.R.S.T.B. and RC1/2 show that the dictionary reference skills examined in the battery did not correlate strongly with reading comprehension except for the total scores. The results are

rather puzzling: D.R.S.T.B. correlated more strongly with RC1 (without the use of dictionaries) in the case of the second-year students, and more strongly with RC2 (with dictionaries) in that of the first-year students. This suggests that at the beginning level, those who are good at handling dictionaries perform better in reading comprehension with dictionaries than those who are not, while neither group was any better at reading comprehension without a dictionary. On the other hand, as they use dictionaries more and more, those who can use them more effectively can perform better in reading comprehension without dictionaries. We could interpret from this finding that there are positive effects from continuous dictionary use on overall reading comprehension.

If this is, indeed, the case, we could support the claim by Béjoint (1987:104) that "frequent and careful consultation of the dictionary can lead to a better command of the language". It is beyond the scope of the present study to determine when the best time for dictionaries to be introduced to learners is, but as far as these results are concerned, it can be claimed that intensive exposure to English by reading with a dictionary in the early stages can work as an effective way to learn the language. Further research needs to be undertaken to confirm this.

Whilst these interpretations are possible, it should be noted that there are technical or methodological problems to be solved. Some comment should be made about the validity and reliability of both D.R.S.T.B. and RC1/2. Invalid items are to be identified and rejected by conducting statistical analyses of the tests. Since the results show various correlations for D.R.S.T.B. subtests with RC1/2, the qualification for each test question for appropriate subtests of the test battery has to be questioned. Future studies will report on an optimal combination of subtests for the prediction of English-Japanese dictionary reference skills. The number of subjects needs to be increased, although it will be difficult to find subjects who have received the same amount of dictionary training as those tested in the present study.

Thus, although the results suggest that there are significant differences between reading with a dictionary and reading without one, the factors which cause these differences could not be precisely identified. The following need further examination before any conclusive statement can be made.

Firstly, the test battery must be re-examined for validity and reliability, and subscales must be identified and weighted properly. Secondly, the reading comprehension tests must be refined so that the difficulty level may be controlled and the multiple-choice questions made more reliable.

Making conclusive statements about the relationship between dictionary reference skills and reading comprehension may be premature at this point. However, I believe that the dictionary user perspective is at a critical stage of evolution. The trend is shifting from static taxonomies to more dynamic observations

of what real users do with real dictionaries in real situations of communicative deficit. By improving research designs and survey methods, more fruitful research results will be obtained in future studies.

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Appendix: samples of the Dictionary Reference Skills Test Battery**(A) PLACE WORDS IN ALPHABETICAL LISTS (without a dictionary)**

"Locate the word in the following alphabetically ordered word list."

(i) one-word entries

(ii) two-word entries

antique

dry cleaning

anticipate

drunk

anticlimax

drunken

antihero

dry

antinuclear

dryad

antipathetic

dry cell

antipathy

dry-clean

antiquarian

dry cleaner

antiquary

dry dock

antiquated

dryer

antiquity

dry ice

(B) FIND MEANINGS (with a dictionary)

(iii) one-word entries

(iv) two-word entries

1st year: marriage, institution, skeleton
opinion etc.

mother tongue, music box,
Indian summer, soft drink.

2nd year: indulgence, sermon, approval,
disturbance etc.

nervous breakdown,
United Nations etc.

(C) FIND THE MOST APPROPRIATE MEANINGS (with a dictionary)

(v) Identify the correct meaning of the underlined word:

1st year: (1) He is a lover of music.

(2) Watch your step.

... ..

(5) He is her lover.

(6) We hear steps outside.

Etc.

2nd year: (1) They are on strike now.

(2) He is in the banking line.

... ..

(5) The snake made a strike at my foot.

(6) There as a line of people waiting for the bus.

Etc.

(D) FIND IDIOMS

(vi) Translate the following sentences into Japanese:

1st year: (1) I am no longer young.

(2) He keeps early hours.

Etc.

2nd year: (1) Her shrieking voice gets on my nerves.

(2) Mary made up her mind to be a nurse.

Etc.