Interim Report on the EURALEX/AILA Research Project Into Dictionary Use

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ABSTRACT

This paper outlines a project designed to assess how effectively dictionaries serve the purpose for which they are intended. A detailed study was made of the use of dictionaries by students of English as a foreign language, native speakers of French, German, Italian and Spanish, over 1100 responses being received from seven countries. The resultant figures are still being analysed; this paper simply offers an initial taste of the results, which are held in a database at the University of Aston. Suggestions are made for ways in which this database, now a EURALEX resource, may be enriched and exploited by other EURALEX members, both by further analysing these results and their implications, and by developing other lines of dictionary use research.

History of Project

It was begun in 1984 by **Sue Atkins** (then with Collins Publishers), **Hélène Lewis** (Dorset Institute of Higher Education, freelance lexicographer), **Della Summers** (Longman Dictionaries) and **Janet Whitcut** (freelance lexicographer), and in 1986 received the official sponsorship of EURALEX and of the AILA Commission on Lexicography & Lexicology. The project was devised by Atkins, who administered it and whose overall responsibility it is.

Phase 1 (design and implementation): Atkins, Lewis, Summers and Whitcut together planned the various stages, designed and ran the pilot study, compiled the questionnaires and tests, and marked the ones that needed it. The project was initially presented at the EURALEX 1985 Seminar on *The Dictionary and the Language Learner* (Atkins et al 1987), and the tests adapted to take account of comments made there. The Acknowledgements at the end of this report contain a full list of the many people who have contributed to the project. Colleagues gave unstintingly of their time in the production of the multilingual papers; various institutions responded generously to appeals for funding at the points where this was needed for the printing and distribution of papers, and computing of the results. Nine university-based European 'agents', each with a local network of teachers, saw to the implementation of the tests, and without their invaluable help the project could not have been carried out.

Phase 2 (computation and analysis of results): **Frank Knowles** (University of Aston) undertook overall responsibility for the computation, and the University now holds the database for EURALEX. Atkins and Knowles are in process of analysing the results, which will form the basis of further reports.

Objectives

The project set out to look at what foreign learners of English actually do when they use a dictionary: we hoped to find out something about how effective dictionaries are in helping students to carry out various operations (comprehension of L2, translation into and out of L2, self-expression in L2); whether bilingual and monolingual dictionaries are equally effective aids; what attitude students have to these two types of dictionary; and how much instruction is being given in the use of dictionaries. We also hoped to find out something about how dictionaries fail students, and, by pinpointing aspects of dictionary-writing that might be improved, to focus theorists' attention on problems where academic research would be most helpful to the lexicographer. Finally, we hoped that this work would form a pilot for much more detailed research into dictionary use by others who would build on the computational database that has now been established at the University of Aston.

Scope and Methodology

Practical considerations restricted the research to the learning of English as a foreign language by students of four language groups: French, German, Italian and Spanish. Within these limitations, however, we tried to cast our net as widely as possible, and the students who did the tests came from secondary schools, colleges, universities and adult education classes. 1600 sets of papers were distributed (400 in each language), and over 1100 responses were eventually received. The set of papers to be completed by each student consisted of three parts: a dictionary user profile form, a placement test and a dictionary research test. Each student who performed the tests was allocated a unique reference number.

The *Dictionary User Profile Form* (DUPF), summarized in Atkins et al (1987), was drawn up in each of the four languages, and contained questions seeking to establish for each respondent the current level of English studies, reasons for studying English, amount of tuition received in dictionary skills, dictionary or dictionaries owned and reasons for their purchase, and the respondent's experience of and attitude to bilingual and monolingual English learners' dictionaries.

The *Placement Test,* devised by a British Council-approved Language School in London for the purpose of assigning new students to an appropriate class, consisted of 100 questions in English, mainly multiple-choice; it had to be completed in English, within one hour, supervised by the class teacher. The test was manually corrected and one of the following grades allocated to each student: A (81-100% correct), B (66-80%), C (51-65%) or D (0-50%). Cross comparisons with the results of the dictionary research tests appear to confirm the accuracy of the placement test's assessment of students' knowledge of English.

The *Dictionary Research Test* (DRT) consisted of 44 questions, again principally multiple-choice, to be answered without any time limit; students were simply asked to do as many questions as possible in the time available to them. Not all students completed the whole test. The questions were grouped according to the linguistic process or aspect of dictionary skills they were designed to test: knowledge of English grammatical terms, understanding of grammatical metalanguage used in learners' dictionaries, finding of multiword items (set expression, phrasal

verb, and compound noun), selection of correct lexical item for several types of context, preposition selection, comprehension of English passage, and translation from English. With the exception of the translation passage, which was different for each language group, the questions were the same for all students. The aim of this test was to replicate as far as possible the natural use of the learners' dictionary. The DRT instructions were given in the student's own language, and—apart from the control group who did the test without any dictionary—respondents were invited to consult when necessary their customary dictionary and to say exactly which dictionary that was. It is not always possible to tell from the replies precisely which version (standard, concise etc) or which edition of a specific dictionary was used, but in many cases this is clear; it will thus allow eventual identification of the dictionary (if any), and sometimes the actual entry, used in answering any particular question, as after each one the student was asked whether or not the dictionary had been consulted in that instance. We believe that this is an area which should provide a particularly rich resource for further analysis and research.

The First Results

It must be borne in mind that it is only possible at this stage to give a sampling of some of the non-complex results, and an outline of some of the more complex results which may be extracted from the database. All surveys strive for a high return rate, and this particular project can be reasonably well satisfied with its performance: well over 1100 returns were received, but one in four respondents (a control group) had been asked to do the tests entirely without a dictionary. Also, the operation was a tripartite one (Dictionary User Profile Form, Placement Test and Dictionary Research Test), the number of complete 'triples' returned, where dictionaries had been used, was 723. As a result, in this report, figures based on cross-tabulation involving more than one section of the tests come from the dataset of 723 respondents, while those reflecting the results of the Dictionary User Profile questionnaire alone come from the larger dataset unless specifically noted. This means that all figures incorporating placement test grades, or involving cross-tabulation of Dictionary Research Test results with native language or with nationality, are based on the smaller dataset.

The students

The language and country distribution among the 1140 students who returned valid Dictionary User Profile Forms was as follows:

German	17.72%	(Austria 8.36%, W. Germany 6.00%, Switzerland 3.36%)
French	19.36%	(Belgium 1.45%, France 17.91%)
Italian	29.45%	(all in Italy)
Spanish	33.45%	(all in Spain)

Of the respondents, about 50% were in full time secondary education and about 34% were studying at a more advanced institution; of the remainder, some were following adult education courses or learning English privately, and a few others had completed their studies. 19.3% of all respondents had studied English for less than 5 years, 62.3% for between 5 and 9 years, and 18.4% for 10 years or over. The percentage distribution within the national groupings was as follows[1]:

	Austria	France	Germany	Italy	Spain	Switzerland
0-4 yrs	0.0%	9.1%	7.6%	25.3%	20.7%	81.1%
5-9 yrs	96.7%	83.2%	89.4%	56.2%	45.9%	18.9%
10+ yrs	3.3%	7.6%	3.0%	17.5%	33.4%	0.0%

A preliminary assessment of the smaller database yielded the following figures for the distribution of grades according to native language:

1. Belgium is omitted from national figures on account of the very small number of students from that country.

	Grade A	Grade B	Grade C	Grade D	TOTAL	
French	10	28	54	39	131	(18.1%)
German	9	64	37	7	117	(16.2%)
Italian	43	46	50	66	205	(28.4%)
Spanish	69	78	54	69	270	(37.3%)
TOTAL	131 (18.1%)	216 (29.9%)	195 (27.0%)	181 (25.0)	723	(100.0%)

Asked how much of their English teaching was received in English, the 1100+ students responded as follows:

All	Most	Half	A little	None
23.9%	45.3%	25.2%	4.4%	1.1%

Teaching of dictionary skills

One set of figures is particularly revealing. Of all these students, whose present teachers were interested enough in dictionary use to devote a considerable amount of class time to this research, 60.4% had never been taught how to use a dictionary; 26.7% had had 'some instruction, but not precise nor systematic', and only 12.9% had had 'precise and systematic instruction' in dictionary skills. A breakdown according to national groupings shows the following percentage of respondents from each country who claim to have had no instruction in dictionary use:

Austria	France	Germany	Italy	Spain	Switzerland
70.7%	79.2%	4.5%	46.0%	70.7%	37.8%

Dictionary ownership

Of the 1100+ students, only 9.2% said they did not own a dictionary: 49% claimed to own one, 30.4% two, 9.2% three and 2.2% four or more. Asked to select the factor(s) influencing their choice of first dictionary, the students responded as follows:

teacher's recommendation	50.8%
bookseller's recommendation	11.2%
parents' recommendation	7.1%
friend's recommendation	6.1%
low price	4.5%
clear presentation	9.5%
good illustrations	.9%
it was a gift	13.6%

It must be remembered that these factors are not mutually exclusive and respondents were at liberty to select more than one; also that in the case of the school students, at least, it was probably not the respondent who had to pay for the book, and to whom the price was of primary importance. Looking at a national breakdown according to the influence of the teacher in the choice of first dictionary, the following picture emerges of students who followed their teacher's advice (there were too few Austrian and German post-school respondents to be applicable):

	Austria	France	Germany
School students	14.3%	21.8%	88.6%
Post-school students	—	48.4%	—
	Italy	**Spain**	**Switzerland**
School students	72.8%	46.9%	33.3%
Post-school students	77.0%	65.2%	14.3%

Bilingual and monolingual dictionaries

Of the 723 students who used a familiar dictionary for help with some or all of the questions, 75% chose a bilingual dictionary and 25% a monolingual. Later figures will show how the choice relates to level of English skills, native language and national groupings.

Students were asked about their use of bilingual and monolingual dictionaries. 57.9% claim to use a bilingual dictionary 'often, nearly every week', while 30.8% make the same claim for a monolingual dictionary. The individual's ability in English is clearly a significant factor here, and the breakdown according to grade is:

	Grade A	Grade B	Grade C	Grade D	TOTAL
Monolingual used 'often'	29.0%	28.7%	16.9%	14.9%	22.1%
Bilingual used 'often'	45.0%	56.5%	64.1%	68.5%	59.5%

Only 0.4% said they never use a bilingual dictionary, while 27% said they never use a monolingual. Here again, the individual's ability in English must influence the choice, and the figures, available at the moment only for the monolingual dictionary, seem to confirm expectations:

	Grade A	Grade B	Grade C	Grade D
Never use a monolingual	4.9%	24.1%	33.0%	37.9%

An attempt was also made to discover the students' attitudes to the two types of dictionaries; they were asked which dictionary they would choose for assistance in performing three specific tasks: (1) understanding an unknown English expression, (2) translating from their own language into English, and (3) checking on the way a known English item is used. The students replied as follows:

for understanding an L2 expression	34.7% would choose monolingual
	59.9% would choose bilingual
	5.4% would choose both
for translating from L1 into L2	9.6% would choose monolingual
	87.7% would choose bilingual
	2.7% would choose both
for information on usage of known L2 term	55.0% would choose monolingual
	41.6% would choose bilingual
	3.4% would choose both

This is an area where attitudes might be assumed to change as the student becomes more mature and better acquainted with different dictionaries, and indeed the figures for the group of *post-school students* do vary from the average, though rather unexpectedly in places:

for understanding an L2 expression	70.0% would choose monolingual
	30.0% would choose bilingual
	0.0% would choose both
for translating from L1 into L2	22.7% would choose monolingual
	63.6% would choose bilingual
	13.6% would choose both
for information on usage of known L2 term	43.1% would choose monolingual
	51.1% would choose bilingual
	5.8% would choose both.

Further research might reveal a disparity of attitudes among national groupings when level of English skills is taken into account.

Assessment of dictionary skills: grammar and metalanguage

It is impossible in such a short space to give more than a brief glimpse of the complex results that may be obtained from further analysis of the database.

However, it is worth mentioning here two of the more surprising (to the researchers, all of whom are or have been working lexicographers).

One set of questions intended to test the student's ability to identify a part of speech named in English took the following form:

	noun	adjective	verb	preposition	don't know
We walked *round* the garden.					
The world is *round*, not flat.					

Students were asked to identify the part of speech of the italicised word. Approximately 85% were able to do this type of test correctly, on average. Another set of questions, designed to test students' ability to interpret correctly grammatical metalinguistic labels, showed that approximately 96% of the students were able to do so correctly in most cases.

Dictionary skills: finding multiword items

An exercise was devised to discover where dictionary users expected to find multiword items; here is one of the questions (which were all presented to the students in their own language):

Lame duck means 'an inefficient or incompetent person'. Under which word would you look up *lame duck* in the dictionary? Tick one box:

— under the word *lame*
— under the word *duck*
— separately, in the letter L., as though it were a single word, between *lame*, and *lament*
— I don't know

47% of students expected to find the expression at *lame*, 43% at *duck*, 7% at *lame duck*, and 3% had no clear idea of where to look for it.

It seemed relevant to compare the location of this compound in some popular learners' dictionaries with the expectations of the users of these works. The dictionaries surveyed were four monolingual dictionaries: COLLINS COBUILD ENGLISH LANGUAGE DICTIONARY 1987, LONGMAN DICTIONARY OF CONTEMPORARY ENGLISH 1987, OXFORD ADVANCED LEARNER'S DICTIONARY OF CURRENT ENGLISH 1974, CHAMBERS UNIVERSAL LEARNERS' DICTIONARY 1980; and four bilingual: COLLINS SPANISH DICTIONARY 1988, ZANICHELLI IL NUOVO RAGAZZINI 1984, HARRAP NEW SHORTER ENGLISH-FRENCH DICTIONARY 1982 and COLLINS-KLETT ENGLISH-GERMAN DICTIONARY 1983. The comparative results for *lame duck* were:

Possible locations:	*lame*	*duck*	*lame duck*	(don't know)
Location expected by students:	47.0%	43.0%	7.0%	3%
Actual location in dictionaries:	50.0%	12.5%	37.5%	—

Other multiword items of different types were tested, the figures for the phrasal verb *do without* being:

Possible locations:	*do*	*without do without*		(don't know)
Location expected by students:	64.0%	32.0%	2.0%	2.0%
Actual location in dictionaries:	100.0%	0%	0%	—

(The *do without* column means a headword entry in main alphabetical order.)

These figures suggest that a large number of dictionary users are frustrated in their first attempt at finding a multiword item. The language groupings showed little variation: an initial attempt was made to see whether the more advanced students had a higher success rate in the location of such items (in the following table the bracketed figures relating to achievement grades combine the last two categories):

Possible locations:	*lame*	*duck*	*lame duck* or don't know
Grade A expected location:	40.5%	55.7%	(3.8%)
Grade B expected location	46.3%	48.6%	(5.1%)
Grade C expected location:	53.3%	34.9%	(11.8%)
Grade D expected location:	47.0%	34.9%	(14.9%)
Actual location in dictionaries:	50.0%	12.5%	37.5% —

At the moment, the lack of cross-tabulation in the results means that some of the raw figures are of limited usefulness. It is however possible to interrogate the database in considerable detail, asking for each individual question not only "how many students got any particular wrong answer?" but, for example, "how many French-speaking Grade A students using a dictionary got the wrong answer compared with those who used no dictionary?", "how did the dictionary-using students who had had instruction in dictionary use fare compared with those who had had no instruction?" and so on. In the meantime, let us look at two sample cross-tabulations.

How bilingual and monolingual dictionaries fared

One interesting aspect to consider is that of the comparative success rate of the monolingual and bilingual dictionaries. Question 3/13 was one in which students were asked to select the correct word to fill the empty slot:

It's a bad ..... to bite your nails.

behaviour	
practice	
custom	
habit	
(don't know)	

Did you the dictionary for this question?

Yes	
No	

In following results, the figures should be read as '97.4% of Grade A students using a bilingual dictionary got Question 3/13 right, as opposed to 94.3% of Grade A monolingual dictionary users who got it right':

	Grade A	Grade B	Grade C	Grade D	TOTAL
Of bilingual users:	97.4%	77.2%	68.4%	46.5%	68.9%
Of monolingual users:	94.3%	84.4%	62.2%	40.9%	76.4%

These results, if confirmed by a wider range of questions, would seem to suggest that the monolingual might come out on top; however, much more research—and particularly comparisons with the control group who did the tests without a dictionary at all—will be necessary before any trend can be confidently distinguished.

Do dictionaries help?

Finally, the masochistic lexicographer may wish to know whether students using a dictionary do any better than those without. The results for students getting Question 3/13 correct are as follows (so far, this is the only question for which results are available according to the achievement level of the students):

	Grade A	Grade B	Grade C	Grade D	TOTAL
Of dictionary users:	100.0%	83.3%	65.5%	50.5%	64.0%
Of non-dict. users:	95.8%	77.6%	67.9%	40.7%	73.1%

i.e. 64% of the group of students who used a dictionary got this question right, as opposed to 73.1% of the group who did not use any dictionary.

In view of these figures we are relieved to report the only other comparable set of results so far extracted, for Question 5/21, where approximately 70% of dictionary users got the answer correct, as opposed to only 60% of those who did the question without a dictionary. Before a judgement is made about whether or not a dictionary improves one's chances of success in linguistic exercises, there is clearly a need, not only for a study of all the relevant results, but also we believe for a new project involving detailed research on a much larger-scale.

Computation of Results: The Database

The report presented at Budapest was based primarily on an initial analysis performed on the chief dataset, which can be thought of as a huge rectangular matrix formed by the 'intersection' of 723 respondents' answers to 366 questions. This analysis was conducted on a VAX8650 mainframe computer running under VAX-VMS and making use of the SPSS-X package, specially designed for the statistical analysis of sociological and economic data; it should be noted that Version 3.0 of SPSS-X is required for the particular analyses performed. Expressed in 'VMS figures', so to speak, the chief dataset occupies 625 blocks of storage as an ASCII file and 644 blocks as a SPSS-X 'system file'. There are simple porting utilities to permit researchers to move these and similar materials from one machine to another. For those with adequately sized personal computers—say, PC/AT in the IBM tradition—an option exists to make use of the PC version of the above software, namely SPSS/PC+, Version 2. Those interested in doing this should be aware that the software is rather expensive and that it might be a tight fit to get everything comfortably onto the machine. The main dataset occupies 644Kb of disk storage and there are restrictions on dynamic memory—it will be up to enthusiasts to try things out, if they wish. Statistical analyses are also possible via the popular and well-established dBaseIII Plus system marketed by Ashton Tate and the data is now available in this form.

The whole database is available in portable electronic form to the institutions which funded this research or supported it through the fact of one of their members acting as a 'local agent' in the distribution of the test papers. Other academic institutions willing to undertake further research along these lines within the context of EURALEX or AILA may also import this database as a launching pad for future work. Full details on this matter are not yet available, but it is likely that Aston will need to make a handling charge of approx. £15, and to charge the magnetic carrier at cost. Further information may be had from the University of Aston.

Statistics: A Note

Apart from those questions which were not phrased as tightly as they might have been, the main deficiency of this research is that the students tested did not constitute a statistically balanced sample as regards grouping on grounds of nationality, native language, level of English studies and type of academic institution attended. (Simply organizing over 1000 students in seven countries to do the tests seemed challenge enough.) Those undertaking future similar projects may wish to ensure statistical balancing and to consult a statistician in the early stages of project design.

Envoi

This research was designed to point the way towards further in-depth examination of what is going on when a student uses a dictionary, to suggest what might be done in the future, to outline a path that might be followed by others with different skills

and resources. The broad spread of the Dictionary Research Test questions was intended to pick out current trends and to pilot possible exercises for this type of research, rather than to produce watertight statistics for any particular aspect of dictionary use. Colleagues from within and outside EURALEX — in Italy, Spain, Austria and Thailand — have already taken up aspects of this work and are developing their own research in greater depth. A further report will suggest various types of subsequent research which could be undertaken, developing the data produced by this project, as much of that data (e.g. comparison of individual test results with actual dictionary entries used) will take years to analyse and verify, and is beyond the ability of those who carried out this initial phase of the project.

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