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Dictionaries and the Language Learner: An Action Research Project

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INTRODUCTION

The purpose behind this action research project is to identify ways in which I can improve on how the students in my university-level EFL classes in Japan use their dictionaries. After a brief consideration of the defining features of action research, the paper will describe the specific questions this project sets out to answer and the methods used for gathering the relevant data. The data are then presented, and comments about the classroom implications of the findings and the design of the project are made. The paper concludes with a summary of the major findings and a discussion of the ways in which the project can be adjusted for future use.

1. Action Research

The term 'action research' is used in the ELT field to refer to any research project undertaken for the purpose of helping teachers reflect on their classroom practice (for a detailed account, see Wallace, 1998). Since the ultimate goal of action research is to improve on some aspect of that practice, it differs significantly from the more scientifically rigorous research methods well-known in SLA research. As outlined in Wallace (1998), action research is a far more open-ended form of inquiry in which the overriding requirement on data collection is the degree of its usefulness in helping the teacher reflect on the area he or she would like to improve on. The data are collected simply to ensure that the reflection is as thorough-going and well-grounded as it can be, and an action research project rarely makes use of statistics or concerns itself with the issues of validity, reliability and verification (Wallace, 1998: 18).

The debate continues between those who believe that what action research projects may lack in scientific rigor is more than made up for in utility, and those who consider action research to be an immature non-science. While I will avoid directly engaging in that debate here, I believe that action research helps teachers bridge the gap between the empirical and theoretical findings of mainstream SLA research and their practical classroom needs. The usefulness of action research will, I hope, become clear in the

following report on a project intended to improve on the use of dictionaries in my EFL classes at a Japanese university. It begins by establishing the problems to be investigated and explaining the method of data collection.

2. Research Questions

As I suspect is the case with many ELT teachers, I require my students to bring a dictionary with them to each class. Many teachers probably also share my experience of only very rarely coming across students who keep well-organized, systematic vocabulary lists in their notebooks. Possible explanations for this include 'laziness' or the lack of study skills in the students, or failure of the teacher to clearly communicate his or her expectations and requirements for course work. Leaving aside questions of blame, and given the almost total lack of information in students' notebooks, my first priority was to find out more about how my students actually use their dictionaries. The following three issues suggested themselves as the most basic place to begin my investigation:

a. Frequency of use: To what degree do students have to rely on their dictionaries? Material that forces students to constantly rely on their dictionaries makes it unlikely that they will be able to use them either efficiently or effectively.

b. Accuracy of use: Are students able to find the words they look for and do they successfully identify the correct sense of the word? The answer to this question will determine how much time needs to be spent on teaching or refining dictionary skills.

c. Perception of a dictionary's function: How do students view the function of a dictionary? If its role is to provide simple glosses of unknown words, students will need to be made aware of how dictionaries can be used as a tool for vocabulary acquisition.

3. Collecting Data

To gather the data needed to start answering these questions, I chose the following passage from a Leo Jones (1997) textbook I was using in some of my classes at the time:

This is what New Zealand looks like to the experienced traveler. A world traveler

who tries to describe New Zealand is apt to paint an extraordinary picture. He'll begin by telling you it has the unspoiled wilderness of Alaska, beaches that rival Hawaii, breathtakingly beautiful fjords like Norway, and majestic Alps like Switzerland. Then, to confuse things a little more, he'll tell you New Zealand's cities and villages will make you think of England, New Zealand's lush green meadows will remind you of Ireland, and her towering Mt. Egmont will bring to mind Japan's Mt. Fuji. To top it off, he'll say New Zealand has the nicest people, fairest climate, and cleanest air on all the green earth. And on all counts, he'll be right. For the full story about New Zealand's diversity, send in this coupon (58).

The passage was presented to students in its original form as a listening exercise. After reading through the text, students fill in any of the missing words (underlined in the excerpt above) they feel they can guess. The tape is then played as many times as necessary, and students fill in any remaining blanks and adjust their guesses if necessary. After going over the answers to the listening exercise, several steps were added to the activity to gather the data for this project.

First, students were told to reread the text, this time underlining all words that were new or unknown to them.[1] Next, they noted the total number of new words they found in the passage and wrote up the list of the words with the accompanying definition they found in their dictionary. Instructions were kept to a minimum, and no requirement was made about what kind of dictionary to use (i.e. monolingual or bilingual),[2] what to include in their definitions (e.g. part of speech, pronunciation), or the degree of detail in which to write (e.g. including sample sentences, other forms of the word, synonyms). I did tell them, however, that I would be looking at their work and they would have to hand it in to me.

4. Results

Below is the list of words looked up by the ninety-seven students who took part in the research project. The words are listed in the order in which they appear in the text; the numbers to the right of the words are the number of students who looked up that item.

List of words looked up/number of students (n=97)

Word	Students	Word	Students
(be) apt (to)	40	fairest	26
extraordinary	52	climate	13
unspoiled	68	counts	3
wilderness	39	Norway	7
rival	28	remind	3
breathtakingly	70	Ireland	4
fjord	77	describe	2
majestic	70	diversity	72
confuse	10	picture	1
lush	50	coupon	25
meadow	71	village	1
towering	18		
on all counts	2		
to top it off	1		

4.1. Frequency of dictionary use

It is perhaps not surprising that the five most frequently looked-up words (*fjord, diversity, meadow, majestic, and breathtakingly*) are all of low frequency. According to *Longman's Dictionary of Contemporary English (LDCE)*, none falls within the group of the 3,000 most frequently used spoken and/or written words. The same is true, in fact, for most of the other words listed above. According to the LDCE, the only words that are in the top three bands of frequency are *fair, remind, describe, picture*, and *climate*.[3)]

Given that the passage has such a large number of low frequency words, students may be forced to over-rely on their dictionaries. We can get a better idea by examining how many words were looked up by each student. In the chart below, the number of words looked up is on the left, and the number in parentheses shows how many students found that number of new words:[4)]

Number of new words found / (Number of students)

16 (1)	14 (1)	13 (3)	12 (3)	11 (4)
10 (5)	9 (10)	8 (16)	7 (10)	6 (10)
5 (13)	4 (8)	3 (1)		

Average number of new words per student: 7.6

It is difficult to gauge the threshold at which the total number of new words in a text presents students with comprehension problems (and, by extension, means that they will have to over-rely on their dictionaries). A number of researchers (e.g. Laufer,

cited in Read, 1997 and Liu and Nation, cited in Schmitt and McCarthy (eds.), 1997) have pointed out, however, that if we expect learners to be able to guess at the meaning of words from the context of the passage, they must know approximately ninety-five percent of the running words in it, or, put another way, encounter no more than 1 in 20 new words. In this text of 125 running words (65 of which are content words), the average of 7.6 new words is somewhat higher than this threshold, which would be 6. Looked at another way, however, approximately one-third of the students (27 students, or 31 percent of the total) reported nine or more unknown words, suggesting that the option of guessing from context may not be open to a large number of the learners.

It needs to be remembered that other factors, including background knowledge, interest, and surrounding text all help students make informed guesses — to one or another degree of specificity — at the meaning of unknown words. In our example, simply knowing that the passage is an advertisement for the New Zealand tourist trade may mean that expressions such as *unspoiled wilderness, breathtakingly beautiful fjords*, and *majestic Alps* are at the least understood to be descriptions of positive attributes of that country. A retrospective think aloud protocol in which students are asked to address this issue is one way to find out whether or not this is the case, but I decided to investigate the connection between the number of unknown words and comprehension of the passage in a different way.

4.2. Self-reported degree of understanding

After collecting data from a few groups of students, I became interested in finding out more about the relationship between the number of new words reported and the level of comprehension of the passage. After reporting on how many unknown vocabulary items they found, students were asked to report their perceived level of understanding of the passage by writing down a percentage between 0 (Could Understand Nothing) and 100 (Could Understand Everything). The results are as follows, with the number on the left being the percentage of understanding and the number in parentheses the number of students who reported that percentage:

Self-reported percentage of understanding / (Number of students) (n=50)

90 (2)	85 (1)	84 (1)	80 (5)
77 (1)	75 (3)	70 (9)	65 (3)
60 (10)	50 (8)	40 (3)	30 (2)
22 (1)	10 (1)		

Average degree of understanding: 58%

Before discussing these results, I would like to argue in favor of the benefits of elic-

iting a self-report of the level of comprehension instead of giving some sort of 'objective' comprehension test. Getting a sense of a student's perception is at least as important for teachers since it gives us access to information an 'objective' score can't. A self-report can give us an idea of how a student approaches reading in general, and, more specifically, how successful he or she is in dealing with passages that contain a large number of new words. To take a concrete example, notice below the level of understanding reported by students (n=7) who all found seven new words in the passage:

Level of understanding / (Number of students)			
90% (1)	80% (2)	70% (2)	60% (2)

One possible explanation for the gap between the highest and lowest ends of this scale is that students reporting the higher levels of understanding are making more effective use of background knowledge and other contextual clues to figure out the meaning of new words. The interesting question, which was alluded to briefly in Section 4.1., is whether these students are better at guessing the meaning of words in context, or are simply more satisfied with a higher degree of ambiguity. That is, knowing the precise meaning of words like *breathtakingly* or *majestic* may not be important: these readers recognize that the words are part of a long list of positive features about New Zealand, and, given the purpose of the passage, that may be enough. Readers reporting lower levels of comprehension may believe that successful reading means always and only understanding one-hundred percent of a given passage.

Unless students are asked to explain how they settled on the figure they did, there is no way to determine whether this interpretation is correct or not. If it is the case that reports of higher levels of comprehension stem from the student being satisfied with understanding the gist of the passage, the question for the teacher is how to get other students to also realize that the yardstick for measuring successful comprehension changes with the intent of the writer and the purpose of the reader.

4.3. Dictionary skills: Problems finding words

Perhaps the most basic question this research project investigates is whether students are able to find a new word and correctly identify which of its senses is being used in the given context. If there are major problems in either of these areas, classroom time will have to be devoted to teaching basic dictionary skills.

As might be expected at the university level, there were relatively few cases in which students simply could not find an item: of the total of 753 tokens that were looked up, only 13 could not be found. Misspelling or incorrectly copying words from

the text accounted for five of these: 'medow' (1) for *meadow*; 'widerness' (1)/'widderness' (1) for *wilderness* and 'fowering' (2) for *towering*. The other words that could not be found were *fairest* (1), *unspoiled* (6) and *(be) apt (to)* (1). Difficulties with the latter group suggest the more serious — though still not very common — problem of not being able to identify the base form of the word. An issue worth investigating more closely is whether a more morphologically complex word like *unspoiled*, with its combination of the negative prefix and participial ending, causes students problems, whereas comparatively simple items such as *fairest*, with its superlative ending, do not.

4.3.1. Incorrect definition

In addition to occasional problems finding items, there were several examples of misidentifying the meaning of words. One student misidentified *apt* as an abbreviation for 'apartment,' and another misidentified *wilderness* as a comparative form of *wild*. However, a more troublesome kind of misidentification appears with the idiomatic expressions *on all counts* and to *top off*.

Three students failed to identify the expression *on all counts* as an idiomatic phrase (looking up the verb 'count' instead), while only two students looked up the phrase *on all counts*; only one looked up to *top off*. Neither of these items has a transparent meaning (as opposed to another phrase found in the passage, *paint a picture*), and the chance of students knowing the meaning seems rather slim.

While this is only speculation, it may be that students who confront such idioms latch onto a word they know (for example 'count' or 'top'), and assume they have nothing to look up. This is a reasonable strategy for dealing with unknown lexical items, but students should be abandoning it after seeing that their guess makes no sense in the context of the passage.

4.3.2. Identifying the correct sense.

The above observation is admittedly speculative and in need of further investigation, especially to determine whether the problem of failing to identify multi-word units is truly widespread. An area that is more clearly problematic for students is to successfully identify the proper sense of the word being looked up. The following chart contains examples of my glosses into English of the students' definitions of three items from the passage that have more than one commonly used sense: *rival, fairest*, and (be) *apt* (to). Following the word, the number of students who looked it up is given; the various senses listed by students is given next, with the item in bold type being the sense used in the passage. Next to each sense is the number of students who noted that sense. The notation of more than one sense is shown with a slash.

Word	Sense	# of Students
a. *rival* (n=28)	**'compares favorably with'**	**11**
	'enemy'	11
	'enemy'/'compares favorably with'	6
b. *fairest* (n=26)	**'pleasant weather'**	**9**
	'just'	5
	'light' (skin, hair)	1
	'beautiful'	4
	'beautiful'/'pleasant weather'	2
	'beautiful'/'just'/'a lot'	1
	'quite good'/'large' (amount)/ 'beautiful'/'light' (skin, hair)	1
	'blonde'/'clear' (weather)/ 'just'/'satisfactory'/'smooth'	1
	'convenient'	1
	no response	1
c. (be) *apt* (to) (n=40)	**'tends to'**	**25**
	'appropriate'	7
	'appropriate'/'tends to'	5
	'appropriate'/'tends to'/'clever'	1
	no response	1
	apartment	1

Students are clearly not as successful in identifying the correct sense of the words as we would hope. This is especially clear in the case of *rival*, with 11 correct responses (39%) and 11 incorrect responses (39%). The interesting question is how to interpret the remaining six responses (22%), which include both senses of the word. Since no distinction is made as to which is the correct sense in this context (e.g. underlining or marking with an asterisk), it is impossible to judge the rate of success. The same applies to the remaining two words. With *fairest*, we find 9 correct responses (34%) and 9 (34%) incorrect responses, with the remaining 7 mixed responses (26%) impossible to judge. (In this case, there is the added difficulty of how to judge 'beautiful,' a translation from the Japanese *utsukushii*, most often used in dictionaries in the collocate 'beautiful person.') For *apt*, the responses break down as 25 correct (63%), 9 incorrect (23%), and 8 difficult to judge (15%).

4.4. Perceptions of the function of dictionaries

Recording a single sense is clearly the preferred approach of students in this study. Looking again at the words examined above, the percentage of students who noted only one sense are: *rival* (78%), *fairest* (72%), and (be) *apt* (to) (83%).

This suggests that the dictionary is seen simply as a tool to solve immediate, local problems in comprehension, with most students using it to provide a simple gloss of the unknown word. However, some students did include more information. Noted below is a list of the words from the text, the alternate forms noted by students, and the number of instances it was noted.

Vocabulary Item	Alternate Forms	Number of Instances
apt	aptly; aptness	1
breathtakingly	breathtaking	3
unspoiled	spoil/spoiled	16
extraordinary	ordinary	2
towering	tower	1

A number of students also noted pronunciation (3), part of speech (6) or both (9). Although the numbers are relatively small in comparison to the total of 97 respondents, some students do have a sense of the dictionary as a tool for vocabulary building and language acquisition, not merely as a tool to solve production or comprehension problems. As I will suggest in the next section, teachers need to think about ways to bring that function of a dictionary to student awareness.

5. Discussion

After reviewing some of the findings and some of the weaknesses of the study noted so far, some suggestions for ways it can be improved upon for future application will be made. The section concludes with a set of guidelines for classroom activities geared towards improving the dictionary skills of learners.

5.1. Language learners and their dictionaries: Areas in need of improvement

This research project has pointed to the following areas that are in need of improvement:

i) Teachers should systematically examine classroom materials to determine whether the level of vocabulary is appropriate. If we expect students to be able to guess the meaning of new words from context, we need to be sure that our material does not contain too many unknown items.

ii) Some of the dictionary skills that students need to improve on are (in ascending order of importance):
   a. The ability to identify the base form of words.
   b. The ability to identify multi-word units.
   c. The ability to identify the correct sense of the word in the context in question.

d. The understanding that dictionaries contain a wealth of information about words and can be used for more than providing simple glosses.

5.2. Areas in need of improvement: The present project

This study set out to improve my understanding of how students use their dictionaries so I can help them use them more effectively. Ironically, however, a study like this ends up reinforcing poor dictionary skills by putting an excessive emphasis on vocabulary. Asking learners to identify, list, and look up all new words in a text is likely to take their minds off the meaning of the text as a whole and put it on discrete items of vocabulary. Also, since the task puts emphasis on completing the list of items they have recorded, students are motivated to limit themselves to a quick gloss of the unknown word so they can complete that task as quickly as possible. This also may help to explain the problem pointed out earlier that students often do not bother to check if the meaning they have found makes sense in the context from which it comes. If this is purely a problem of the task as designed, it can easily be overcome by making sure students are exposed to activities that demand they make better use of their dictionaries. If this reflects the students' general approach to the use of the dictionary, however, far more energy will need to be devoted to making sure they are aware of how that can be done.

5.3. Think aloud protocols

As was mentioned throughout the paper, several implications drawn from the data must remain tentative until we can gauge what was going on in the students' minds as they were completing the task. Some form of a retrospective think aloud protocol that has students explain for themselves how they go about using their dictionaries would fill in a number of missing pieces and move what is now only speculation onto more solid ground. If this research project is to be carried out again, adding this step is essential to make its findings more applicable to the classroom.

5.4. Question for further discussion: Monolingual vs. bilingual dictionaries

Although not part of the original intention of the study, an issue that needs to be addressed is the students' use of monolingual and/or bilingual dictionaries. While a great many ELT teachers believe that students should be required to use monolingual dictionaries, students seem to resist the idea. Bishop (1998: 7) summarizes the problem by saying, "Learners are often loath to use monolingual dictionaries in the early stages of learning, whereas teachers tend to think that a monolingual dictionary is somehow purer and more justifiable."

By "purer," I take Bishop to be referring to recent corpus-based monolingual dic-

tionaries, in which entries are based on frequency counts and are thought to include the most 'authentic' and 'up-to-date' semantic, grammatical, and stylistic information (see Scholfield, 1999). "Justifiable" I take to refer to questions of accuracy. That is, it is often said that relying on the glosses found in bilingual dictionaries is dangerous because 1) they mislead learners to believe that there is a one-to-one correspondence between their L1 and the L2 (see Hartmann, 1999), and 2) the definitions themselves are misleading, if not plain wrong.

Certainly, there is room to question the accuracy of some of the glosses in bilingual dictionaries, as I found with the following student responses to the word *diversity*:

diversity (n=72)	
'variety'	**28**
'difference' (of opinion)	23
'variety'/'difference'	21

The numbers above break down to 39% correct, 32% incorrect and 29% mixed. The correct response, 'variety,' is a gloss of the Japanese word *tayôsei* and the response 'difference' a gloss of the Japanese words *sôi* or *sôiten*, as in 'difference of opinion' or 'difference in way of thinking.' In the passage, the word *diversity* clearly refers to the first sense, and the second sense strikes me as an unsatisfactory translation. In fact, in three of the most commonly used monolingual dictionaries, *Longman's Dictionary of Current English (LDCE), Cobuild Learner's Dictionary (CLD)* and *Oxford Advanced Learner's Dictionary (OALD)*, the sense of 'difference' for *diversity* does not appear (all sample sentences have been omitted):

LDCE

1 a range of different people or things; variety 2 the quality of having variety and including a wide range of different people or things.

CLD

1 the **diversity** of something is the fact that it contains many very different elements. 2 A **diversity of** things is a range of things which are very different from each other.

OALD

the state of being varied; variety

However, in discussing the merits of monolingual versus bilingual dictionaries we would do well to remember that, as Hartmann (1999: 6) says, "Above all, there is no

certainty as to which are better, and at which point learners should move from one to the other." In spite of my (single) example of *diversity*, there is no hard evidence that monolingual dictionaries are necessarily superior to bilingual dictionaries, either in terms of the definitions they offer or the extent to which they promote language acquisition.[5] As Armitarvelli (1999) points out in reference to *CLD*, definitions that sound natural or seem to be easy to understand to the native-speaker's ear may present the language learner with difficult structures such as conditionals, indirect questions, and relative clauses to decode. Indeed, the words used in many of the definitions found in monolingual dictionaries may, in spite of attempts at clarity, present difficulties for the learner. Is the definition of *diversity* found in *CLD*, for example, as "something . . . that contains many elements," or *OALD's* "the state of being varied," helpful to the learner?

Also, although it is often argued that looking up words in the L2 provides the depth of processing that will help students remember the item, others counter that using the L1 is 'deeper' "because it is more meaningful to the learner and carries with it rich associations not attaching to L2 material" (Scholfield, 1999: 30, citing Stevick, 1976).

At any rate, we need to be aware of students' overwhelming preference for bilingual dictionaries. Looking at this study, not only do approximately only 4% of the learners use monolingual dictionaries, but none of them relies solely on them, preferring to use them together with a bilingual dictionary.[6] Other studies also attest to this aversion. Lauffer and Hadar (1999) cite a study by Atkins and Knowles (1990) that found of 1,000 European learners, some 75% used bilingual dictionaries. They cite another study by Piotrowski (1989) which concludes that this bias is not limited to beginners, but can be seen at all levels of language competence.

5.5. Final comments

In spite of its shortcomings, the present study has helped clarify some of the issues related to how students use dictionaries. Less obviously, perhaps, it also suggests some of the ways in which teachers need to clarify for themselves and their students how dictionaries can be more effectively used. First, as Barnes et. al (1999) emphasize, we should remember that an important dictionary skill is knowing when to use the dictionary and when not to, so reinforcing strategies that help students avoid over-relying on dictionaries needs to be a part of the work on improving those skills. Second, students need to be made more aware of what is involved in the process of dictionary use, and that this process differs depending on whether they are using it for receptive or productive purposes.

Whether they were conscious of it or not, most students in this survey used their dictionaries for receptive purposes — that is, for finding out the meaning of new

words that were in the assigned passage. Students and teachers will both benefit from keeping in mind that many of the problems cited in this study can be more effectively dealt with by remembering that this type of vocabulary work involves:

1) Identifying the unknown word
2) Deciding whether to look up the word or not (i.e. ignore it, guess from context)
3) Identifying the base form of the word, finding the item in the dictionary
4) Finding the correct entry (i.e. identify the sense of the word as it is being used)
5) Exploiting the information found (i.e. the word should not be considered to be understood until the learner 'puts it back' into the reading and it makes sense in that context)

(adapted from Scholfield, 1999: 13-4)

If learners hope to make the new item a part of their productive vocabulary, they will have to understand the following five features of that item:

1) Syntactic behavior
2) Collocational Preferences and Selection Restrictions
3) Sociolinguistic Features (including register and regional variety)
4) Semantic Features
5) Contextual Features

(from Rundell, 1999: 37)

Making learners aware of the differences in acquiring receptive and productive vocabulary and helping them understand what is involved in trying to increase both are, I believe, more important than debating about whether they should be using monolingual or bilingual dictionaries. Also, to get students to understand that increasing their vocabulary is selective work, and to encourage them to make better use of their dictionaries, teachers must provide tasks that set limits on dictionary use. Even a simple procedure such as telling students to look up only half (or some other fraction) of all the new words they encounter, and to furthermore recommend that they chose one or two of those to investigate in depth, is a simple but effective way to help students use their dictionaries more sparingly yet more meaningfully.

Notes

1) In this paper, 'new' and 'unknown' will be used interchangeably throughout. For my purposes, the distinction between words encountered for the first time and not understood (i.e. 'new'), and words that may have been encountered before but whose meaning is still not clear (i.e. 'unknown'), is not important.
2) All but four of the students used a bilingual dictionary. The issue of the merits of monolingual versus bilingual dictionaries will come up in the discussion section of the paper.
3) Problems with determining word frequencies are well known. In *Cobuild's Learner's Dictionary*, for example, *meadow, breathtaking* and *majestic* are in their lowest band of high-frequency words; *LDCE*'s determination of *fair* as a high-frequency word is not necessarily in the sense in which it is used in this context.
4) The first group of students who completed the activity (n=12) are not included here, so the total number of students = 85. There is the chance that because of how the activity was explained, these students looked up only those new words that they felt were important to their understanding of the passage, not, as I made explicit later, every new or unknown word.
5) Indeed, arguments in favor of the use of monolingual dictionaries echo the (to my mind specious) argument that native speakers necessarily make the best language teachers.
6) Laufer and Hadar's (1999) study found that 'bilingualized' dictionaries (i.e. monolingual English dictionaries to which L1 glosses were added) were the most effective in promoting both comprehension and production of new vocabulary. Although not 'bilingualized' in this sense, many Japanese dictionaries do contain synonyms for or glosses of the target word in their definitions. The four students in this study who used both a monolingual and bilingual dictionary seem to be on to something.

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