Batia Laufer and Linor Melamed
English Department, University of Haifa

Monolingual, Bilingual and 'Bilingualised' Dictionaries: Which are More Effective, for What and for Whom?

Abstract

The paper examines the differences in the effectiveness of three types of dictionaries: monolingual, bilingual and 'bilingualised' in the comprehension and production of new words by EFL learners.The subjects were 123 high school and university learners. The test consisted of fifteen low–frequency words. Five were given with their entries from a monolingual learner's dictionary, five – with their translations from a bilingual dictionary, and five – with the entry from a 'bilingualised' (or semi–bilingual) dictionary. The subjects were tested on the comprehension of the target words and on their ability to use these words in sentences of their own. The results of the experiment suggest that different dictionaries may be suitable for users with different abilities for dictionary use.

1. Background

A good product is expected to satisfy the needs and preferences of its consumers. A wise production team will, therefore, try to find out what these needs are, when the user is most likely to require the product and what type of consumer will benefit from the product most. Dictionaries, the products of lexicographers' work, are written to be used by those who need them and language learners are consumers in need. It is not surprising, therefore, that one developing division of dictionary research is dictionary use. One of the most comprehensive studies comprising over 1000 learners in seven European countries (Atkins and Knowles 1990) shows that bilingual dictionaries are used by the majority of the students (75%). This preference does not necessarily mean that bilingual dictionaries are actually more helpful. In the above study, it was found that it was the monolingual dictionary that was very often more successful in helping users find the relevant information. This is so because the monolingual entry can generally provide more detailed and precise information about the word than the bilingual entry, for example information about idiomatic usage, common collocations, connotations, register. Moreover, a simple one–word translation, in a bilingual dictionary, can even be misleading when there are semantic incongruencies between the two languages. According to Béjoint and Moulin (1987), bilingual dictionaries are ideal for quick consultation,

while monolingual ones "though more difficult to use, have the extra merit of introducing the user right into the lexical system of L2" (p. 104).

And yet L2 learners, even those who have achieved a good level of L2 proficiency and have been trained in academic skills, including dictionary use, still reach out for a bilingual dictionary. Some use a monolingual and a bilingual dictionary together. In his survey of studies of dictionary use, Piotrowski (1989) concluded that "no matter what their level of competence foreign learners and users use their bilingual dictionaries as long as they use dictionaries at all" (p.73). If this is the consumer reality, then a hybrid dictionary which contains the two types of information (monolingual and bilingual) seems to be the most appropriate product of lexicographers' effort. This realization results in the appearance of bilingualised versions of English dictionaries over the last decade, starting with Oxford Student's Dictionary for Hebrew speakers. Since the bilingualised dictionary is a new phenomenon, studies evaluating its use have just begun. The most detailed study, to our knowledge, is that of Hartmann (forthcoming), where he examined user reactions to half a dozen exemplars of this dictionary type. Interviews with informants and direct observation during a reading task revealed, among other things, that users, at four different L2 proficiency levels, appreciated the juxtaposition of target language definitions and mother tongue translation equivalents. Most informants consulted both the definition and the translation part of the dictionary entry while looking up the unknown words.

The appreciation on the part of the user, however, does not necessarily indicate that the bilingualised dictionary is any different from the other two types as far as its usefulness is concerned. To find out its relative effectiveness, a controlled study should be designed which compares the three dictionary types on identical tasks and with the same subjects. Moreover, the presentation of unknown words should be done out of text context in order to eliminate a possible effect the context can have on comprehension. To our knowledge, controlled studies comparing dictionaries are scarce and such studies on bilingualised dictionaries are non–existent. The study reported on in this paper sets out to investigate precisely this new area of dictionary use.

2. The study

2.1 Aim

The aim of the study was to examine the differences in the effectiveness of three types of dictionaries: learner's monolingual, bilingual and 'bilingualised' dictionaries. Specifically, we wanted to see which type of dictionary entry would be most helpful in the comprehension of unknown words and in the production of original sentences with these words.

2.2 The subjects

The subjects were two groups of EFL learners, altogether 123 learners. One group consisted of 76 high school learners at the end of 11th grade, i.e. after 7 years of EFL (English as a Foreign Language) instruction. These will be referred to as 'pre–advanced'. The second group was a group of 46 EFL university students, non English majors. They had 8 years of school instruction and at the time of the experiment, they were at the end of a semester course in English for Academic Purposes. This course emphasizes reading skills since most of the academic reading material is in English. The university students in our experiment were classified as the most advanced (among those required to take the English course) by the English component of the University psychometric placement test. We will refer to them as 'advanced'.

2.3 Test items

Fifteen low frequency words were chosen as test items. They were unfamiliar to the subjects as they were not included in the high school syllabus and were not taught in the EFL university course prior to the experiment. The fifteen words were: *deride, fete, permeate, resilient, dais, swindle, influx, occult, insipid, variegated, bequeath, hoard, stub, terse, venerable..* The dictionaries that were used were: *Longman Dictionary of Contemporary English* (monolingual), *The Megiddo Modern Dictionary* (English–Hebrew) and *Oxford Student Dictionary for Hebrew Speakers* (bilingualised).
Here are examples of the different entries for *bequeath*.

Monolingual:	*bequeath* /bi'kwi: , bi'kwi: / v {T (to)} ml– to give to others after death: Her collection of paintings was bequeathed to the National Gallery when she died. {+obj(i)+obj(d)} His father bequeathed him a fortune.
Bilingual:	*bequeath* vt *horish, hinchil*
Bilingualised:	*bequeath* 1 arrange (by making a will) to give (property, etc.) at death: He has bequeathed me his gold watch *lehorish* 2 hand down to those who come after: discoveries bequeathed to us by the scientists of the last century *lehanchil*

2.4 Procedure

The tests were taken during class time and each test was treated like a regular language exercise similar to other exercises required in the course. The subjects received a list of 15 target words with their dictionary entries. Comprehension of the test words was checked by a multiple–choice test. Each word was presented with three possible meaning equivalents and the students were required to choose the correct alternative. One of the three was the correct meaning equivalent, one had an approximate meaning to the tested item and one was completely incorrect. Production of test words was tested by original sentences that the subjects were asked to write with each of the target words to compare the three types of dictionaries, each test sheet included 5 items with the monolingual entry, 5 with the bilingual and 5 with the 'bilingualised' entry. To avoid a situation where all the students would have the same words explained by the same type of dictionary, each third of the tests had different 5 words explained by the same dictionary. This way, each word was tested by three dictionaries and each student was exposed to three dictionary types. The scoring procedure was as follows: for each correct multiple choice answer or correct use of word in a sentence the subject got 2 points, for an approximate answer or word use he got 1 point; for an incorrect answer or word use – 0 points. Correctness of use was determined by semantic criteria only. Grammatical errors such as incorrect tense of a target verb were disregarded since they had nothing to do with the dictionary entry but with the learner's general language knowledge. Thus, the maximum score for each task (comprehension or production) for one dictionary type was 10 (5x2). The composite score (comprehension +production) could reach 20 for each dictionary type.

3. Results

3.1 We will first present the result of the entire sample.

Table 1 – All learners

	comprehension		production		compreh.+prod.	
	mean	sd	mean	sd	mean	sd
monolingual	6.46	1.62	5.77	3.04	12.23	4.02
bilingual	6.37	1.65	6.39	2.22	12.76	2.97
bilingualised	6.93	1.54	6.39	2.49	13.31	3.29
F test	4.24		4.45		5.24	
p	.01		.01		.006	

As can be seen from the table, there are significant differences among the dictionary types both in the comprehension and in the production of new words. To check the differences between each pair of dictionaries, paired t–tests were performed. Their results are as follows:

Comprehension:

Bilingualised and monolingual:	t = 2.34, p = .02
Bilingualised and bilingual:	t = 2.67, p = .008
Monolingual and bilingual:	t = 0.46, p = .64

The tests show that there is no significant difference between the mono– and bilingual dictionaries, but the bilingualised dictionary is significantly more effective than the other two.

Production:

Bilingualised and monolingual:	t = 2.81, p = .006
Bilingualised and bilingual:	t = 0.04, p = .97
Monolingual and bilingual:	t =–2.48, p = .01

These results show that the bilingualised dictionary yielded significantly better scores than the monolingual, but not better than the bilingual one. The bilingual was more effective than the monolingual.

3.2 Our common sense assumption was that learners of different proficiency levels would score differently both on the overall comprehension and

production of new words and on the individual dictionary tests. Therefore, one should look at the differences among dictionaries at each proficiency level. Yet this assumption was not confirmed. As can be seen from Table 2, all the mean scores of the pre–advanced and the advanced learners were very similar. T–tests for independent samples comparing the two proficiency groups on the comprehension+production results for each dictionary showed that, statistically, there were indeed no significant differences between the two groups.

Table 2 – Comparison of pre–advanced and advanced learners

	comprehension (mean)		production (mean)		comp.+prod (mean)	
	pre-advanced	advanced	pre-adv.	adv.	pre-adv.	advan.
monolingual	6.51	6.38	5.77	5.76	12.28	12.15
bilingual	6.34	6.40	6.32	6.49	12.67	12.89
bilingualized	7.17	6.55	6.39	6.40	13.53	12.95

T–tests comparing the two groups

monolingual (comp.+production):	t=0.04, p=.85
bilingual (comp.+prod.):	t=0.16, p=.68
bilingualised (comp.+prod.):	t=0.88, p=.34

Bearing in mind that all our learners had enough knowledge of English to understand the monolingual entries, the results in Table 2 and the t–tests suggest that it is not language proficiency that determines the learner's ability to use the information in the dictionary. We therefore decided to analyze the data taking dictionary use skill as the independent variable rather than language proficiency. The dictionary use skill was determined by the total score on the test, i.e. the sum of monolingual (comp.+prod.) score + bilingual (comp.+prod.) score + bilingualised (comp.+prod.) score. The maximum score could be 60. All the learners were divided into 3 groups: those who received less than 30 (group 1), those whose score ranged from 30 to 45 (group 2) and those with a score higher than 45 (group 3). The F tests comparing the three groups on each dictionary scores were all significant. This showed that, irrespective of language proficiency, we had three different groups of dictionary users among our learners.

F–tests comparing the three groups of dictionary users:

monolingual (comp.+production):	F = 63, p = .0001
bilingual (comp.+prod.):	F = 35.53, p = .0001
bilingualised (comp.+prod.):	F = 57.79, p = .0001

In Group 1, the learners received less than 30, i.e. could benefit from less than half of the dictionary information. They will be referred to as 'unskilled dictionary users'. In our sample of 123 learners, 23 belonged to this group. In group 2, in which the grades ranged between 30 and 45, there were 75 learners. They will be referred to as 'average dictionary users'. Group 3 consisted of 25 subjects. They received more than 45 and will be called 'good dictionary users'. Let us now look at the effectiveness of the three dictionaries for each group of dictionary users.

Table 3 – Unskilled dictionary users

	comprehension mean	sd	production mean	sd	compreh.+prod. mean	sd
monolingual	5.09	1.47	2.08	2.04	7.17	2.64
bilingual	5.70	1.66	4.21	2.31	9.91	2.89
bilingualised	6.04	1.94	3.27	2.37	9.18	3.18
F test	2.32		6.06		7.90	
p	.12		.009		.003	

As for the differences within each pair of dictionaries, the results of paired t–tests are as follows:

Comprehension:

Bilingualised and monolingual:	t = 2 14, p = .04
Bilingualised and bilingual:	t = 0.61, p = .55
Monolingual and bilingual:	t =–1.16, p = .25

Production

Bilingualised and monolingual:	t = 2.27, p = .03
Bilingualised and bilingual:	t =–1.25, p = .22
Monolingual and bilingual:	t =–3.53, p = .001

Comprehension+production

Bilingualised and monolingual: t = 1.99, p = .06
Bilingualised and bilingual: t =–0.64, p = .52
Monolingual and bilingual: t =–3.12, p = .005

The results show that the bilingualised dictionary was significantly more effective than the monolingual both in comprehension and in production. The bilingual was more effective than the monolingual in production. On the overall use of dictionary, the monolingual proved significantly worse than the other two.

Table 4 – Average dictionary users

	comprehension mean	sd	production mean	sd	compreh.+prod. mean	sd
monolingual	6.56	1.51	5.87	2.49	12.42	3.22
bilingual	6.25	1.63	6.40	1.83	12.65	2.43
bilingualised	6.95	1.41	6.47	1.76	13.43	2.32
F test	3.20		2.11		2.77	
p	.05		.10		.07	

The results of paired t–tests comparing two dictionaries in each 3 pairs of dictionaries are as follows:

Comprehension:

Bilingualised and monolingual: t = 1.46, p = .14
Bilingualised and bilingual: t = 2.54, p = .01
Monolingual and bilingual: t = 1.13, p = .26

Production:

Bilingualised and monolingual: t = 2.02, p = .05
Bilingualised and bilingual: t = 0.24, p = .81
Monolingual and bilingual: t =–1.60, p = .11

Comprehension+production:

Bilingualised and monolingual: t = 2.16, p = .03
Bilingualised and bilingual: t = 1.84, p = .07
Monolingual and bilingual: t =–0.49, p = .62

The results show that the bilingualised dictionary yielded significantly better scores than the bilingual in comprehension and than the monolingual in production. On the combined results, the bilingualised fared better than the other two.

Table 5 – Good dictionary users

	comprehension mean	sd	production mean	sd	compreh.+prod. mean	sd
monolingual	7.44	1.19	8.88	1.05	16.32	1.28
bilingual	7.32	1.24	8.36	1.11	15.68	1.52
bilingualised	7.68	1.11	8.92	1.08	16.60	1.47
F test	0.50		2.07		1.96	
p	.61		.14		.16	

As for the differences within each pair of dictionaries, the results of paired t–tests are as follows:

Comprehension:

Bilingualised and monolingual: $t = 0.63, p = .53$
Bilingualised and bilingual: $t = 0.99, p = .33$
Monolingual and bilingual: $t = 0.30, p = .76$

Production:

Bilingualised and monolingual: $t = 0.15, p = .88$
Bilingualised and bilingual: $t = 1.71, p = .09$
Monolingual and bilingual: $t = 1.96, p = .06$

Comprehension+production:

Bilingualised and monolingual: $t = 0.63, p = .53$
Bilingualised and bilingual: $t = 1.99, p = .06$
Monolingual and bilingual: $t = 1.37, p = .18$

The results show that there are no significant differences among the three dictionaries in comprehension, production, and the overall dictionary use.

From tables 3, 4, 5 and the t–tests, we can see that the different dictionaries may have a different effect on different dictionary users. Let us look at their

effect on comprehension first. The unskilled users got the best scores with the bilingualised dictionary. It was significantly more effective than the monolingual one and better than the bilingual, but not significantly so. The bilingual yielded better results than the monolingual, but not significantly so. This suggests that it was the bilingual information in the bilingual and the bilingualised dictionaries that contributed to comprehension most. With the average users, the bilingualised dictionary produced the highest scores, and these were significantly higher than the scores of the bilingual dictionary but not significantly higher than the monolingual. The monolingual dictionary was more effective than the bilingual, but not significantly so. Unlike the unskilled users, the average ones benefited from the monolingual information more than from the bilingual. As for the good dictionary users there were no significant differences among the three dictionaries even though the highest scores were obtained with the bilingualised dictionary and the lowest with the bilingual. Apparently, these learners can benefit from any dictionary information without statistically significant differences.

Schematically, the comprehension results can be represented as follows (the sign > stands for 'better than' and * – for 'significantly better than'):

unskilled users: bilingualised > bilingual > monolingual
                        bilingualised >* monolingual

average users: bilingualised > monolingual > bilingual
                        bilingualised >* bilingual

good users: bilingualised > monolingual > bilingual

Now let us consider the production results. As in comprehension, the unskilled users benefit from bilingual information more than from monolingual. The bilingual dictionary produced the best results and monolingual – the worst. The difference between the two was significant. The monolingual was also significantly worse than the bilingualised. The average users used dictionaries differently in production and in comprehension. In their use of new words in sentences, they relied on the bilingual information more than on the monolingual. The bilingualised dictionary yielded significantly better scores than the monolingual, but not than the bilingual. As for the good users, there were no significant differences among the three dictionaries even though the bilingualised yielded the highest scores and the bilingual the lowest.

The schematic representation of the production results is as follows:

unskilled users:	bilingual > bilingualised > monolingual bilingual >* monolingual bilingualised >* monolingual
average users:	bilingualised > bilingual > monolingual bilingualised >* monolingual
good users:	bilingualised > monolingual > bilingual

4. Conclusion

Looking at the effectiveness of the three dictionaries, we notice that the highest scores were almost always obtained when the bilingualised dictionary was used. This was true for all learners in the case of comprehension, and for the good and average dictionary users in the case of production. Only the unskilled users did better on production with a bilingual dictionary. This suggests that the combination of the monolingual information which contains a definition and examples with a translation of the new word into the learner's mother tongue tends to produce the best results, 'tends' since not all the differences between the bilingualised dictionary and the other two were statistically significant. Comparing the monolingual and the bilingual dictionaries, we notice that their relative effectiveness depends on the type of dictionary user and the task he has to perform. The unskilled users benefited more from the bilingual dictionary, both in comprehension and in production. The average users did better with the monolingual on comprehension and with the bilingual on production. The good users obtained better results with the monolingual dictionary both in comprehension and in production. This suggests that the more skilled the learner is in using dictionaries in general, the more information he is able to extract from the monolingual dictionary. If the unskilled users did worst with the monolingual dictionary and the difference between the bilingual and the bilingualised dictionary was not significant, they were probably not using the monolingual part of the bilingualised entry at all. The average learners used it in comprehension, but apparently found it too difficult to use for production purposes. This may explain the differences in the comprehension and the production results of these subjects. The good dictionary users could benefit from the monolingual information in both tasks. However, even this best group of learners performed slightly better when the bilingualised dictionary was used, i.e. when the translation equivalent was available in addition to the monolingual information. The practical conclusion of the study seems to be that a good 'bilingualised' dictionary is suitable for all types of learners. When the learner is still unskilled in dictionary use, he may rely on the bilingual information. With progress in these skills, the monolingual information will gain relevance and importance, first in comprehension and later in production. Even when the monolingual part of the entry is used to

its full potential, as in the case of our good dictionary users, the translation will always be helpful in reassuring and reinforcing the learner's decisions about the meaning of new words and their use.

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