

**Interacting with the Users:
Research Findings in EFL Dictionary User Studies**

Yukio Tono
Japan

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Yukio Tono, born in 1961, graduated in lexicography from the University of Exeter, and was an assistant professor at the Tokyo Gakugei University. His focus is on pedagogical lexicography, with major interests in dictionary user study and learner corpus research. He is currently beginning his PhD studies at the University of Lancaster.

E-mail: y.tono@lancaster.ac.uk

Introduction

This paper is in four parts. First, I will discuss briefly the rationale of dictionary user studies. Second, I will describe the various research areas in dictionary user studies and summarize previous research projects in each area. Third, I will discuss the importance of research methodologies in user studies. And lastly, I will summarize the results of studies on dictionary use in Japan and point to those issues requiring future research.

1. Rationale of Dictionary User Studies

There are three major reasons why user research has been gaining more attention in the last two decades: firstly, a change in attitude toward users in L2 lexicography; secondly, a change in the perspective of pedagogical dictionaries; and thirdly, recent trends in language teaching.

A change in attitude toward users in L2 lexicography

As we look at the current trend in lexicography, we can see the difference in attitude toward user needs and skills in two major categories of dictionaries: general-purpose dictionaries and pedagogical dictionaries. Monolingual general-purpose dictionaries are usually regarded as “authorities” and the end-users do not usually dare to comment on the validity or the quality of the contents unless they think they know better (Barnhart 1962; Béjoint 1981). As for pedagogical dictionaries, however, the users are language learners and do not always have a perfect command of the target language, so the editors of pedagogical dictionaries have to be more aware of the end-users’ knowledge and skills than those of general-purpose dictionaries. A growing demand for English language education in developing countries along with worldwide economic growth has opened up the new market of EFL learner’s dictionaries. Publishers in the UK, especially, are highly concerned about user skills and needs analysis in order to make their dictionaries more user-friendly. Therefore we have an increasing demand for user research in this area.

However, although lexicographers are linguists, phoneticians, and sometimes language teachers, they still have difficulty understanding the user behavior. For example, lexicographers often write a dictionary according to their own expectation of what the users can and should do. They are not very sure whether the actual users look up words as they expected. As Cowie (1983) has pointed out, there has been a growing gap

between such expectations by the dictionary makers and the users' actual reference habits. Therefore, we should have a more solid basis for L2 dictionary-making by investigating user behaviour in a more systematic way.

More practical reasons for the needs of user research

On top of these general tendencies, we have additional reasons for the user study from more practical viewpoints. First, the past ten years have witnessed the so-called "learner's dictionary war" around the world as well as in Japan. Especially in 1995, all the advanced English monolingual learner's dictionaries were either revised (OALDCE, LDOCE and COBUILD) or published (CIDE). Competition is very fierce. The dictionary market in Japan is very competitive, too. The target users of EFL learner's dictionaries in Japan are high school students and above. More than twenty titles (English-Japanese) compete with each other. New ideas or innovations must be included every time they are revised in order to gain more share in the market. The dictionary market is literally saturated with those "innovative ideas" which have not, however, been empirically tested.

This leads to the next point: that a new dictionary is needed. Since it is almost impossible to include all the information that already exists and add one or two more innovations to a dictionary at every revision, we need to remove some information or drastically change the layout and indeed the nature of the product. This can on the one hand be accomplished by making an electronic dictionary, while on the other, within a paper-dictionary context, we have to restructure the dictionary entry based on empirical data regarding what information is used by what kind of users for what purposes.

As we seek for such information, we will face the next barrier. In Japan, dictionary-making is a "publisher-led" project and it has been a very closed system. Information on user analysis, if any, is kept secret inside the publishing houses. It is necessary therefore to do more research to supply the lack of generally available information. Recently we have been more aware of the importance of exchange of information at an academic level. We start having meetings of lexicography SIG (special interest group) in JACET (Japan Association for College English Teachers) and a symposium on learner's dictionaries and users was held by JACET in the summer of 1997. We invited Dr Reinhard Hartmann as a keynote speaker and commentator for the symposium. I believe that as a result now we are on the right track.

Vocabulary acquisition / learning perspectives

The last point is from the perspective of vocabulary acquisition and learning. More and more attention has been paid to the once ignored area, the "lexicon" (lexical knowledge) in linguistic theories and the cognitive

sciences. Vocabulary-acquisition studies have been increasingly the focus not only in linguistics but also in second language acquisition and language learning research. More and more research has been done to investigate the effect of incidental vocabulary learning and dictionary use (for instance, Hulstijn *et al.* 1996). Building learner corpora, for instance, has a great potential to contribute to SLA research and L2 dictionary-making (see, for example, Tono 1996). Therefore, the time is ripe for investigating how dictionary use in the classroom helps language learners and how dictionary contents can be improved to support learner's vocabulary learning.

2. The Research Area in Dictionary User Studies

I would like to divide user studies into five categories: (1) Needs analysis and skills analysis; (2) dictionary use and performance in the four skills (speaking, listening, reading, writing); (3) teaching dictionary skills; (4) the role of a dictionary in language teaching and learning; (5) dictionary criticism from the user perspective. I list below the major references for each of these categories. Comparably, at the top of my Web pages there is a link to a selected bibliography of dictionary user study and a more complete bibliography of English lexicography and computational lexicography (the data can be downloaded either in an html format or an excel file).

Research areas in dictionary user studies

A: *Needs Analysis*

(1) A user typology

Hartmann (1979); Hartmann (1987); Tomaszczyk (1979)

(2) Dictionaries and target users' needs

Algeo (1990); Barnhart (1962); Battenburg (1989); Béjoint (1981); Benbow *et al.* (1990); Cowie (1987); Crystal (1986); Greenbaum *et al.* (1984); Hartmann (1983); Kipfer (1985); Kirkpatrick (1985); McCawley (1989); Quirk (1973); Quirk (1974); Reif (1987); Snell-Hornby (1987); Tomaszczyk (1987)

(3) User needs and dictionary editing processes

Béjoint (1979); Cowie (1983); Dubois (1981); Hartmann (1988); Maingay and Rundell (1987); Rundell (1988)

B: *Skills Analysis*

(1) Skills typology and assessment

Mower and LeRoy (1968); Tono (1988b)

(2) Skills on the macrostructural level

Blachowicz *et al.* (1990); Hatherall (1984); Lantolf *et al.* (1985); Tono

(1987); Tono (1988a); Tono (1991)

(3) Skills on the microstructural level

Blachowicz *et al.* (1990); Hatherall (1984); Neubach and Cohen (1988); Tono (1984); Tono (1986); Tono (1991); Tono (1992); Tono (1997);

(4) Reference skills and language proficiency

Tono (1989); Tono (1991); Tono (1992)

(5) Reference skills and dictionary layout

Aust *et al.* (1993); Beckwith *et al.* (1990); Lamb (1991)

C: *Dictionary Use and Performance in the Four Skills*

(1) Dictionary use and reading (decoding)

Bensoussan *et al.* (1981); Bujas (1975); Mitchell (1983); Scholfield (1982); Tono (1989)

(2) Dictionary use and writing (encoding)

Ard (1982); Jacobs (1989); Nesi (1987)

(3) Dictionary use and vocabulary learning

Rowley (1991); Thomson (1989); Vianna (1994); Nesi and Meara (1988)

D: *Teaching Dictionary Skills*

Beattie (1973); Detroit Public Schools (1982); Fisher *et al.* (1990); Kennedy (1972); Kipfer (1984); Moldenhauer (1980); Osman (1965); Ostyn and Godin (1985); Steed (1968); Whitfield (1993); Zgusta (1975); Zgusta (1988)

E: *The Role of a Dictionary in Language Teaching and Learning*

Béjoint and Moulin (1987); Black (1985); Griffin (1985); Herbst and Stein (1987); Rossner (1985); Summers (1988); Walz (1990)

F: *Dictionary Comparison/Criticism from User Perspectives*

Drysdale (1987); Haas (1962); Harrell (1960); Ilson (1984); Ilson (1987); Jackson (1975); Jansen *et al.* (1987); Kharma (1985); Lee (1993); Macfarquhar and Richards (1983); Marrello (1987); Nesi (1987); Opitz (1979); Piotrowski (1987); Shaw (1983); Wekker (1992); Whitcut (1986)

Dr Hartmann, of the University of Exeter, probably has a more exhaustive database on lexicography but I am afraid that it is not yet available publicly. My bibliography on the user study is one of the first lexicographical databases available in the public domain. The website is:

(URL: <http://www.u-gakugei.ac.jp/~tefldpt/tonolab/userstudy/index.html>).

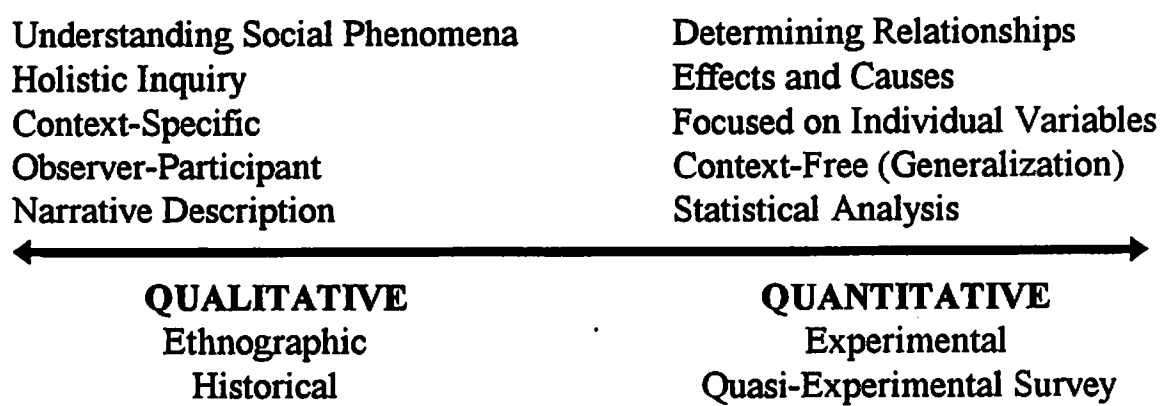
I would be glad to receive any help that will make the list more complete.

3. Matters of Methodology

Next, I would like to comment on the methodological issues in dictionary user studies. In order to investigate the behaviour of dictionary users, it is

desirable to conduct a research based upon behavioural or social scientific methods. The list below illustrates the characteristics of different research methodologies. Researchers in dictionary user studies must understand the characteristics of these methods and choose the appropriate methods according to their research purposes. Unless we try to investigate user behaviour directly through these methods, we cannot be sure of what the true user needs and skills are.

Figure 1: *Characteristics of the research*



Observation

Observation is a basic yet still effective way to describe learner behaviour. If we do not have any specific research question or working hypothesis regarding dictionary users, the first thing to do is observe and describe user performance in every aspect of dictionary look-up. The following are some types of observation and possible research plans:

- A. (Non-participant observation) Observing student behaviour in the classroom where dictionaries are used for decoding/encoding activities.
- B. (Participant observation) Join the language activities with dictionaries and describe the phenomena.
- C. Videotaping the users while using dictionaries and then describing the process. In order to make observation more systematic, we need to develop observation schemes such as the Flint (Moskowitz 1968) or the COLT (Allen *et al.* 1984).

Survey

The survey research makes it possible to ask what happens to users more directly than through simple observation. We should recall, however, that the findings are still “indirect” in the sense that we can only discern what the users think happens, not what does actually happen. The most popular devices here are interviews and questionnaires. Research plans include:

- A. Interviewing dictionary users to identify user types and their dictionary habits.
- B. Distributing questionnaires to collect wide varieties of user information (a good example is the EURALEX-AILA research project into dictionary use, Atkins *et al.* 1990).

Correlational design

Correlational design can be used to study the relationship between dictionary reference needs/skills and other related factors such as learning environments, socio-economic status, language proficiency, etc. If a cause-and-effect relationship cannot be identified, one can, before any experimental approach is followed, conduct some research to discover the correlation between possible factors of interest. In the following list we have an example of multiple correlational study on users' reference behaviour and user-related factors.

Multiple correlational design

Independent variables:

- Users' reference needs/skills

[One must define operationally what reference skills/needs mean, e.g. the scores of dictionary using tests, the mean scores of Likert scales in user profile questionnaires, etc.]

Dependent variables:

- sex
- academic grades
- socio-economic status
- overall language proficiency (scores of TOEFL, ACTFL, etc.)
- reading comprehension skills
- vocabulary knowledge levels (assessed by P. Nation's vocabulary test, etc.)
- writing skills (assessed by essay tests, etc.)
- cloze or C-test results
- experience of dictionary training at school
- the number of dictionaries at home

Experimental design

A pure experimental design is difficult to use in educational research. Usually the experiment is conducted in intact classes and we employ an *ex post facto* design called a "quasi-experimental design". It does not have too much control over extraneous variables, but more generalization is possible.

There are not very many pure or quasi-experimental studies in this field, but we should seek for the potential of experimental design in order to better understand the behaviour taking place during dictionary use. Some examples:

A. Investigating the effect of dictionary use in decoding/encoding tasks:

You can compare an experimental group (using dictionaries) with a control group (without using dictionaries) in reading comprehension tasks.

B. Research into the effect of dictionary layout for decoding/encoding tasks:

Dictionary layouts can be controlled (e.g. LDOCE vs. the Activator; Guideword vs. Signposts) to see the effect of different layouts on decoding/encoding tasks.

C. Research into the effect of particular dictionary information for decoding/encoding tasks:

The patterns of providing particular information (such as illustrative examples, grammatical codes, collocation information, etc.) can be controlled so that we can see how illustrative examples may help users in decoding/encoding tasks.

D. Investigating the effect of dictionary training on decoding/encoding tasks:

We can compare a class in which dictionary training is provided with a class without such help.

E. Research into the long-term effect of dictionary use for second language learning:

If there is any language class in which the learners use dictionaries regularly, we can conduct a study to see the long-term effect of dictionary use as compared with the ordinary classroom.

I cannot cover all the details regarding the research methods in this paper, but my WWW pages do cover the four major method types (observation, survey, correlation, and experiment) and possible research topics in user studies. By identifying research areas and pursuing better research methodologies, we could have many interesting research questions and as we list them on this kind of WWW page, we can share ideas with other researchers.

The need for experimental approaches

As I indicated already, there have been many articles on dictionary use recently. If one looks at them from methodological viewpoints, however, the number of empirical studies has not been so large, although it is constantly increasing. Figure 2 shows the number of empirical studies when I first

wrote my BEd dissertation on dictionary reference skills in 1984. We can see how scarce the experimental studies were. Compare this situation, however, with the data in Figure 3. Although the list is not exhaustive, it shows how much change has taken place in the user study for the same methodological categories.

Figure 2: *Methods for user research until 1984*

- Survey/Questionnaire
Barnhart (1962); Quirk (1973); Tomaszczyk (1979); Baxter (1980); Béjoint (1981); Hartmann (1983); Galisson (1983)
- Direct Observation
Béjoint (1981); Ard (1982)
- Correlational studies
Bensoussan *et al.* (1984)
- Experimental studies
Mitchel (1983); Tono (1984)

Figure 3: *Methods for user research after 1984*

- Survey/Questionnaire
Herbst and Stein (1987); Atkins and Knowles (1990)
- Direct Observation
Krings (1986); Bareggi (1989); Atkins and Knowles (1990); Tono (1991)
- Correlational studies
Tono (1988b)
- Experimental studies
Kipfer (1985); Tono (1987); Tono (1988a); Summers (1988); Bogaards (1990); Tono (1992)

We notice that more experimental studies have been conducted during the past decade. However, the number of studies said to be more or less “empirical” is still small as compared with the whole body of papers listed in my bibliography, about one-third of the whole list. Here we can see that user study has many more steps to take before it can be called “scientific”. The overall approach is still impressionistic and not very systematic.

Why an experiment?

I have claimed that more experimental designs have to be employed in order to understand user behaviour scientifically. I will present one more example to support this claim. Figure 4 is the result of a questionnaire, in which the

subjects were asked to look at the symbols used in a dictionary and answer whether they knew them or not. Q means questionnaire results and T stands for the test results. For example, if it is a countable noun, the subjects were asked if they knew what the symbol [C] meant. They circled YES, if they knew the meaning. The figure showed 56% said YES, but when they were asked to write down any example of countable nouns, the opposite result was obtained; 55% could not answer correctly.

Figure 4: Differences of questionnaire and test results: countable nouns

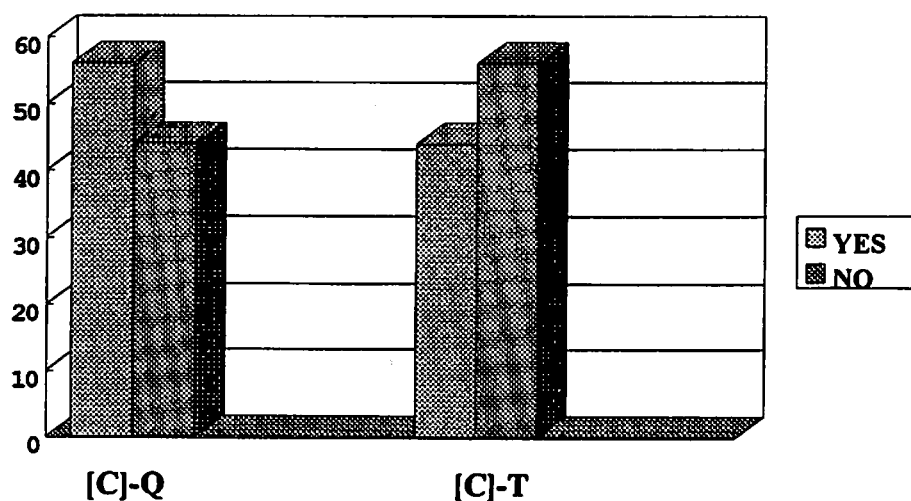
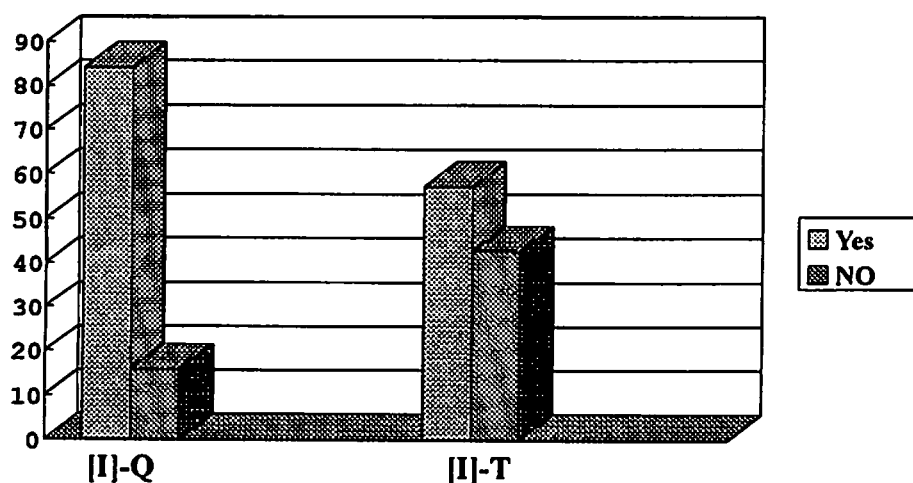


Figure 5: Differences of questionnaire and test results: intransitive verbs



This became more serious in the case of intransitive verbs. Figure 5 indicates that almost 85% said they knew what [I] means (originally it was in a Japanese symbol). But the test results showed that only 53% actually wrote down an example of intransitive verb. This clearly shows that the questionnaires sometimes betray us. It cannot truly reflect the behavior of the subjects. This is why it is so important to devise the method in order to look more directly into the user behaviour.

4. Empirical Studies on the EFL Dictionary Users in Japan

This last section will show some empirical studies on the EFL dictionary users in Japan. On my WWW pages, I listed the following research areas and previous empirical studies. Although the list is still under construction, it will provide a good starting point for other researchers to have an access to the research findings on the EFL learners in Japan.

- *Skills Analysis* (based upon Scholfield, 1982)

Macrostructure:

(a) Overall pictures

A study on a good dictionary user: Tono (1991)

A study on dictionary use processes for encoding tasks: Yokoyama (1994)

(b) Subprocesses

1. Choosing the appropriate dictionary
2. Identifying the problem area, word, or phrase
3. Determining where the word or phrase is most likely to be treated
 - On the Idiom look-up operations: Tono (1987; 1988a)
4. Guessing what form the word will be listed under the lemma
5. Finding the word in its place as an entry

Microstructure:

Interpreting and extracting various information: Spelling/ Pronunciation/ Language varieties/ Usage labels/ Syntax/ Meaning/ Examples/ Pictorial illustrations/ Etymology, etc.

An experimental study on EFL learner's dictionary reference skills: Tono (1984)

- *Dictionary Use in Language Learning*

The effect of dictionary use for vocabulary learning: Horimizu (1994)

The long-term effect of dictionary use for L2/L1 translation: Tono (1989)

- *The Effect of Dictionary Layout*

The effect of menus for decoding purposes: Tono (1992)

The effect of meaning access indexes: Tono (1997)

- *Dictionary Skills Test*

Skill component analysis

Comparison of available dictionary tests: Tono (1988b)

- *Learner Information for L2 Lexicography*

Learner corpora for L2 lexicography: Tono (1996)

Conclusion

I have shown that it is necessary to conduct more empirical studies on dictionary use and for that purpose we should accumulate the knowledge base by sharing information together with other researchers on WWW pages. I hope that my WWW page on dictionary use (URL: [_HYPERLINK http://www.u-gakugei.ac.jp/~tefldpt/tonolab/userstudy/index.html](http://www.u-gakugei.ac.jp/~tefldpt/tonolab/userstudy/index.html)
<http://www.u-gakugei.ac.jp/~tefldpt/tonolab/userstudy/index.html>) will be useful for other researchers and lexicographers.

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Bibliography

- Algeo, J. 1989. Dictionaries as seen by the educated public in Great Britain and the USA. In Hausmann, F.J., O. Reichmann, H.E. Wiegand and L. Zgusta (eds.), *Wörterbücher/Dictionaries/Dictionnaires*. Berlin/ New York: Walter de Gruyter.
- Allen, P., M. Frohlich and N. Spada. 1984. The communicative orientation of language teaching: an observation scheme. In Handscombe, J. *et al.* (eds.), *On TESOL '83: The Question of Control*. Washington, D.C.
- Ard, J. 1982. The use of bilingual dictionaries by EFL students while writing. *ITL Review of Applied Linguistics*, 58:1-27.
- Atkins, B.T.S. 1985. Monolingual and bilingual learner's dictionaries: a comparison. In Ilson, R.F. (ed.), 15-24.
- Atkins, B.T.S., H. Lewis, D. Summers and J. Whicut. 1987. A research project into the use of learner's dictionaries. In Cowie, A.P. (ed.), 29-43.
- Atkins, B.T.S. and F.E. Knowels. 1990. Interim report on the EURALEX/ AILA research project into dictionary use. In Magay T. and J. Zsigany (eds.), *Proceedings of Budalex '88*. Budapest: Akadémiai Kiadó. 381-392.
- Atkins, B.T.S. 1996. Bilingual dictionaries: past, present and future. In Gellerstam, M. *et al.* (eds.), *EURALEX'96 Proceedings*. Göteborg: Department of Swedish, Göteborg University. 1:515-546.

Lexicography in Asia

- Aust, R., M-J. Kelly and W. Roby. 1993. The use of hyper-reference and conventional dictionaries. *Educational Technology Research and Development*, 41.4:63-73.
- Bahl, K.C. 1970. *A Dictionary of Hindi Verbal Expressions (Hindi-English): Final report*. Chicago IL: Chicago University.
- Barnhart, C.L. 1962. Problems in editing commercial monolingual dictionaries. In Householder, F.W. and S. Saporta (eds.), 161-81.
- Barone, R. 1979. On the use of the advanced learner's dictionaries of current English. *Rassegna Italiana di Linguistica Applicata*, 11:1-2.
- Battenburg, J.D. 1989. A study of English monolingual learner's dictionaries and their users. PhD Dissertation, Purdue University.
- Baxter, J. 1980. The dictionary and vocabulary behavior: a single word or a handful? *TESOL Quarterly*, 14.3:325-336.
- Beattie, N. 1973. Teaching dictionary use. *Modern Languages*, 54.4:161-168.
- Beckwith, R., C. Fellbaum, D. Gross and K.J. Miller. 1990. Introduction to wordnet: an on-line lexical database. *International Journal of Lexicography*, 3.4:235-244.
- Béjoint, H. 1981. The foreign student's use of monolingual English dictionaries: a study of language needs and reference skills. *Applied Linguistics*, 2.3:207-222.
- Béjoint, H. 1989. The teaching of dictionary use: present state and future tasks. In Hausemann, F.J., O. Reichmann, H.E. Wiegand and L. Zgusta (eds.), *Wörterbücher/Dictionaries/Dictionnaires*. Berlin/ New York: Walter de Gruyter. 208-215.
- Béjoint, H. and A. Moulin. 1987. The place of the dictionary in an EFL programme. In Cowie, A.P. (ed.), 97-114.
- Benbow, T., P. Carrington, G. Johanessen, F. Tompa, and E. Weiner. 1990. Report on the *New Oxford English Dictionary* user survey. *International Journal of Lexicography*, 3.3:155-203.
- Bençoussan, M. 1983. Dictionaries and tests of EFL comprehension. *ELT Journal*, 37.4:341-345.
- Bensoussan, M., D. Sim, and R. Weiss. 1984. The effect of dictionary usage on EFL test performance compared with student and teacher attitudes and expectations. *Reading in a Foreign Language*, 2:262-275.
- Blachowicz, C.L. et al. 1990. Observing dictionary users: teachers look at fourth grade students. Paper presented at the Annual Meeting of the American Educational Research Association, Boston, MA.
- Black, A. 1985. *The Effect on Comprehension and Memory of Providing Different Types of Defining Information for New Vocabulary*. Cambridge: MRC Applied Psychology Unit.

- Bogaards, P.** 1992. French dictionary users and word frequency. In Tommola, H. *et al.* (eds.), *EURALEX'92 Proceedings*. Tampere: Department of Translation Studies, University of Tampere. 51-59.
- Bogaards, P.** 1994. Tuning the dictionaries to the skills of intermediate learners. In Henrici, G. and E. Zifgen (eds.), *Fremdsprachen Lehren und Lernen*. Tübingen: Narr. 23:192-205.
- Broeders, T.** 1987. The treatment of phonological idioms. In Cowie, A.P. (ed.), 29-43.
- Bujas, Z.** 1975. Testing the performance of a bilingual dictionary on topical current texts. *Studia Romanica et Anglica Zagrabiensia*, 39:193-204.
- Calzolari, N., E. Picchi, and A. Zampolli.** 1987. The use of computers in lexicography and lexicology. In Cowie, A.P. (ed.), 55-77.
- Carey, S.** 1978. The child as a word learner. In Halle, M. *et al.* (eds.), *Linguistic Theory and Psychological Reality*. Cambridge, MA: MIT Press.
- Carter, R.** 1989. Review of LDOCE and COBUILD. *International Journal of Lexicography*, 2.1:30-43.
- Cowie, A.P.** 1983. The pedagogical/learner's dictionary: English dictionaries for the foreign learner. In Hartmann, R.R.K. *et al.* (eds.), *Lexicography: Principles and Practice*. London: Academic Press. 135-143.
- Cowie, A.P.** 1987. Syntax, the dictionary and the learner's communicative needs. In Cowie, A.P. (ed.), 183-192.
- Cowie, A.P. (ed.)**, 1987. *The Dictionary and the Language Learner*. Tübingen: Niemeier.
- Creamer, T.** 1987. Beyond the definition: some problems with examples in recent Chinese-English and English-Chinese bilingual dictionaries. In Cowie, A.P. (ed.), 238-245.
- Crystal, D.** 1986. The ideal dictionary, lexicographer and user. In Ilson, R.F. (ed.), 72-80.
- Cumming, G., S. Cropp, and R. Sussex.** 1944. On-line lexical resources for language learners: assessment of some approaches to word formation. *System*, 22.3:369-367.
- Diab, T.** 1990. *Pedagogical Lexicography*. Tübingen: Niemeier.
- Diab, T.** 1990. The role of dictionaries in ESP, with particular reference to student nurses at the University of Jordan. Dissertation of University of Exeter. *Dissertation Abstracts International A: The Humanities and Social Sciences*, 50.10:3215-A.
- Drysdale, P.D.** 1987. The role of examples in a learners' dictionary. In Cowie, A.P. (ed.), 213-223.
- Ducroquet, L.** 1994. Are bilingual dictionaries useful linguistic tools? *Language Learning Journal*, 9:48-51.

- Fillmore, C.J. 1989. Two dictionaries. *International Journal of Lexicography*, 2.1:57-83.
- Fischer, U. 1994. Learning words from context and dictionaries: an experimental comparison. *Applied Psycholinguistics*, 15.4:551-574.
- Fisher, P.J.L. *et al.* 1990. Examining dictionary instruction in basal readers. Paper presented at the Annual Meeting of the American Educational Research Association (Boston, MA, April 15-21).
- Fodor, J.A. 1983. *The Modularity of Mind*. Cambridge, MA: MIT Press.
- Forgue, G.J. 1979. Neologisms in American English since 1945: indicators of cultural change? In Hartmann R.R.K. (ed.), 127-134.
- Frawley, W. 1988. New forms of specialized dictionaries. *International Journal of Lexicography*, 1.3:189-213.
- Greenbaum, S. 1977. The linguist as experimenter. In Eckman, R. (ed.), *Current Trends in Linguistics*. Washington: Hemisphere Publishing.
- Greenbaum, S., C.F. Meyer, and J. Taylor. 1984. The image of the dictionary for American college students. *Dictionaries: Journal of the Dictionary Society of North America*, 6:31-52.
- Griffin, P.J. 1985. Dictionaries in the ESL classroom. MA Thesis, Carbondale IL: Southern Illinois University.
- Harrell, R.S. 1962. Some notes on bilingual lexicography. In Householder, F.W. and S. Saporta (eds.), 51-61.
- Hartmann, R.R.K. (ed.), 1979. *Dictionaries and Their Users: Proceedings of the 1978 BAAL Seminar on Lexicography*. Exeter Linguistic Studies, 4. Exeter: University of Exeter Press.
- Hartmann, R.R.K. 1983. The bilingual learners' dictionary and its use. *Multilingualia*, 2.4:195-201.
- Hartmann, R.R.K. (ed.), 1984. *LEXter '83 Proceedings: Papers from the International Conference on Lexicography at Exeter, 9-12 September 1983*. Lexicographica Series Maior 1. Tübingen: Niemeyer.
- Hartmann, R.R.K. 1987. Four perspectives on dictionary use: a critical review of research methods. In Cowie, A.P. (ed.), 246-256.
- Hartmann, R.R.K. 1989. Sociology of the dictionary user: hypotheses and empirical studies. In Hausmann, F.J., O. Reichmann, H.E. Wiegand and L. Zgusta (eds.), *Wörterbücher/Dictionaries/Dictionnaires*. Berlin/ New York: Walter de Gruyter. 102-110
- Hartmann, R.R.K. 1989. The dictionary as an aid to foreign-language teaching. In Hausmann, F.J *et al.* (eds.), *Wörterbücher/Dictionaries/Dictionnaires*. Berlin/ New York: Walter de Gruyter. 181-188.
- Hartmann, R.R.K. 1995. Pedagogical lexicography: some desiderata. In Dirven, R. and J. Vanparys (eds.), *Current Approaches to the Lexicon*. Frankfurt am Main: Peter Lang. 405-411.

- Hatherall, G.** 1984. Studying dictionary use: some findings and proposals. In Hartmann, R.K.K. (ed.), 183-189.
- Hausemann, F.J.** 1986. The training and professional development of lexicographers in Germany. In Ilson R.F. (ed.), 101-110.
- Hausemann, F.J. and A. Gorbahn.** 1989. COBUILD and LDOCE2: a comparative review. *International Journal of Lexicography*, 12.1:44-56.
- Herbst, T. and G. Stein.** 1987. Dictionary-using skills: a plea for a new orientation in language teaching. In Cowie, A.P. (ed.), 115-127.
- Horimizu, S.** 1994. Tasks in vocabulary learning: searching, selecting or both? Unpublished BEd thesis, Tokyo Gakugei University.
- Householder, F.W. and S. Saporta.** (eds.), 1962. *Problems in Lexicography*. Bloomington, Indiana: Indiana University Press.
- Huang, G.** 1985. The productive use of EFL dictionaries. *RELJ Journal* (Singapore: SEAMEO). 16:54-74.
- Hughey, J.B. and D.R. Wormuth.** 1983. Freeing the language learner: the how and why of a more powerful vocabulary. Paper presented at the 17th Annual TESOL Convention (Toronto, Ontario, March 15-20).
- Hulstijn, J.H.** 1993. When do foreign-language readers look up the meaning of unfamiliar words? the influence of task and learner variables. *Modern Language Journal*, 77:139-147.
- Hulstijn, J.H., M. Hollander, and T. Greidanus.** 1996. Incidental vocabulary learning by advanced foreign-language students: the influence of marginal glosses, dictionary use, and reoccurrence of unfamiliar words. *Modern Language Journal*, 80.3:327-339.
- Ilson, R.F.** 1984. The communicative significance of some lexicographic conventions. In Hartmann R.R.K. (ed.), 80-86.
- Ilson, R.F. (ed.),** 1985. *Dictionaries, Lexicography and Language Learning*. English Language Teaching Documents, 120. Oxford: Pergamon Press.
- Ilson, R.F. (ed.),** 1986. *Lexicography: An Emerging International Profession*. Manchester: Manchester University Press.
- Ilson, R.F.-**1987. Illustrations in dictionaries. In Cowie, A.P. (ed.), 193-212.
- Iqbal, Z.** 1987. Aspects of the learner's dictionary with special reference to advanced Pakistani learners of English. PhD Dissertation, University of Aston at Birmingham.
- Iris, M.A., B.E. Litowitz, and M.W. Evens.** 1988. Moving towards literacy by making definitions. *International Journal of Lexicography*. 1.3:238-252.
- Jackson, H.** 1975. What's in a bilingual dictionary? *Modern Languages*. 56.2:85-89.
- Jackson, H.** 1988. *Words and their Meaning*. London: Longman.

- Jacobs, G.M. 1989. Dictionaries can help writing – if students know how to use them. Unpublished Research Report [Eric Document No. ED316025].
- Jansen, J., J.P. Mergeai, and J. Vanadroye. 1987. Controlling LDOCE's controlled vocabulary. In Cowie, A.P. (ed.), 78-94.
- Kennedy, L.D. 1972. The teaching of dictionary skills in the upper grades. *Elementary English*, 49.1:71-3.
- Kernerman, L. 1996. English learners' dictionaries: how much do we know about their use? In Gellerstam, M. *et al.* (eds.), *EURALEX'96 Proceedings*. Göteborg: Department of Swedish, Göteborg University.
- Kharma, N.N. 1985. Wanted: a brand-new type of learners' dictionary. *Multilingual*, 4:85-90.
- Kipfer, B. A. 1984. *Workbook on Lexicography: A Course for Dictionary Users*. Exeter: University of Exeter.
- Kipfer, B. A. 1987. Dictionaries and the intermediate student: communicative needs and the development of user reference skills. In Cowie, A.P. (ed.), 44-54.
- Kirkpatrick, B. 1985. A lexicographical dilemma: monolingual dictionaries for the native speaker and for the learner. In Ilson (ed.), 7-13.
- Lamb, A. 1991. Dictionary skills go high tech: using *Webster's Dictionary* on CD-ROM. *School Library Media Activities Monthly*, 7.5:40-42.
- Lantolf, J.P. *et al.* 1985. Strategies for accessing bilingual dictionaries: a question of regulation. *Hispania*, 68.4:858-64.
- Laufer, B. 1992. Corpus-based as against lexicographer examples in comprehension and production of new words. In Tommola, H. *et al.* (eds.), *EURALEX'92 Proceedings*. Tampere: Department of Translation Studies, University of Tampere. 71-76.
- Laufer, B. 1993. The effect of definitions and examples on the use and comprehension of new words. *Cahiers de Lexicologie*, 63.2:131-142.
- Laufer, B. and L. Melamed. 1994. Monolingual, bilingual and 'bilingualized' dictionaries: which are more effective, for what and for whom? In Martin, W. *et al.* (eds.), *EURALEX'94 Proceedings*. Amsterdam: Vrije Universiteit. 565-576.
- Lee, T.H. 1993. Information on quantifiers and argument structure in English learner's dictionaries. *CUHK Papers in Linguistics*, 4:25-44.
- Lupescu, S. and R.R. Day. 1993. Reading, dictionaries, and vocabulary learning. *Language Learning*, 43.2:263-287.
- MacFarquhar, P.D. and J.C. Richards. 1983. On dictionaries and definitions. *RELJ Journal* (Singapore: SEAMEO), 14.1:111-24.
- MacGregor, S.K. and L.B. Thomas. 1988. A computer-mediated text system to develop communication skills for hearing-impaired students. *American Annals of the Deaf*, 133.4:11-124.

- Maingay, S. and M. Rundell.** 1987. Anticipating learner's errors – implications for dictionary writers. In Cowie, A.P. (ed.), 128-135.
- Malone, K.** 1962. Structural linguistics and bilingual dictionaries. In Householder, F.W. and S. Saporta (eds.), 111-118.
- Manes, J.** 1980. Ways of defining: folk definitions and the study of semantics. *Forum Linguisticum*, 5.2:122-38.
- Markowitz, J. and S.K. Franz.** 1988. The development of defining style. *International Journal of Lexicography*, 1.3:253-67.
- Marrello, C.** 1987. Examples in contemporary Italian bilingual dictionaries. In Cowie, A.P. (ed.), 224-237.
- Mathiot, M.** 1979. Folk definitions as a tool for the analysis of lexical meaning. In Mathiot, M. (ed.), *Ethnolinguistics: Baos, Spair and Whorf Revisited*. The Hague: Mouton. 121-260.
- McCawley, J.D.** 1989. Making life easier for users of Chinese-English dictionaries. *Journal of the Chinese Language Teachers Association*, 24.1:105-109.
- Meara, P. and F. English.** 1988. *Lexical Errors and Learners' Dictionaries*. University College Swansea: Centre for Applied Language Studies Group.
- Miller, G.A. and P.M. Gildea.** 1985. How to misread a dictionary. *Proceedings of Coling*, 84, 462.
- Mitchell, E.** 1983. *Search-do Reading: Difficulties in Using a Dictionary*. Aberdeen: College of Education.
- Moldenhauer, J.** 1980. Developing dictionary skills. *Area Education Agency 7*, Cedar Falls, IA.
- Moon, R.** 1987. Monosemous words and the dictionary. In Cowie, A.P. (ed.), 173-182.
- Moskowitz, G.** 1967. The Flint system: an observational tool for the foreign language classroom. In Simon A. and E.G. Boyer (eds.), *Mirrors for Behavior: An Anthology of Classroom Observation Instruments*, Section 15. Philadelphia: Center for the Study of Teaching at Temple University. 1-15.
- Mower, M.L. and B. LeRoy.** 1968. Which are the most important dictionary skills? *Elementary English*, 45.4:468-471.
- Myers, M.J.** 1994. Various perspectives on educational linguistics gleaned from a collaborative project on the use of dictionaries. *Language Awareness*, 3.3-4:193-200.
- Nencioni, G.** 1989. The dictionary as an aid in Belles Lettres. In Hausemann, F.J., O. Reichmann, H.E. Wiegand and L. Zgusta (eds.), *Wörterbücher/Dictionaries/Dictionnaires*. Berlin/ New York: Walter de Gruyter. 146-151.

- Nesi, H. 1984. Dealing with lexical errors. MSc Dissertation, University of Aston at Birmingham.
- Nesi, H. 1987. Do dictionaries help students write? In *Written Language: British Studies in Applied Linguistics 2*. Papers from the Annual Meeting of the British Association for Applied Linguistics (Reading, England, September 1986).
- Nesi, H. 1988. Which dictionary? a review of the leading learners' dictionaries. Paper presented at the 22nd Annual Meeting of the International Association of Teachers of English as a Foreign Language (Edinburgh, Scotland, April 11-14).
- Nesi, H. 1994. The effect of language background and culture on productive language use. In Martin, W. *et al.* (eds.), *EURALEX'94 Proceedings*. Amsterdam: Vrije Universiteit. 577-585.
- Nesi, H. and P. Meara. 1991. How using dictionaries affects performance in multiple-choice EFL tests. *Reading in a Foreign Language*, 8.1:631-643.
- Nesi, H. and P. Meara. 1994. Patterns of misinterpretation in the productive use of EFL dictionary definitions. *System*, 22.1:1-15.
- Neubach, A. and A.D. Cohen. 1988. Processing strategies and problems encountered in the use of dictionaries. *Dictionaries*, 10:1-19.
- Nuccorini, S. 1992. Monitoring dictionary use. In Tommola, H. *et al.* (eds.), *EURALEX'92 Proceedings*. Tampere: Department of Translation Studies, University of Tampere. 89-102.
- Nuccorini, S. 1994. On dictionary misuse. In Martin, W. *et al.* (eds.), *EURALEX'94 Proceedings*. Amsterdam: Vrije Universiteit. 586-597.
- O'Rourke, J.P. 1974. *Towards a Science of Vocabulary Development*. The Hague: Mouton.
- Opitz, K. 1979. Technical dictionaries: testing the requirements of the professional user. In Hartmann R.R.K. (ed.), 89-95.
- Osman, N. 1965. *Word Function and Dictionary Use: A Work-Book for Advanced Learners of English*. Oxford: Oxford University Press.
- Ostyn, P. and P. Godin. 1985. RALEX: an alternative approach to language teaching. *Modern Language Journal*, 69.4:346-55.
- Piotrowski, T. 1987. Indication of English pronunciation in bilingual dictionaries. *Applied Linguistics*, 8.1:39-47.
- Quirk, R. 1973. The social impact of dictionaries in the U.K. In McDavid, R.I. and A.R. Duckert, (eds.), *Lexicography in English*. Annals of the New York Academy of Sciences. New York: New York Academy of Sciences. 211:76-88.
- Quirk, R. 1974. The image of the dictionary. In Quirk, R. (ed.), *The Linguist and the English Language*. London: Edward Arnold.

- Reif, J.A. 1987. The development of a dictionary concept: an English learners' dictionary and an exotic alphabet. In Cowie, A.P. (ed.), 146-158.
- Roby, W.B. 1993. Glosses and dictionaries in paper and computer formats as adjunct aids to the reading of Spanish texts by university students. Dissertation of University of Kansas. *Dissertation Abstracts International A: The Humanities and Social Sciences*, 53.9:3182-A.
- Rossner, R. 1985. The learner as lexicographer: using dictionaries in second language learning. In Ilson R.F. (ed.), 95-102.
- Rowley, J.G. 1991. *Improving Below Grade Level Vocabulary Skills of Second Grade Students*. M.S. Practicum, Nova University.
- Rundell, M. 1988. Changing the rules: why the monolingual learner's dictionary should move away from the native speaker tradition. In Snell-Hornby, M. (ed.), *ZuriLEX'86 Proceedings*. Zurich: A. Francke. 127-137.
- Sager, J.C. 1989. The dictionary as an aid in terminology. In Hausemann, F.J., O. Reichmann, H.E. Wiegand and L. Zgusta (eds.), *Wörterbücher/ Dictionaries/Dictionnaires*. Berlin/ New York: Walter de Gruyter. 167-170.
- Schelbert, J. 1988. Dictionaries – too many words? In Snell-Hornby, M. (ed.), *ZuriLEX'86 Proceedings*. Zurich: A. Francke.
- Schofield, P.J. 1982. Using the English dictionary for comprehension. *TESOL Quaterly*, 16.2:185-94.
- Shaw, A.M. 1983. What dictionary to use? a closer look at the *Oxford Advanced Learner's Dictionary*, the *Longman Dictionary of Contemporary English*, and the *Longman Lexicon of Contemporary English*. *TESOL Journal*, 7.2:36-55.
- Snell-Hornby, M. 1987. Towards a learner's bilingual dictionary. In Cowie, A.P. (ed.), 159-170.
- Stark, M.P. 1990. *Dictionary Workbook*. Exeter: University of Exeter Press.
- Steiner, R.J. 1975. Monodirectional bilingual dictionaries. *Babel International Journal of Translation*, 21.3:123-124.
- Summers, D. 1988. The role of dictionaries in language learning. In Carter, R. and M. McCarthy (eds.), *Vocabulary and Language Learning*. London: Longman. 111-125.
- Swandon, D.C. 1960. Some recommendations on the selection of entries for a bilingual dictionary. Unpublished Research Report [Eric Document No. ED003908].
- Taylor, A. and A. Chan. 1994. Pocket electronic dictionaries and their use. In Martin, W. et al. (eds.), *EURALEX'94 Proceedings*. Amsterdam: Vrije Universiteit. 598-606.
- Thompson, G. 1987. Using bilingual dictionaries. *ELT Journal*, 41.4:282-286.

- Thomson, L.M. 1989. Mythomanics: a painless dictionary and vocabulary skills builder. *Exercise Exchange*, 34.2:36-38.
- Tickoo, M.L. (ed.), 1989. *Learners' Dictionaries: State of the Art*. Anthology Series 23. Southeast Asian Ministers of Education Organization (SEAMEO). Singapore: Regional Language Centre (RELC).
- Tomaszczyk, J. 1979. Dictionaries: users and uses. *Glottodidactica*, 12:103-119.
- Tomaszczyk, J. 1987. FL learners' communication failure: implications for pedagogical lexicography. In Cowie, A.P. (ed.), 136-145.
- Tono, Y. 1984. On the dictionary user's reference skills. BEd thesis, Tokyo Gakugei University.
- Tono, Y. 1987. Which word do you look up? a study of dictionary reference skills. MEd thesis, Tokyo Gakugei University.
- Tono, Y. 1988a. Exploring the cognitive strategies of dictionary use: a study of EFL learners' look-up operations. *The Bulletin of the Kanto-kosinetsu English Language Education Society*, 2:67-82.
- Tono, Y. 1988b. Assessment of the EFL learners' dictionary using skills. *JACET Bulletin*, 19:103-126.
- Tono, Y. 1989. Can a dictionary help you read better? on the relationship between EFL learners' dictionaries, reference skills and reading comprehension. In James, G. (ed.), *Lexicographers and their Works*. Exeter Linguistic Studies, 14. Exeter: Exeter University Press. 192-200.
- Tono, Y. 1991. A good dictionary user: what makes the difference? In Ito, K. et al. (eds.), *Recent Studies on English Language Teaching*. Tokyo: Yumi Press. 229-253.
- Tono, Y. 1992. The effect of menus on EFL learners' look-up processes. In *LEXICOS 2* (AFRILEX-REEKS, Series 2). Stellenbosch: Bureau Van die Watt. 229-253.
- Tono, Y. 1996. Using learner corpora for L2 lexicography. In *LEXICOS 6* (AFRILEX Series). Stellenbosch: Bureau Van die Watt. 116-132
- Underhill, A. 1980. *Use Your Dictionary*. Oxford: Oxford University Press.
- Using the Dictionary. A Syllabus for a Ten-Session Library Reference Skills Program, Grades 7 and 8*. 1982. Detroit Public Schools MI, Division of Educational Services
- Vianna, J.M. 1994. Vocabulary teaching: a way to improve learners' fluency. Paper presented at the 28th Annual TESOL Meeting (Baltimore, MD, March 8-12).
- Vocabulary Development in the Content Areas Through Word Recognition Skills*. Individualized Inservice Packet Number V. Teaching Teen Reading Series. 1980. Ohio State Dept. of Education, Columbus.

- Walberg, H.J. and T.S. Ling. 1985. Correlates of reading achievement and attitude: a national assessment study. *Journal of Educational Research*, 78.3:159-167.
- Walz, J. 1990. The dictionary as a secondary source in language learning. *French Review*, 64.1:79-94.
- Wekker, H. 1992. Grammar coding in the *Oxford Advanced Learner's Dictionary of Current English*. *International Journal of Applied Linguistics*, 2.1:51-62.
- Whitcut, J. 1979. *Learning with LDOCE*. London: Longman.
- Whitcut, J. 1984. Sexism in dictionaries. In Hartmann R.R.K. (ed.), 141-144.
- Whitcut, J. 1986. The training of dictionary users. In Ilson R.F. (ed.), 111-121.
- Whitfield, J. 1993. Dictionary skills is not a four-letter word. *English Journal*, 82.8:38-40.
- Wierzbicka, A. 1985. *Lexicography and Conceptual Analysis*. Ann Arbor: Karoma.
- Yokoyama, T. 1994. A study of the EFL learners' dictionary look up strategies: a case of a Japanese-English dictionary. Unpublished BEd thesis. Tokyo Gakugei University.
- Zgusta, L. 1975. Linguistics and bilingual dictionaries. *Studies in Language Learning*, 1.1.
- Zgusta, L. 1986. Summation. In Ilson R.F. (ed.), 138-146.
- Zgusta, L. 1988. Pragmatics, lexicography and dictionaries of English. *World Englishes*, 7.3:243-253.