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ABSTRACT

Three studies, carried out independently at Ben Gurion University and at Haifa University, tested students of comparable English proficiency who were enrolled in similar courses of English reading comprehension. The studies were carried out to investigate the effect of dictionary use in examinations on students' test performance. In the study at Ben Gurion University, 9 classes, including 91 students, participated. At Haifa University, 5 reading comprehension tests were administered to 670 students, and 8 tests were administered to 740 students. The results of the 3 studies showed a preference for using bilingual dictionaries, on the one hand, and no significant correlation between dictionary use and test score, on the other. To attempt to clarify the test results and to understand the underlying attitudes and expectations of dictionary users, the researchers at Haifa University administered a questionnaire on dictionary use and preferences. The results of this study may be applied to point out some misconceptions about students' usage of dictionaries and to improve teachers' explanations and dictionary exercises. The study suggests that the dictionary may be better used for the occasional unknown word rather than to create a context whose larger meaning and value is unclear to the reader. (Author/AMH)

THE EFFECT OF DICTIONARY USAGE ON EFL TEST PERFORMANCE COMPARED WITH STUDENT AND TEACHER ATTITUDES AND EXPECTATIONS*

Marsha Bensoussan, Donald Sim, Razelle Weiss

I. INTRODUCTION

A. Context of the Problem

The effect of dictionary usage on English as a Foreign Language (EFL) test performance is a controversial topic in Israeli institutions of higher learning. Students of EFL have for some time been taught to use monolingual (English-English) dictionaries in and out of the classroom. Monolingual dictionaries are used in order to give students more practice working in the English language. Teachers generally, however, regard both monolingual and bilingual dictionaries as necessary tools for effective reading comprehension. Indeed, students are expected to know how to use bilingual dictionaries without specific guidance.

Whether or not dictionaries are permissible tools during multiple-choice reading comprehension tests has, however, been the subject of controversy. Administrators of examinations argue that to allow students to use dictionaries invalidates the purpose of the reading comprehension test itself; dictionary definitions might "give away" some of the answers. Moreover, when searching for word meanings, the student wastes precious time that

* We would like to express our thanks to Prof. Andrew Cohen, School of Education, The Hebrew University, Jerusalem, for his helpful criticism.

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would be better spent concentrating on the text as a whole. Use of the dictionary, they also argue, tends to add an opportunity for unscrupulous test takers to note down and transmit relevant information. Some teachers actively discourage use of dictionaries, both monolingual and bilingual, in the EFL classroom. They reason that while giving students a list of synonyms, dictionaries do not, in fact, help students identify the social situations or appropriate notional contexts of the words. Some teachers feel that students use dictionaries as a crutch and therefore fail to develop their own self-confidence and guessing abilities when reading.

In contrast, many teachers of EFL reason that the purpose of the reading comprehension test, given under controlled examination conditions, is not a memory test. It tests, rather, whether a student can disentangle the meaning of a passage of academic prose in the most natural reading situation, i.e., with the use, where needed, of a dictionary of his choice. The purpose of such a test, they argue, is to measure his ability to read and understand academic prose containing lexical items which he might well not have come across in his EFL courses, or could not reasonably be expected to remember, and which he would have to guess with the help of context. Thus, if dictionaries are used in reading situations in the classroom and at home, then they should also be used to read a text within a test situation.

B. Current Research

Most of the literature deals with the monolingual English-English dictionary. Marckwardt (1973) explains why teachers should use them in the EFL classroom:

> Dictionaries often supply information about the language not found elsewhere. Dictionaries often supply information about grammar, usage, status, synonym discrimination, application of derivative affixes, and distinctions between spoken and written English not generally treated in textbooks, even in a rudimentary fashion." (p. 369)

And Valette (1977) gives a series of exercises in selecting the appropriate definition from the context (pp. 197-198), which teachers can use for teaching or testing purposes.

Although dictionary definitions have been criticized as being difficult even for the native reader (Neubauer, 1981), a preference for the monolingual dictionary is expressed by Baxter (1980): "Whereas a bilingual dictionary tends to encourage the employment of a single lexical item, the monolingual dictionary demonstrates that definition is an alternative." (p. 325) Again, the important point is that students use the dictionary to work within the target language. Not all researchers share this view, however.

Arguing against the use of dictionaries, Rainsbury (1976) uncompromisingly states:

> I do not ban dictionaries, but I discourage their use and try to persuade the student that, in class at least, he can do

> better without one. Bilingual dictionaries are the places where the players of the synonym games get their ammunition. Dictionaries with definitions in the target language are often written with such exquisite care that it takes one who already knows the meaning of the word to understand the definition. (pp. 199-200)

Rainsbury is opposed to the synonym games in which students are made to learn synonyms, which they associate with each other but remain ignorant of the richer, more complex meanings of the words (p. 196). Some teachers, then, prefer to teach vocabulary in the context of social situations or written texts.

The use of context to teach vocabulary, however, does not seem to be effective. One reason may be that the reader must be in a position to use the context, something which may be difficult even for those reading in a native language. Goodman (1969) observes the following:

> As he strives to recreate the message, the reader utilizes his experiential conceptual background to create a meaning context. If the reader lacks relevant knowledge, he cannot supply this semantic component and he cannot read. In this sense, all readers regardless of their general reading proficiency are incapable of reading some material in their native language. (pp. 17-18)

According to T. F. Johns (1980), "there seems to be a 'threshold effect' by which, when more than approximately 50 per 1,000 words are unknown, perception of overall structure may be effectively blocked, which in turn means that there is not enough in the way of context to allow successful guessing." (p. 9) In other words, in order for students to guess, they need to have a wide enough basic context from which to operate.

Research on lexical guessing in context by Bensoussan and Laufer (unpublished paper) indicates that, on the whole, the amount and correctness of students' lexical guessing is overrated by both teachers and students of EFL themselves. In addition, when students believe that they already know the meaning of familiar words or polysemes, they do not bother to use the dictionary, even when circumstances permit (Laufer and Bensoussan, 1982).

A pilot study by Bensoussan showed that there was no significant difference between scores of students using monolingual dictionaries and those using no dictionaries at all on multiple-choice tests. Ten different passages with multiple-choice questions were administered to approximately 900 first-year students at Haifa University. Half the students were permitted to use English-English dictionaries, the others were not. There was no significant difference of test scores between those who used the dictionary and those who did not.[1]

The present researchers found these results surprising and considered that it was time to begin to gather systematic experimental data on the subject of dictionary usage by advanced learners of EFL. As a point of departure, it was decided to investigate the effects of both monolingual and bilingual dictionaries on reading comprehension tests with multiple-choice questions. Studies were carried out separately at Ben Gurion University of the Negev and Haifa University.

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1. We are grateful to Dr. Baruch Nevo, Department of Psychology, and the University Selection and Assessment Unit, Haifa University, for having engineered and provided facilities for the experiment.

Three separate studies, carried out independently at Ben Gurion and Haifa Universities between 1977 and 1979, tested students of comparable English proficiency who were enrolled in similar courses of English reading comprehension. The reading proficiency of these students, who had already studied seven years of English in high schoool, was on a fairly advanced level. Most had also received guidance in how to use a monolingual English dictionary in high school as well as at the university level.

The studies were carried out in order to investigate the effect of dictionary usage in examinations on students' test performance -- a problem common to both universities.

C. Assumptions and Purposes of the Studies

At the outset of these experiments, the following assumptions were made by the researchers:

1. The permitted use of monolingual and/or bilingual dictionaries would significantly affect examination scores. This would be reflected, for weaker students in particular, in significantly higher scores because of a reduction, for them, in the relatively greater lexical unknown.

2. The use of dictionaries would significantly affect the time taken to complete the test in either of two different ways: adding time or decreasing time. The use of dictionaries, being a time-consuming operation, might add measurably to the time taken to complete the test.

On the other hand, it might actually reduce time taken to puzzle out meaning by guessing from context, or by eliminating time lost in blank periods of incomprehension.

3. All students would avail themselves of the opportunity to use a dictionary when permitted. It was considered likely that anxiety over meeting unknown words in a test situation would persuade students to use the dictionary, either frequently or occasionally, as a psychological or informational prop.

4. Better students would use the dictionary less than weaker students because they would need it as a prop less than weaker ones. Weaker students would need to use dictionaries more than better students.

5. Students would look up unknown words in the text in order to understand the meaning better.

6. Teachers are aware of students' needs and limitations in using dictionaries.

7. Students are able to use dictionaries effectively to find word meaning.

Related to these assumptions and their underlying rationales were two relevant indications. The first was that pilot tests previously carried out at Haifa University showed no significant difference between scores of students using monolingual dictionaries and those using no dictionary at all. (See above, I.B.) The second was that teachers who supported the use of dictionaries in tests predicted that the use

of bilingual dictionaries would probably raise students' scores significantly.[2] The teachers argued that students would find the translations of words they needed more easily in the bilingual dictionary than in the monolingual which they could use only if they already possessed a fairly high level of English proficiency to begin with.

The question of whether or not to permit use of dictionaries in tests aroused differences of opinion among teachers and students alike. For this reason, it was decided to administer a questionnaire which would provide clearer indications as to students' and teachers' expectations concerning the effect of dictionary use during tests.

The researchers decided to examine these assumptions, then, by means of tests and questionnaires. The main purposes of these studies were to determine:

1. to what extent the use of monolingual and/or bilingual dictionaries affects examination performance;

2. to what extent the use of dictionaries affects the amount of time taken to complete the test;

3. attitudes of students and teachers in EFL courses towards use of the dictionary.

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2. Twelve teachers of the Dept. of Foreign Languages at Haifa University and two from the Dept. of Auxiliary Studies in English at Tel-Aviv University commented and presented their opinions.

II. METHOD

A. Study I - Ben Gurion University of the Negev

1. Students

In the course of the study at Ben Gurion University, nine EFL classes, totalling 91 students, participated. These were mostly first-year students enrolled in Sciences and Humanities courses at the university. More than half were native speakers of Hebrew. Other native languages, in descending order of frequency, were Arabic, Spanish, Russian, and French. Students tested had had the equivalent of seven years of high school English. (See below, Table 1.)

2. Test Administration

Each student received the same test battery of three texts (500-700 words each) with 10 multiple-choice questions for each text. He used a different dictionary, however, with each text. By random selection of texts for each dictionary, students answered the questions of each of the three texts under different conditions: one text without any dictionary, another text with a monolingual dictionary, and a third using a bilingual dictionary.

Students were allotted a total of 60 minutes for the whole test battery. For the first 20 minutes, students were given the text and asked to indicate, by means of a check mark (✓), each unknown word they would

like to look up in the dictionary. They were then given the questions, and indicated the words which were actually looked up in the dictionary during the test, by drawing a box around the word. They also indicated the part of speech of the unknown word. At this point, students not using the dictionary indicated additional words they would have liked to look up. For this part of the test, students were given 40 minutes.

B. Study II - Haifa University

1. Students

Subjects at Haifa University were first-year students of the Humanities enrolled in the required 100-hour advanced course in EFL reading comprehension, a population of approximately 670 students. They had already studied seven years of English in high school. The English proficiency of these students was of a similar level to those at Ben Gurion University. The native language of most students was Hebrew, with Arabic spoken by most of the others. A smaller proportion had a variety of mother tongues including Russian, French, and Spanish. (See below, Table 1.)

2. Test Administration

Tests were administered at the end of the first semester, after 50 hours of instruction. Since these were compulsory departmental examinations for a large body of students and had to be administered over a

period of several days, five equivalent tests were given in order to avoid cheating.[3] Each student received a test (600-800 words) with 20 questions. Students were allowed up to 120 minutes to complete the test and were permitted to use as many dictionaries as they wished. Students indicated the time (number of minutes) spent taking the test and the choice of dictionary (monolingual, bilingual, or none).

C. Study III - Replication, Haifa University

This study was carried out because the researchers at Haifa University, being skeptical of the results, decided to verify them. The following year, another group, consisting of 740 students in the required EFL reading comprehension course, received eight different tests (each student taking only one of the eight). The test conditions were identical to those of Study II. A comparison of the variables in each of the three studies appears below in Table 1.

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3. Each text was accompanied by 20 multiple-choice questions. The tests were shown to be approximately equivalent by the median of their marks. It was 15 for three of the five tests, and 13 and 14 for the other two. (See Appendix I, Table 2.)

TABLE 1: Comparison of Variables in Dictionary Studies I, II, III

variables	Study I - Ben Gurion	Study II - Haifa	Study III-Replication Haifa
multiple-choice tests:			
total no. of texts	3	5	8
no. questions per text	10	20	20
total no. of students	91	670	740
no. of texts read by each student	3	1	1
time (no. of minutes)	60	30 - 110	30 - 110
length (no. of words)	500 - 700	600 - 800	600 - 800
native language:			
Hebrew	58 %		71 %
Arabic	16 %		18 %
Other	26 %		11 %
dictionary:			
bilingual	33 1/3 %	59 %	58 %
monolingual	33 1/3 %	20 %	21 %
none	33 1/3 %	21 %	21 %
use of dictionary and time determined by	researcher	students	students

In addition, a questionnaire was administered to 404 of these students and their teachers. It was hoped that answers to the questionnaire would shed light on the statistical results obtained from the tests. (For discussion, see below, III.C.)

III. DISCUSSION OF FINDINGS

The results of the three studies were similar, despite the fact that each was carried out independently. The studies showed a preference for using bilingual dictionaries, on the one hand, and no significant correlation between the dictionary use and test score, on the other. (See Table 2, below.)

A. Study I

At Ben Gurion University the researcher (Weiss) kept the dictionary variable constant. Each student used each of the dictionary possibilities. However, when students used the bilingual dictionary, they tended to look up more words than when using the monolingual dictionary.

There was no relation between words actually looked up during the test and those unknown students indicated, during the 20-minute pre-reading session before the test, that they would like to look up. Apparently, motivation for looking up words arose from the need for answering the questions, not the desire purely to understand the text.

Students were divided into levels of proficiency, depending on their total scores on the test battery of the three texts: High, Medium, and Low. No differences were found among the groups as to the number of words marked unknown as opposed to the number actually looked up, and the kinds of parts of speech looked up.

B. Studies II and III[4]

1. Choice of dictionary

Of the 670 students who indicated their choice of dictionary in Study II, more than half (59%) chose to use bilingual dictionaries, whereas there were 20% who used monolingual dictionaries and 21% did not use any dictionary. In the replication test battery (Study III), results were similar. Where there was free choice, then, students showed a distinct preference for bilingual dictionaries. Of those students not using dictionaries at all, it can fairly be assumed that some students decided they did not need a dictionary, while others simply forgot to bring them and would really have preferred to use a dictionary.[5]

2. No Effect of Dictionary on Test Score

As indicated by the results (see below, Table 2, and Appendix I, Tables 1 and 3), the crucial question, whether the student's use of a dictionary affects his score on the test, appears to be answered in the

4. We thank Rachel Ramraz, Head of the Haifa University Selection and Assessment Unit, for processing the data and helping to interpret the computerized results.

5. Teachers supervising the tests affirmed that a few incidents of dictionary borrowing had occurred.

negative. Except in the case of one test, no significant relation was found in Pearson correlations calculated between students' test scores and dictionary use. It did not seem to make any difference on the test whether a student used a bilingual dictionary, a monolingual dictionary, or no dictionary at all. Studies II and III bear out the findings of Study I on this point. From the experimental findings, therefore, there seems to be no advantage, in a test situation, of using any specific kind of dictionary.

3. No Effect of Dictionary on Time

A second question was whether using a dictionary would measurably affect the time taken to complete the test. To determine which dictionary users were fastest, the median time was calculated for each group of students, for each test. For only one test, there was no difference in time for any of the dictionaries used. In all the other tests, however, students who used no dictionary at all finished fastest, and users of bilingual dictionaries were slowest. (See Appendix I, Tables 2 and 3).

For four of the five tests, there was no significant correlation between the dictionary used (or not used) and the time needed to complete the test. On the fifth test, however, there was a positive correlation ($r = .34$, $p < .001$, $N = 248$). This would indicate that often students

using bilingual dictionaries took longer to complete this test. Positive correlations were also found for four of the eight tests in Study III. It must be kept in mind, however, that their choice of dictionary did not affect their test scores.

Although it appears that users of bilingual dictionaries are slowest, that does not necessarily mean that use of the bilingual dictionary specifically slows down the test taker. It might also imply that the bilingual dictionary is used differently, or by slower students, than the monolingual dictionary.

4. Time / Score

The third question concerned the level of proficiency of the students who chose to use a bilingual, monolingual, or no dictionary at all. One could infer from the findings above (III.B.3.) that it was the slower or weaker students who needed to use the bilingual dictionary.[6]

To further illuminate the question of whether a relation exists between the time taken to complete a test and the score received after answering the questions, a Pearson correlation was calculated between these two factors for each test. For three of the tests, the correlation was not significant, but for the other two, a small negative correlation was found: Test 1, $r = -.27$, $p = 005$, $N = 88$; Test 2, $r = -.25$, $p = .01$, $N = 84$.

6. Information given during a lecture by Elisabeth Ingram at the Hebrew University (March 1980), Jerusalem, Israel: investigations carried out at the University of Trondheim, Norway, also indicated that weaker students take more time to finish tests than better students. There was a high correlation (approximately .75) between students' test scores and the amount of time needed.

These results would indicate that often it is the slower students (i.e., those taking more time to complete the test) who get the lower marks. This finding is in keeping with what was earlier hypothesized, namely, that the slower, less confident students, would take more time and would use the dictionary more. In the replication (Study III), for only one of the eight tests, there was a negative correlation between time and score. This indicated that a higher score was achieved by faster students.

5. Dictionary / Score

In order to get a clearer idea of students' test performance, the researchers decided to take a closer look at the breakdown of scores according to dictionary. Although there was no significant general relation, it was argued that examination of each test separately might yield some meaningful information that was hidden in the total test scores.

Each test (including both Studies II and III) was accompanied by 20 multiple-choice questions, and median scores were calculated. For two of the tests, there was no difference in median scores for users of any of the dictionaries. The other three tests, however, showed that users of monolingual dictionaries scored 1 to 2 points higher than those who used no dictionaries at all; on two of these tests, moreover, students using monolingual dictionaries also scored 1 to 2 points higher than students using bilingual dictionaries. (See Appendix I, Table 1). It would appear, then, that although 1 or 2 points might not be a significant statistical difference in score, users of monolingual dictionaries

did have a slight edge over the other students.

This difference may partly be explained by the fact that students who used no dictionary at all were of two opposite kinds: the very good students who did not really need to use a dictionary for the test, and the average or weak students who may genuinely have wanted to use the dictionary but simply forgot to bring it. The results of these latter students would have crossed the results of the other students, cancelling them out in the general statistical analysis. Nevertheless, the total pattern clearly shows that students using monolingual dictionaries are, in general, more confident - reading faster (i.e., taking less time to complete the test), and better students (i.e., achieving higher marks on the test than the others). Students using bilingual dictionaries, by inference, would be slower and weaker in taking reading comprehension tests in English and, by extension, in reading English texts. (For a summary of ths results of Studies I, II, and III, see below, Table 2.)

TABLE 2: Comparison of Results of Dictionary Studies I, II, III

variables	Study I - Ben Gurion	Studies II and III - Haifa
DICTIONARY/SCORE	not significant	not significant (mono slightly higher)*
DICTIONARY/TIME	not relevant	no significant correlation bi slightly slower mono slightly faster
DICTIONARY USAGE	Better students use the dictionary less. More words looked up by users of bi. Parts of speech not significant. No relation between unknown words students would like to look up and words actually looked up.	Better students use the dictionary less. Better students are more likely to use mono.

*bi = bilingual dictionary
mono = monolingual dictionary
no = no dictionary

C. Dictionary Questionnaire

The researchers, who expected the use of dictionaries to raise test scores, found these results surprising. There appeared to be a gap between the help that teachers thought students would get by using dictionaries, and the actual test performance.

To attempt to clarify the test results and to understand the underlying attitudes and expectations of dictionary users, the researchers at Haifa University administered a questionnaire on dictionary usage and preferences to 404 students in the required English reading comprehension course, to ten of their teachers, and to another small group of thirteen third-year Psychology students whose English proficiency was of a very high standard.[7] The Questionnaire appears as Appendix II.

Students' responses were tabulated according to Q1, native language; Q5, type of dictionary used at home; and Q4, frequency of use. The results of the Questionnaire appear in Appendix III.[8] Concerning Q2 - 5, use of the dictionary in the English classroom and at home, it was found that, except for those who use the bilingual dictionary at home, there is not much difference between dictionary use at home and in the classroom.

Teachers predicted that students use the dictionary more often in class than they actually do; on the other hand, students use more monolingual dictionaries than teachers expect. In general, the dictionary is used more at home than in class.

As for Q6, the general feeling, among students and teachers alike,

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7. Thanks are due to Prof. John Hofman, Dept. of Psychology, Haifa University, for permitting his students to take the questionnaire.

8. We are grateful to Dr. Micah Leshem, Dept. of Psychology, Haifa University, for his help in interpreting the results.

is that if it makes any difference at all in their speed of reading, use of a dictionary probably slows them down.

Q7 deals with sentence comprehension. The first alternative states that the student reads word by word. The second alternative in Q7 shows that the student is aware of a missing link between understanding of words and understanding of words or ideas in context. The third alternative states that both the first and second alternatives can exist simultaneously - that is, some sentences can be understood by simply knowing all the words they contain, whereas others require further knowledge of the syntactic or idiomatic relationship between the words to be understood.

The results show that many first-year students think they merely need to look up words in order to understand the text; they do not realize that they may not understand the sentence even if they understand each word. Third-year students and teachers are much more aware of this problem.

This line of thought is followed in Q8, which asks how students guess in context. Third-year students appear to make maximum use of context, aiming mostly for important words. They can guess better than first-year students, who are still looking up words that are unknown rather than important. It could be assumed that there is a relation between the fact that students do not know how to guess in context and the finding that use of the dictionary makes no difference to test scores.

If one takes the criterion of aiming for unknown vs. important words, the users of the bilingual dictionary are the worst guessers and those choosing to use no dictionary are the best guessers.

Teachers rightly assume that students look up unknown rather than important words.

In comparing these answers with the results of Study I (no relation between unknown words and words actually looked up during test), it might be that there really is less connection between unknown and important words than students imagine. It may also follow that there is a good reason for the lack of correlation between the two, and that teachers and students should be made more aware of this gap.

Q9 asks the specific purposes for which the dictionary is actually used. The dictionary is used mainly for meaning, spelling, synonyms/ antonyms, parts of speech, idioms, and examples of usage. First-year students appear to use the dictionary word by word rather than according to the context; they do not make much use of the dictionary for examples of usage and idioms.

From Questions 10 and 11, we see that most students are satisfied with their ability to use monolingual dictionaries and the information contained in them. Third-year students and those who do not use the

dictionary are most critical and skeptical of the help they can get from the dictionary. Third-year students look for connotations of words in context, not just for word meanings.

Those first-year students who do complain about the monolingual dictionary say that the definitions contain too many difficult, unknown words which in turn have to be looked up as well. Some say that even after referring to the monolingual dictionary, they often have to turn to the bilingual dictionary if they really wish to understand the word.

There is also frustration with the great number of meanings given, and the inability to find the exact meaning required by the context. In a test situation, all this is very time consuming.

On the other hand, students' use of bilingual dictionaries may not be any more satisfactory. Bilingual dictionaries often fail to give complete definitions or to include enough idioms. Moreover, in many cases, students still have to choose from among a wide range of meanings, to understand the context.

First-year students and teachers expect use of the dictionary on tests to lead to higher grades, whereas third-year students are skeptical -- half not expecting any connection.

Many first-year students who expect the dictionary to help them comprehend a text are disappointed when the dictionary fails to contain

the exact meaning of a word in a particular context. Moreover, some students do not use any dictionary during the test because they believe that time spent in looking up words and deciding on their meanings takes away from time better spent answering test questions.

Breaking down the answers according to native language, we see that Hebrew speakers (71% of the total 404 students) use the dictionary more at home than the other students. In class, they use bilingual dictionaries least, and many use none. When using a dictionary, they use it more than others for spelling.

Arabic speaking students (18% of the total) prefer to use monolingual dictionaries in class but use bilingual dictionaries at home. They use dictionaries for parts of speech, idioms, abbreviations, and punctuation. They are most aware that they do not always understand the meaning of a sentence although they know all the words.

The remaining 11% of the students prefer using bilingual dictionaries. They look up fewer important words than the other students.

Pearson correlations were calculated between the end-of-semester grade of each first-year student answering the questionnaire and his answer to each of the questions. The results appear in Appendix III. Correlations are low, bur it appears that those students who are aware of the need to understand more than every word in order to understand

a sentence, as well as those students who use the dictionary to find synonyms and antonyms, have higher grades than the other students. A negative correlation was found between grade and those students using the dictionary for register of language.

The third-year students are most critical about dictionaries and have fewer expectations. They use dictionaries less but more selectively than first-year students. Almost half do not expect the dictionary to affect their test scores.

Teachers of first-year students generally express dissatisfaction with their students' ability to use the dictionary systematically or accurately enough for academic reading purposes. They are aware that looking up a word may not always help the student to understand the context of the sentence or paragraph, but they do expect the use of dictionaries to significantly affect test scores.

Students' answers on the questionnaire cannot always be taken literally. No attempt was made, for example, to check up on students' actual usage of the dictionary. If students said they use the dictionary for checking register or parts of speech, their claim was not verified, as it was in Study I at Ben Gurion University. On the other hand, the questionnaire was presented to examine attitudes and expectations of dictionary users, as distinct from the facts which were found in the actual testing situation.

D. A Student's Eye View

Using the information from students on questions 10 and 11 of the questionnaire, we can hypothesize about how most students go about using the dictionary during a test.

While reading the text, the student comes across an unknown word. The more confident student will try to ignore the fact that it is unknown and fit it into the context. If it fits, he will continue reading. If it doesn't fit, he may turn to the dictionary.

His first problem is coping with the order of the English alphabet, which is different from Hebrew and Arabic. Once he has found the word, he tries to understand the definitions. Only the more proficient students will be concerned with the part of speech of the unknown word in the sentence. At any rate, the first stage of looking up the word is slow.

The student may then be faced with a number of meanings, and sometimes even with a number of dictionary entries for a particular word. He is thus faced with two problems: he must decipher the meanings of the definition, sometimes referring back to the dictionary for different parts of the same definition, and he must also choose which of the definitions given is appropriate to the context.

That is, even after he has successfully deciphered the meaning of the definition(s), once he goes back to the context, he may find that none of

the definitions fit. Definitions may be too long and confusing or too short. There may not be enough examples, synonyms, or idioms to give the student a feeling of the various connotations of the word. Nuances of registers may not be given. All these problems leave the student with a feeling of frustration. For this reason, many students do not get beyond the first definition given, and then they give up. It is no wonder, then, that many students are skeptical.

IV. CONCLUSIONS

According to the three studies, the use of a dictionary has no significant effect on reading comprehension test scores based on multiple-choice questions. Neither does its use affect the time students need to complete the test. Assumptions 1 and 2 (see above, I.C.) were therefore proved wrong.

Assumption 3 was also proved wrong. Even when permitted to a dictionary, many students (mostly those with relatively high English proficiency) did not wish to do so. Better students used dictionaries less than weaker students. Assumption 4 was proved correct, however; weaker students did indeed need to use dictionaries more than better students. These students were also users of bilingual dictionaries, whereas the better students preferred monolingual dictionaries.

As for assumption 5, however, there was a qualification. Rather than looking up all unknown words, students looked up only those words they needed to know in order to answer the questions. The focus of attention was not on text comprehension but on the task of taking the test. Moreover,

this pattern of looking up words did not vary among better or weaker students; all students' dictionary efforts were task-oriented.

Since we found many of our assumptions proved wrong, we thought that our prejudices might have been atypical and not shared by other teachers and students. We therefore administered a questionnaire asking for opinions of other dictionary users. Again, expectations were inconsistent with test performance. Answers to the questionnaire bore out assumption 6 and showed that teachers are aware of students' needs and the limitations of using dictionaries. However, most teachers did expect dictionaries to help students increase their test scores, and here they (like us) were proved wrong.

Teachers were more critical of their students' abilities to use dictionaries. They did not agree with our assumption 7, that students can use dictionaries effectively. Students themselves, however, generally thought that they could.

The discrepancies between our assumptions, the answers to the questionnaires, and the test results show that dictionary usage is an area in which there are many misconceptions. Further experimental evidence is needed to verify these findings. Replications in other languages would also be helpful. More information from both teachers and students is needed on the type and amount of instruction involving the dictionary, studying done with dictionaries outside the classroom,

general attitudes towards the use and value of dictionaries, and the effects of dictionaries on reading speed and comprehension.

The question as to why no difference was found in test scores, whether or not students used dictionaries, has still not been answered. Indeed, given the large number of variables, the cause (or causes) can only be guessed at.

One explanation could be that students simply do not know how to use the dictionary efficiently during an examination. In this case, by definition, test results will not be affected. This interpretation, however, is both too simplistic and too pessimistic to be useful.

Another, more complex explanation focusses on the proportion of known to unknown words in the text. In a test situation, it is assumed that students understand most of the words in the text, and that they will use the strategies of deduction or contextual guessing to comprehend the rest. Recent research, however, shows that this assumption is not necessarily true. (See above, I.B.) Unless there is a minimum basic context of known words, accurate guessing will not occur. If there are too many unknown words, then the larger context is not clear.

During a test situation, the dictionary can be helpful in filling in the gaps of unknown words. The context should form a clear framework of background, subject, and ideas in which some unknown words may appear. By implication, the dictionary cannot be used to help create this context

if it does not already exist. It can be used only to define occasional unknown words.

It can also be assumed that weak students lack many of the syntactic language rules by which words are put together. Without these rules, a working knowledge of the missing or unknown words cannot be guessed, even with the help of a dictionary. On the other hand, better students, who should be able to use the dictionary more efficiently, can probably do without its help when answering test questions.

Thus the status quo stands: weak students lack the language skills to benefit from the dictionary, whereas better students know enough to do without it. The dictionary can be used in a test situation only to fill in places where the context is already clear, not to create context.

The implications for the teacher are to increase students' awareness of word families, parts of speech, and sentence structure when working with the dictionary. Teachers can help students distinguish which words are likely to be important, so that students can focus their attention on those and avoid looking up every unknown word, whether or not its meaning is crucial for comprehension of the text as a whole.

Finally, since dictionaries have no substantial effect on students' test performance, their value as a psychological prop would seem to be

greater than their informational worth. By putting a student's mind at ease in an examination, dictionaries may help to produce more realistic test results as far as reading comprehension is concerned.

The results of these studies can be applied to point out misconceptions about students' use of dictionaries and to modify users' expectations. Whether or not to permit the use of dictionaries during a test, however, is still an open question.

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APPENDIX I

TABLE 1 - Relation between Type of Dictionary and Student Test Scores -- STUDY II

TEST	total number of students per dictionary	students' median test scores (20 = 100%)	Dictionary
1	18	15	no
	23	15	mono
	47	15	bi
2	14	15	no
	14	17	mono
	57	15	bi
3	20	11	no
	17	13	mono
	55	13	bi
4	15	15	no
	19	16	mono
	89	15	bi
5	66	14	no
	54	14	mono
	128	14	bi

PEARSON CORRELATIONS: DICTIONARY/SCORE

TEST	r	p (significance)	no. of students (N)
1	.01	n.s.	90
2	.01	n.s.	85
3	.23	.02	92
4	-.05	n.s.	123
5	.01	n.s.	248

APPENDIX I

TABLE 2 -- Relation between Type of Dictionary and Time Taken to Complete the Test -- STUDY II

TEST	average time (minutes) for all students	total number of students per dictionary	median time (minutes) per dictionary	Dictionary
1	75	18	70	no
		23	70	mono
		47	80	bi
2	65	14	45	no
		14	75	mono
		56	65	bi
3	80	19	80	no
		17	80	mono
		55	80	bi
4	80	15	60	no
		20	80	mono
		87	80	bi
5	70	74	30	no
		67	75	mono
		133	90	bi

PEARSON CORRELATIONS: DICTIONARY / TIME

TEST	r	p (significance)	no. of students (N)
1	.00	n.s.	88
2	-.02	n.s.	84
3	.05	n.s.	91
4	.03	n.s.	122
5	.34	.000	274 (bilingual dictionary, slower)

TIME / SCORE

1	-.27	.005	88
2	-.25	.01	84
3	.01	n.s.	92
4	-.15	n.s.	121
5	.02	n.s.	246

APPENDIX I

TABLE 3 -- REPLICATION OF PEARSON CORRELATIONS FOR 8 DIFFERENT TEXTS -- STUDY III

A year after the experiment was completed, it was replicated on another group of 740 students on another set of tests, with the following results:

DICTIONARY / SCORE

r = Pearson Correlation

TEST	r	p (significance)	N
1	-.10	n.s.	93
2	.05	n.s.	91
3	-.04	n.s.	113
4	-.14	n.s.	89
5	-.14	n.s.	88
6	.04	n.s.	86
7	-.12	n.s.	96
8	-.05	n.s.	85

DICTIONARY / TIME

TEST	r	p (significance)	N	
1	.00	n.s.	93	
2	.10	n.s.	91	
3	.22	.01	112	
4	.17	n.s.	88	
5	.33	.001	88	
6	-.01	n.s.	86	
7	.29	.002	96	
8	.38	.000	84	(bilingual dictionary slower)

TIME / SCORE

TEST	r	p (significance)	N
1	-.27	n.s.	93
2	-.06	n.s.	91
3	-.20	.02	112
4	-.19	n.s.	88
5	-.16	n.s.	88
6	-.08	n.s.	86
7	-.08	n.s.	96
8	-.00	n.s.	84

אוניברסיטת חיפה
UNIVERSITY OF HAIFA
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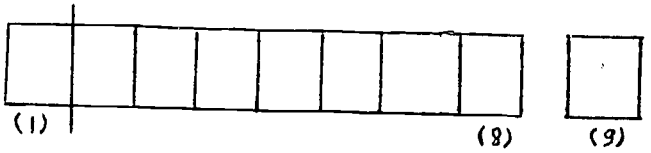
QUESTIONNAIRE ON STUDENTS' USE OF A DICTIONARY -- Regular Course
Summer 1979

Name of Student _____ Name of Teacher _____

Identity Number



1. Native Language

	1	Arabic
	2	Hebrew
(10)	3	Other

2. Do you bring a dictionary to class?

	0	never
	1	sometime
	2	often
(11)	3	always

3. Which dictionary do you bring to class?

	0	no dictionary
(12)	1	English-English dictionary
	2	bilingual dictionary

4. Do you do your homework with a dictionary?

	0	never
	1	sometimes
	2	often
(13)	3	always

5. Which dictionary do you use to your homework?

	0	no dictionary
	1	English-English dictionary
(14)	2	bilingual dictionary

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QUESTIONNAIRE ON DICTIONARY - 2 -

6. When I use the dictionary

	1	I can read faster
	2	I read slower and more carefully
(15)	0	there is no difference in the speed of my reading

7. When I use a dictionary

	1	I can understand sentences better because I understand each word
	2	although I understand each word I don't always understand the meaning of the sentence
(16)	3	both of the above statements may be true

8. When I use the dictionary I look for

	1	every word I'm not sure of
	2	only the words I really don't know (I try to guess the words I'm not sure of)
(17)	3	only the most important words (I try to guess the others)
	4	only the longest, most difficult words

9. Do you also use the dictionary for any of the following purposes?

spelling (also British and American variations)	1
punctuation	2
short forms and abbreviations	3
idioms and special phrases	4
examples of usage	5
synonyms and antonyms (words of similar and words of opposite meaning)	6
possible range and register of usage (formal, slang, regional variations, etc.)	7
part of speech (noun, verb, preposition, etc.)	8
verb patterns	9
pronunciation	0

(18-27)

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QUESTIONNAIRE ON DICTIONARY - 3 -

10 a. Are you, on the whole, satisfied with your ability to use an English - English dictionary?

Yes	1
No	2

(28)

10 b. If "No," can you briefly explain in what ways you are not satisfied:

. . . . . .

. . . . . .

. . . . . .

11 a. On the whole, are you satisfied with the information provided in the English - English dictionary you use?

Yes	1
No	2

(29)

11 b. If "No," can you briefly explain in what ways you are not satisfied?

. . . . . .

. . . . . .

. . . . . .

12. If I use a dictionary during a test, my mark will be higher.

Yes	1
No	2

(30)

13. END OF SEMESTER GRADE in the Regular Course

(31) (32)

DICTIONARY QUESTIONNAIRE

APPENDIX III

QUESTION	first-year Regular Course	third-year Psychology	Teachers of Regular Course
2 / 3	Hebrew: fewest bi* Other: more dictionaries	no	bi 70% sometimes 56% mono 20% often 33% no 10% always 11%
4 / 5	bi 70% mono 28% no 2% Hebrew: more dictionaries Other: more bi, less mono	bi 45% mono 15% no 30% bi used often, always mono used sometimes	bi 100%
	according to homework / in class bi: bi 50%, mono 26%, no 24% mono: bi 10%, mono 70%, no 20% no: bi 17%, no 83%		
	according to class work / at home bi: bi 91%, mono 8%, no 1% mono: bi 48%, mono 52% no: bi 72%, mono 23%, no 5%		
6 (speed)	slow and careful 69% faster 12% no difference 19% no answer 0%	46% 0% 46% 8%	78% 0% 22% 0%
7 (sentence comprehension)	word by word 41% admit missing link 14% both 45% no answer 0%	24% 0% 50% 10%	0% 30% 70% 0%

*bi = bilingual dictionary
mono = monolingual dictionary
no = no dictionary used

DICTIONARY QUESTIONNAIRE

APPENDIX III

QUESTION	first-year Regular Course		third-year Psychology	Teachers of Regular Course
8 (guessing in context)	unknown words after guessing	44%	24%	50%
	important words after guessing	36%	69%	10%
	all unknown words	18%	0%	30%
	long, hard words	2%	8%	10%
	no answer	0%	15%	0%

QUESTION	first-year Regular Course	third-year Psychology	Teachers of Regular Course
9 (purposes)	spelling	203	5	3
	punctuation	11	0	0
	abbreviations	78	1	2
	idioms	148	4	7
	ex. of usage	144	1	2
	synonyms/antonyms	162	0	0
	range/register	60	1	0
	part of speech	156	0	0
	verb patterns	60	0	0
	pronunciation	60	0	0

10 (satisfied with ability to use mono)	home:	bi	mono	no		
	Yes	70%	96%	67%	54%	10%
	No	30%	4%	33%	30%	90%
	No answer				16%	--
		Yes	No			
	never:	71%	29%			
	always:	74%	26%			
	sometimes/often:	80%	20%			
11 (satisfied with information in mono)	home:	bi	mono	no		
	Yes	83%	96%	83%	54%	70%
	No	17%	4%	17%	8%	20%
	No answer				39%	10%
12 (use of dict. leads to higher score)	home:	bi	mono	no		
	Yes	89%	95%	50%	30%	50%
	No	50%	5%	50%	46%	20%
	No answer				24%	Possibly 30%
		Yes	No			
	never:	57%	43%			
	sometimes:	87%	13%			
	often:	90%	10%			
	always:	94%	6%			

DICTIONARY QUESTIONNAIRE APPENDIX III

QUESTION	first-year Regular Course		
13 (Pearson correlations)	variables:	r	significance
	grade/native language	.22	.001
	grade/both Q7.3	.15	.001
	grade/syn-ant. Q9.6	.18	.01
	grade/register Q9.7	.36	.002

DICTIONARY QUESTIONNAIRE — FIRST-YEAR Regular Course Students

Summary question 10.b. (Why isn't your ability to use monolingual dictionary satisfactory?)

0 = no
1 = mono
2 = bi

number of students	Q	answer	Score(N)	Dictionary
41	1.	Don't understand explanation. Have to look up the unknown words and also the words that should explain it as well	40(2) 50(5) 60(9) 70(16)	1,2 80(6) 90(2) ?(1)
15	2.	Don't find words quickly (too slow)	50(4) 60(2) 70(8)	0,1,2 90(1)
5	3.	Can't decide which of many explanations is best -- sometimes can't find exact meaning at all.	70(2) 80(2) ?(1)	1,2
3	4.	No experience -- no one taught them	70(3)	0,2
2	5.	Can't understand meaning in context after using dictionary.	50(1) 60(1)	1,2
2	6.	Don't need it	60(1) 70(1)	2

NOBODY: connotations enjoyed by native speaker don't appear

Question 10.b. 1 = 11.b. 1,4
3 = 2,5 (also 3)
5 = 3

Summary Question 10.b. (Why isn't the ability of your students to use monolingual dictionaries satisfactory?)

1. Not convinced students can use dictionary systematically despite instruction
2. Students don't always bring dictionaries to class -- prefer to ask teacher word meanings
3. Students don't realize importance of words in text (parts of speech in context) -- so they find wrong meaning
4. Students not aware of polysemes, parts of speech
5. Students don't know how to differentiate between (among) meanings, use, register
6. Students haven't been properly trained -- not prepared to invest the time to learn
7. Students don't need a monolingual dictionary
   a. can't understand it
   or b. don't use intelligence -- don't try to relate word to the idea in the text
8. Students not aware of help from English-English dictionary
9. Students too lazy to go beyond first definition
10. Phrasal verbs listed under verb -- hard to look up
11. Teacher of 3rd-year Psychology students:
    "Students don't admit to using dictionary, but they should. Even if I look up words from time to time."

Summary Question 11.b. (Why are you dissatisfied with information provided by dict.?)

1. Needed: more idioms and usage, synonyms and antonyms
2. I don't use it for their (dictionary writers') purposes, only for mine.
3. Not up to date with modern usage and vocab. (ex: "feisty")

DICTIONARY

APPENDIX III

QUESTIONNAIRE ON STUDENTS' USE OF A DICTIONARY: SUMMARY

QUESTION	first-year Regular Course students	third-year Psychology students	teachers of Regular Course
2. class	sometimes	no	expected more than students reported using
3. class	equal bi and mono	no mono, little bi	"
4. home	more dictionary	less dictionary	"
5. home	more dictionary, mostly bi	less dictionary, usually bi	"
6. speed	no difference (or faster)	no difference or slower	slower (or no difference)
7. sent. comprehension	word by word or both	both (no missing link)	both (no word by word)
8. guess in context	unknown words bi: worst guessers no: best guessers	important words (learned how to guess)	unknown words (do not see students as guessing efficiently)
9. purpose	spelling, synonyms/antonyms parts of speech usage, idioms, abbrev., register, verb patterns pronunciation, punct.	spelling, idioms, abbrev., register usage, pronunciation	idioms, spelling, abbreviations, usage
10. satisfied with ability to use mono	mostly satisfied least critical	half satisfied	90% satisfied with students' ability
11. satisfied with information in mono	mostly satisfied bi less satisfied than mono	half satisfied (more critical than teachers)	satisfied
12. (use of dict. leads to higher mark/score	YES	½ NO ¼ no answer (more skeptical)	YES/POSSIBLY
13. Pearson Corr.	course grade and all other questions: low or not significant **	---	---

** variables	r	significance
grade/native language	.22	.001
grade/Q7.3 (both)	.15	.001
grade/Q9.6 (syn/ant)	.18	.01
grade/Q9.7 (register)	-.36	.002

Conclusions: dictionary attitudes:
Students and teachers often were disappointed.
Better students were more critical.
Attitudes inconsistent with test performance.

Summary Question 11.b. (Why are you dissatisfied with information provided by dictionary?)

0 = no
1 = mono
2 = bi

number of students	Q	answer	Score(N)	Dictionary
10	1.	Explanation uses too many difficult, unknown words	70(4)	2
4	2.	Sometimes all meanings still don't give exact meaning of word	60(1) 70(1) 80(2)	1,2
4	3.	Doesn't help context (sentence) comprehension	70(1) 80(3)	2
3	4.	Unclear explanation -- need second (bilingual	70(1) 80(2)	1,2
2	5.	Many meanings -- difficult to find the right one	60(1) 70(1)	1,2
2	6.	Explanations too long and confusing	60(1) 70(1)	1,2
1	7.	Explanations too short	70(1)	2
1	8.	Doesn't give synonyms	70(1)	2
1	9.	Layout -- too close together (small print)	70(1)	1,2

Question 10.b. 1 = 11.b. 1,4
3 = 2,5 (also 3)
5 = 3