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English learners' dictionaries on CD-ROM as reference and language learning tools

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Abstract

This paper discusses the findings of two empirical studies which investigated how students of English used two English learners' dictionaries on CD-ROM. The outcome of these studies will indicate in what way such dictionaries can serve as reference and language learning tools. It is argued that an English learner's dictionary on CD-ROM could be much more than an 'ordinary' reference work because it includes facilities that are not available in book form, such as audio and visual elements, exercises and games. The studies suggest, however, that a number of changes in content and design will have to be made in order to make such dictionaries more effective and beneficial to their users. Learners, on the other hand, may need to acquire special skills in order to benefit from all the information an English learner's dictionary on CD-ROM contains.

1 Introduction

1.1 The learners' dictionary

The title 'Dictionary', representing the most common type of reference work, is used for an increasingly wider range of alphabetic and thematic, general and specialised, mono- and bilingual, polyglot and historical reference works (Hartmann & James, 1998). To this list the pedagogical dictionary can be added, which – in the context of English as a foreign language (EFL) – goes back to the 1930s when A. S. Hornby's *Idiomatic and Syntactic English Dictionary* was published, which was to become the well-known *Oxford Advanced Learner's Dictionary*. This pioneering work was the first attempt to merge two distinct disciplines, lexicography and pedagogy, in order to produce a dictionary that was not intended for the native speaker but for the learner of English. Such a pedagogic dictionary can therefore be described as being "specifically designed for the practical didactic needs of teachers and learners of a language" (Hartmann and James, 1998:107). If such a reference work is aimed primarily at non-native learners of a language, it is commonly referred to as a 'learner's dictionary' (*op.cit.*:82). Originally, this particular type of dictionary was meant to be synchronic and monolingual, as well as

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contemporary and non-etymological (Herbst & Popp, 1999). Recent developments in the field of learners' dictionaries, however, favour the integration of their own native language, a feature which has a fairly long history for languages such as Chinese and Hebrew. Bilingualised dictionaries, which are based on a monolingual dictionary but include the translation of entries into another language, seem to be able to meet the demands and needs of the foreign learner much better than dictionaries which are written in the foreign language only. With respect to learners' general preference of bilingual to monolingual dictionaries, such hybrid forms may become more dominant.

For most of the recent century, English was the only language for which pedagogic dictionaries were compiled and it is only recently that learners' dictionaries have been developed for other languages as well. Driven by the competition between the main EFL publishers, considerable investments have resulted in major innovations over the years. The high standard of the latest editions of English learners' dictionaries has been achieved through significant changes in the content and presentation of information in such reference works. Advances in computational and pedagogic lexicography have contributed to this development: language can now be described in ways much closer to how it is actually used and it can be presented by taking into account what is known about users' reference needs and reference skills (Rundell, 1998). Greater attention is also being paid to the productive needs of non-native speakers. The publication of the Longman Language Activator in 1993, which claims to be "the world's first production dictionary", clearly indicates that the encoding function is becoming more prevalent.

Current learners' dictionaries of English are praised for the wealth of information they contain and for the improvements that have been made under the term of 'user-friendliness', tailoring content and presentation much more closely to the needs of their users. However, existing printed dictionaries suffer from problems of information overload: too many different types of information in the same entry can distract readers from the information quest in hand.

Yet at the same time, learners' dictionaries do not offer all the information that a learner may ideally want to find. Present shortcomings are, however, unavoidable due to practical considerations such as dictionary price and size. Including further details that may be beneficial to learners, such as more illustrations, more lexical information (collocations and synonyms), more technical terms and further examples of regional usage would "burst the covers" (Bolinger, 1990). Moreover, the current paper-based learners' dictionaries are already considered to be 'too fat'. It would be difficult, Bolinger (1990:144) argues, for learners' dictionaries to include more information whilst remaining portable. Nesi (1996) puts a similar argument forward and claims that electronic dictionaries may – once they have been more fully developed – present a solution to the problems mentioned above, as they have much more storage space and could therefore provide access to large amounts of data; they are quick and easy to use and interactive.

1.2 English learners' dictionaries on CD-ROM

Dictionaries in computerised form are one of the latest developments in the field of lexicography. They offer many of the advantages of modern technology, contain much more information than the printed versions on which they are based, can make use of multimedia, such as sound and animation, and perform complex searches much faster than we

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can turn pages. Nesi (1996:537) lists four broad areas where electronic dictionaries are superior to their paper versions:

- they can cross-reference within and between sources published separately in book form
- they can provide direct links to other computer applications
- they can enable 'fuzzy' and complex searches
- they can interact with users to develop vocabulary and dictionary skills.

However, none of the electronic dictionaries available at present is 'ideal' in design and presentation of information. This is also true for the dictionaries on CD-ROM, whose integrated are not always compatible and exploit neither the storage capacity of the CD-ROM nor multimedia. Their games and exercises also seem to lack pedagogical reasoning.

The major disadvantage of dictionaries on CD-ROM is, however, their site-dependency. A dictionary that can only be accessed via a desk-top computer is not really suitable for receptive purposes such as reading print and listening to lectures. Nevertheless, such a dictionary may be convenient for the learner who wants to look up words while writing a text with a word-processor. However, CD-ROMs and CD-ROM drives are still fairly expensive and relatively fragile, which is something that not only the individual learner but also teachers and language teaching institutions will need to consider when purchasing a dictionary on CD-ROM (Nesi, 1996).

At present, the best electronic dictionaries for learners seem to be those that are published on CD-ROM and these are the ones used in my research. In the future two alternatives, namely hand-held devices and dictionaries online, will become more dominant due to the advantages that they can offer, such as portability, a huge amount of memory, and a better retrieval system as well as links to other computer-based applications. Currently, all three types of electronic dictionaries are experiencing a number of teething problems and issues such as market forces and copyright laws have to be dealt with too (Nesi, 1996). However, once these electronic dictionaries have been more fully developed and their full potential realised, they will become increasingly popular and represent an invaluable lexical reference tool.

1.3 Dictionary research

Pedagogical lexicography and issues of dictionary use have been the focus of attention in a number of publications dealing with dictionaries in the last few decades (for an annotated bibliography of past and current work in this field, see Dolezal & McCreary, 1999).

Since the 1980s a new field of dictionary research has developed which, in contrast to many previous studies, has not focused on the linguistic content and structure of dictionaries but on their users (Atkins, 1998; Cowie, 1999; Hartmann, 1999). In the last few years, several user-centred dictionary studies have been carried out, especially in the field of learners' dictionaries. A number of these studies highlighted faults in design as well as particular problems for users, who were unable to fully use all the information provided in reference works because they lacked dictionary-using skills due to inadequate or insufficient training (Berwick & Horsfall, 1996; Wright, 1998; Nesi, 1999c, 2000).

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But how can dictionaries be made into better reference books and what can be done to improve learners' dictionary skills? Further research into the users and uses of learners' dictionaries seems to be necessary and, in particular, more empirical studies need to be conducted to understand better what happens when dictionaries are consulted (Hartmann, 1999; Rundell, 1999; Scholfield, 1999). Atkins (1998: 5) underlines the importance of this in the foreword to her collection of some of the recent empirical studies on dictionary use:

> Dictionary consultation is highly complex: many more … experiments are needed before lexicographers have enough information to allow them to make reasoned changes in dictionary design and before those teaching dictionary skills know enough about their students' attitudes and habits to guide them through the decision-making steps of the dictionary look-up.

As for electronic dictionaries, even more research remains to be done. With more and more dictionaries available on one or more electronic platforms – hand-held, on-line or CD-ROM – it seems that the focus of dictionary research may shift to computerised dictionaries in the coming years. An indication of this is the number of papers referring to Internet lexicography, electronic dictionaries in second language comprehension, and bilingual and monolingual dictionaries on CD-ROM at The Ninth Euralex International Congress in 2000 in Stuttgart, see `http://www.ims.uni-stuttgart.de/euralex/conferences/elx2000/abstracts`.

The studies which are reported in this paper were designed to provide more insight into English learners' dictionaries on CD-ROM and the way they are used by learners of English.

2 Context

2.1 Two studies

The first and smaller study was carried out at the end of 1999; the second, larger study was conducted in the following year. Both studies focused on dictionary look-ups but three different tasks were employed in order to gain more insight into the actual look-up process.

The first study was exploratory and involved looking up specific words, interpreting entries and studying various parts of an English learners' dictionary on CD-ROM, such as the pictures, exercises or games sections. The second study consisted of two more 'typical' language learning tasks, vocabulary work and writing, which learners of a foreign language regularly engage in.

2.2 Participants

All participants were taking English language classes at English teaching units of various universities in Britain. Their level of English had been classified as intermediate or upper-intermediate by their language tutors. In total, one hundred students were observed. The exploratory study and the writing task both involved twenty-five

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students, the vocabulary task was carried out by fifty students (students worked in pairs).

Students taking part in the elicitation were of various nationalities: more than half of them were from Asian countries (Chinese, Japanese, Omani, Taiwanese, Thai or Korean); the rest were European (Belgian, French, German, Greek, Hungarian, Italian, Slovakian, Swiss and Spanish) with three students from South America (Argentinian, Brazilian) and two from Africa (Ethiopian). About 60% of the students were female.

2.3 Dictionaries used

The two English learners' dictionaries on CD-ROM that are referred to in these studies are the *Oxford Interactive Wordpower Dictionary* (OIWPD, 1998) and the *Oxford Advanced Learner's Dictionary on CD-ROM* (OALD, 1997).[1] These dictionaries had been chosen for user-friendliness, availability and suitability with regard to tasks and participants.

Both dictionaries on CD-ROM are derived from their paper-based counterpart but include further information, such as pictures and videoclips, a pronunciation and recording facility, vocabulary exercises and games.[2] Their facilities also allow searches impossible with a book dictionary, e.g. with Wildcards (to represent one or more letters) and Boolean operators (to combine search terms). Users can also specify their look-ups in many different ways and, for example, restrict their searches to specific phrases, such as phrasal verbs or idioms with particular words. Similarly, one can choose to focus on register and study varieties of English or look at specific subject areas.

The *Oxford Interactive Wordpower Dictionary*, which is aimed at intermediate level English language learners, was used for two of the three tasks in the empirical studies: the look-up and the vocabulary task. The *Oxford Advanced Learner's Dictionary on CD-ROM* was used for the writing task and with upper-intermediate students.

2.4 Tasks

In the exploratory study, students were asked to look up specific words, interpret relevant entries and find specific information under chosen headwords, such as irregular forms, idiomatic phrases, phrasal verbs or collocations.[3] Apart from searching in the A-Z list (the dictionary part of the CD-ROM), students had to explore other sections included in OIWPD as well: they had to evaluate a picture, work through a short vocabulary exercise and try out the games. The second study focused on using a CD-ROM dictionary for (a) vocabulary work and (b) writing.

For vocabulary, pairs of students worked through three exercises randomly selected from a subset of those in OIWPD. The subset had been chosen for length and content

[1]The new version (2000 edition) of the OALD could not be used as it was not yet out at the time of the elicitation.

[2]There are no videoclips and vocabulary exercises available in the 1997 edition of OALD. These have, however, been included in the 2000 edition.

[3]Technical terms, such as idioms or phrasal verbs either were avoided in the instructions or they were explained.

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from each of the dictionary's eight sections: 'Topic Vocabulary', 'Idioms', 'Phrasal Verbs', 'Formal Language', 'Informal Language', 'American English', 'Language in Use', 'Words that go together'. Though exercises were varied to gain information on different look-ups, at least two pairs of students did each exercise. To complete the task, students were expected to look up certain words or phrases and records of their activity were kept. Record sheets showed which lexical item students had chosen to look up, whether and where they had found useful information in the dictionary, and what the outcome of students' searches in relation to the exercise had been.

Writing focused on searches in the *Oxford Advanced Learner's Dictionary on CD-ROM* while a short text was composed on screen. This involved switching between the students' document and the dictionary on CD-ROM and carrying out various searches, in the A–Z list or elsewhere in the dictionary. The students were able to select a topic from a fairly general list of titles, such as 'Environment', 'Tourism', or 'Traditional or alternative medicine'; they were also free to choose a title for the text they wished to compose themselves. Allowing students to write about what they wanted would enable them to produce a written text without much preparation and within a short period of time.

Apart from the vocabulary task, which was performed in pairs, the students had to work on their own. Each task took half an hour to complete.

3 The studies

3.1 Aims

There were four main aims in conducting my studies. Firstly, findings could be used to design both better English learners' dictionaries on CD-ROM and improved reference and language learning tools. Secondly, the studies would shed light on some of the characteristics of the user of an English learners' dictionary on CD-ROM, such as his/her dictionary skills and look-up strategies, and thus provide information for the teaching of dictionary skills. Thirdly, the motivational power of such inventions would be examined, and finally the potential uses of such tools would be explored and specified.

3.2 Methodology

Data were collected in three different ways:

- a questionnaire
- a dictionary task where students were asked to think aloud (their utterances were recorded and notes were taken by the researcher regarding students' look-ups)
- a short post-task interview.

3.2.1 The questionnaire

The questionnaire, administered beforehand, collected personal details on each informant, such as nationality, gender, number of years spent studying English and reasons for the specific course he/she was doing. Secondly, it gathered general information on students' use of and attitude towards paper- and computer-based English dictionaries,

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whether these were monolingual, bilingual or specialised, and why they were using them. The questionnaire also investigated frequency of consultation, dictionary training and experience, and efficiency in using printed and electronic dictionaries.

All subjects completed the questionnaire, but those doing the vocabulary task answered an additional five questions, on how they learned new words and how long they spent on revising vocabulary.

3.2.2 The dictionary tour

Before working on the tasks, students were given a dictionary tour of about twenty to thirty minutes. It demonstrated the main facilities of the dictionary on CD-ROM, pointing out the various sections of the dictionary as well as the specific search facilities and features. These were further illustrated by carefully chosen look-ups. To avoid information overload, participants were not shown everything the dictionary had to offer.

3.2.3 The tasks

The tasks had two main purposes: firstly, to evaluate the effectiveness of the sample dictionaries on CD-ROM as reference/language learning tools, and secondly, to reveal English-learners' skills in using such dictionaries.

The researcher was present while the tasks were carried out, offering help when this was needed, and noting all the words students looked up. Record sheets stored information on reasons for students' searches and how successful the look-ups had been, indicating actions following failed searches, details of where students had found information in the respective entries, and any further comments on the look-up processes. Students were also encouraged to think aloud while carrying out their tasks and their utterances were audio-recorded.

3.2.4 The interviews

In the short interview after the task, students were asked to give feedback on the CD-ROM dictionary they had just worked with. They had to comment on certain features and talk about their experience when using the electronic dictionary: how difficult/easy was it to use, which particular feature(s) students liked or disliked, and why.

4 Findings

In this paper, the outcome of the tasks is our focus. The data gained from the questionnaire and the short interviews will be referred to only briefly, highlighting the most important findings.

The *questionnaire* clearly showed that students preferred bilingual to monolingual dictionaries and in many cases owned only a bilingual dictionary. This can partly be explained by the participants' level of English: intermediate students still depend a great deal on translation. The questionnaire also revealed that almost none of the informants had received any dictionary training, which seemed to explain the number of problems students encountered when searching for information. Moreover, hardly any of the sub-

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jects had used an English learners' dictionary on CD-ROM before, thus confirming the relevance of the dictionary tour that had been planned into the induction.

The *interviews* clarified which particular features of the dictionary on CD-ROM students found most attractive and enjoyable. Among these were the pronunciation facility, the exploratory mode of the pictures, and the games. Nearly all the students carrying out the writing task said that it was very easy and convenient to look up words in the CD-ROM dictionary when composing a text on the computer. Surprisingly though, four participants claimed that they would never use a dictionary for writing.

According to a third of the subjects, particular features such as more grammatical and cultural information, a thesaurus and more specialised vocabulary should be included in an English learners' dictionary on CD-ROM. All this would fit into the large amount of storage that is available on a CD-ROM in contrast to a book dictionary.[4]

4.1 The data from the tasks

The studies reported here revealed how the sample dictionaries on CD-ROM support users in their reference needs and language learning needs.

4.1.1 Reference

As all English learners' dictionaries on CD-ROM are based on their printed counterparts, it might be assumed that the computerised versions would fulfil the main (reference) function of a dictionary (Hartmann and James, 1998), in a way similar to a book dictionary. However, the CD-ROM dictionaries demonstrably offered a number of advantages as well as disadvantages in comparison with the latter.

First of all, finding the word that the user wants to look up is easier and quicker: typing in the first few letters in an Entry box on screen will take him/her to the respective part of the dictionary from where the required lexical item can be selected. About three quarters of the students commented on how convenient this facility was as it saved time on typing. It helped them with spelling problems too, as it was not necessary, in most cases, to know how the whole word had to be spelt, though they had to know the beginning to trace it. Students, for example, only had to type *end* if they wanted to look up *endeavour*, a difficult word to spell.

The additional Spellchecker facility of OIWPD helped many subjects disentangle the irregularities of English orthography. In many cases, where students had made a spelling mistake, the CD-ROM dictionary provided alternative suggestions. However, sometimes students got the spelling completely wrong, in which case either no alternative suggestions or irrelevant ones were offered. For instance, one student who wanted to use the word *campaign* wrote *compain* instead. As the 1997 edition of OALD does not include a Spellchecker, she tried to find out via WORD, which offers a similar facility, what was wrong with her spelling. However, the alternative suggestions she was offered were *Compton* and *complain*, which did not make any sense at all in the context of the student's text. If she had used OIWPD or the new version of OALD – both include a

[4]McArthur (1998:158) points out the great potential of 'thematic lexicography' in the electronic era, which could be combined with the currently more powerful alphabetic tradition.

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Spellchecker – she would not have received much help either: complain would have been offered again as the correct spelling.

Those students who had to deal with phrasal verbs and idioms also appreciated the fact that they were able to go directly to the respective sections in the Contents area after entering the basic forms, such as *write* or *hand.* As each individual phrase in the lists is marked, the user can choose to have the definitions displayed or hidden when trying to identify the required item.

Speed, ease and convenience of searches can, however, also be seen in a disadvantageous light. The evidence showed that a fifth of the students seemed to forget information as quickly as they found it since they experienced the same problems on a second search even if they had checked a word's spelling or meaning only a short time before. Learners seemed unable to retain information, retrieved so easily and effortlessly from the CD-ROM dictionary. Sharpe (1995) expressed similar concerns in his study of handheld electronic dictionaries used by Japanese learners and felt that the very speed and convenience of access could be a major drawback of electronic dictionaries.

On the other hand, my studies confirmed research findings of Guillot and Kenning (1994), with students of French using *Robert Electronique*. The electronic medium seemed to be much more motivating and exciting to learners and thus encouraged them to browse and look up words. In my studies, students frequently used hyperlinks, which make cross-referencing very easy: both OIWPD and OALD allow users to double click on any word in an entry to find the matching entry displayed in its own dialog.

The students undertaking the writing task tried out the Advanced search facility offered by OALD, using Wildcards, Boolean operators and filters. However, although such searches were regarded as being an advantage in comparison to look-ups that are possible with a book dictionary, the participants felt that the outcome was not always helpful for their text. One student, for example, carried out a Full Text Search, consulting all the contents of the CD-ROM dictionary, as she wished to find out more about her topic, 'Environment'. This resulted in a long list of headwords which all included *environment* in their entries. Yet, after having looked at the first few words in the list, the student decided not to use any of these as the list included a number of unfamiliar lexical items which would not have been much use to her anyway, since there was no indication in the list to say whether the word included referred to the physical conditions somebody or something lives in or to the natural world in which people, animals and plants live. Had the student chosen *the environment* as her search term, the search results list would have been shorter, offering forty-six instead of fifty-eight items but still including words that refer to the social environment, such as *milieu*, *maladjusted* and *heredity*. Yet, *pollution* is not part of this list. As the advanced search facility focuses on (lexical) word forms rather than on (semantic) meaning, the entry has to include the search term in order to be part of the search results list. Therefore, even narrowing down a search by using Boolean operators, thus combining search terms, is often unsuccessful. Students who combined *genetic* & *ethics* or *dirty* & *air*, were informed on screen that there were "No search hits". Yet, combined searches could be very useful, provided the 'right' search terms are used. Two students who needed the words *terminate* and *jingle* for their texts could have found these through an advanced search by combining *illness* and *death* and *television* and *song*. However, they believed that a monolingual dictionary would not be able to help them with finding words they did not

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know and therefore could not look up.

The new, '3-D-search' facility in the 2000 edition of OALD on CD-ROM is aimed at helping users to find related words to the search term, by describing the semantic field and context a particular word can be found in.

Half the students used some of the words that they had found via a Full Text Search in their text but the participants generally felt that there was simply too much information to deal with. They found it frustrating to wade through a long list of entries (e.g. 600 for *music*), which were often not relevant to their search. In other cases, students found very little information on their search item (e.g. one item for the filtered search 'Subject area: Education'). Irritating was a Full Text Search on *IT* as the search results list also offered citations of *it* because such searches are not case-sensitive.

Six students searched in vain for synonyms and concluded after such 'failed searches' that the dictionary on CD-ROM was not particularly helpful if more specific information was required.

As for presentation, the CD-ROM dictionary seemed to be more advantageous. The use of different screen colours for particular parts of an entry makes certain details stand out, and helped about half the subjects to find the information they needed more quickly. However, a quarter of the students did not know how to read a dictionary entry at all and clearly lacked dictionary skills. Especially long entries describing common words like *go* or *take* caused problems even for more experienced dictionary users among the participants. A few students were clearly overwhelmed by all the information given in long entries and gave up after reading only the first few lines. In some cases, when students appeared to be lost completely, the observer helped. This seemed to benefit them when they had to check other, also fairly long entries for particular details. It could be concluded therefore that some training in how to use a dictionary effectively might help learners to better handle all the information that is provided in dictionaries.

Half the students also appreciated the fact that there is less information shown on a screen than there would be on a page in a book dictionary.

4.1.2 Language learning

Now let us look at language learning from English learners' dictionaries on CD-ROM. Based on the findings of these two studies, CD-ROM dictionaries can be regarded as supporting 'language building' rather than 'language learning'. The reasons for this claim are as follows: the *Oxford dictionaries on CD-ROM* offer a great learning opportunity via the audio and visual elements that are included. All the students taking part in the studies valued the fact that they could hear how words are pronounced as well as record their own voice. A number of students clicked on the phonetic string so that they could hear how words were pronounced even if that information was not relevant for the task they were carrying out. A few students, however, remarked that they would like to be told by the dictionary whether their pronunciation was wrong and what it was that was not correct about it.[5]

The Pictures seemed to be another fascinating element of the CD-ROM dictionary. The

[5]This is, however, technically not possible yet.

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fact that OIWPD and OALD have 'hot spots', which allow users to get objects in a photo labelled when moving over them with the cursor, appeared to be a very interesting way to see and learn the names of objects in a particular context. Three quarters of the participants who studied one or more pictures said that these would help them to understand and memorise the words they referred to better. The short videoclips, illustrating difficult verbs like *beckon* or *blink*, were also felt to be very useful. However, common verbs like *open* may not need to be part of the twenty videoclips that are available in OIWPD.

The vocabulary exercises included in OIWPD initially appeared to excite the subjects' interest, too. There is a choice among eight sections (see section 2.4), each offering the learner a long list of alphabetically arranged exercises.

One of the problems of OIWPD is that there is no direct link between the exercises and the dictionary part.[6] Therefore, students had to go to the A–Z list of forms if they wanted to look up words. Nearly all the students would have liked to get immediate feedback on whether their answers were right or wrong. OIWPD only allows users to do this once the whole exercise has been completed though. Some exercises also appeared to be too long and difficult (degrees of difficulty are not indicated). More variety in the exercise design would be welcome (there are mainly three types offered in OIWPD: gap-filling, matching exercises, and putting items in categories).

The main problem with the vocabulary exercises is, however, that they do not increase students' vocabulary as claimed. The fact that many definitions or example sentences used in the exercises were identical with the ones given in the A–Z list, was a major disadvantage. Students were not forced to really work with the dictionary and did not study definitions and examples carefully in order to get the answers in the exercises right. All they had to do was to match the identical sentences, which seemed to encourage many learners to finish the exercises as quickly as possible. It was not surprising therefore that half of the students could not remember what particular words they had just looked up meant, even when they had completed the exercise without error. This clearly indicated that students had not paid any attention to the information that they had found in the A–Z list. Thus for many, no learning of new words was taking place, which defeats the purpose these vocabulary exercises are meant to serve, namely supporting users in learning and practising new words.

The Annotation facility, which works like an electronic vocabulary book, was only favoured by students who generally use computers a great deal.

The part which most participants liked best was the Games section of OIWPD and OALD. The four games they could play were Crosswords, Phrase Blaster and Phrase Finder and Memory. Although the games do not really support users in learning new words, the motivating factor of this enjoyable element of the dictionary must not be ignored or underestimated. After all, it is often students' enthusiasm for the English language that makes them want to learn more and thus become better users of it.

4.5 Summary

Dictionaries are usually consulted because lexical information about a particular word or phrase is needed. Students of English using an English learners' dictionary on

[6]This has, however, been remedied in the latest edition of OALD on CD-ROM (2000).

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CD-ROM may decide to use such a dictionary for various reasons: they may want to know how a particular word is spelt or what it means or in which combinations it occurs (see Figure 1).

An English learners' dictionary on CD-ROM would offer a user an A–Z list of words, which is – as far as content is concerned – identical to the information that can be found in the book dictionary on which it is based. However, in presentation the CD-ROM dictionary offers a number of advantages: colours are used, pictures are available, there is less information displayed on screen than there is shown on a printed page, etc. Additional facilities, such as visual (pictures, videoclips) and audio information (pronunciation and recording) are included as well. Students are also supported by a Spellchecker, they can write words into their own electronic vocabulary book (annotations) and carry out various searches (advanced searches) that would not be possible with a dictionary in printed format. They may also choose to work on their vocabulary or play word games.

Yet, in order to make effective use of an English learners' dictionary on CD-ROM, users should know more about the dictionary before starting to use and work with it. Firstly, they have to be familiar with its contents (for example, by being introduced to the dictionary through a tour); secondly, they need to understand how an individual dictionary entry is organised and what information can be found in which part of an

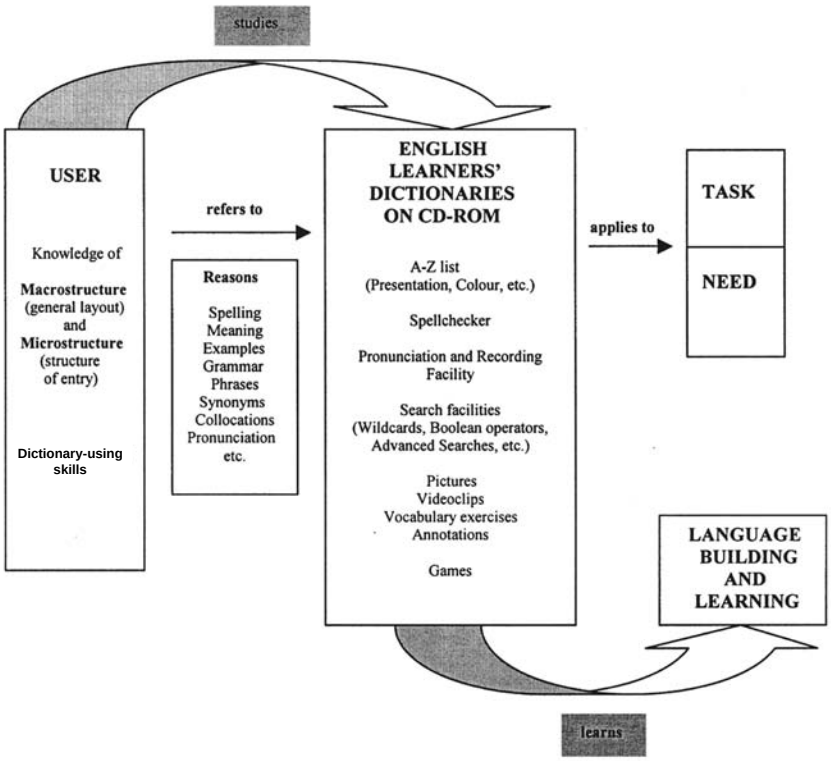


Fig. 1. Referencing and learning.

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entry. Equipped with this knowledge, users should be able to find useful information in the dictionary, provided this is a good resource and students have the necessary skills. It seems, however, that many students lack the skills and are not able, for example, to scan long entries or to extract the information they require. As pointed out in various studies of dictionary use – and one of the conclusions drawn from the research reported in this paper – learners should be supported by some dictionary training and taught how to make effective use of a dictionary.

Learners should, of course, also be able to apply the information they have found in the dictionary in an appropriate way, when using the language for whatever purpose. This requires a very good knowledge of a lexical item, of how it is spelt, what it can mean, how it can be used, and so on. An English learners' dictionary on CD-ROM could support learners in this respect as it provides users with the opportunity to learn more about a word by showing them what it looks like, how it sounds, in what context it can appear, etc. Students are also given the chance to practise what they have learned by working through the vocabulary exercises (which would have to be carefully designed though). All this could help learners to become better users of the language and support them in language learning. If the great potential of an English learners' dictionary on CD-ROM as a learning tool was realised, so that it was consulted not only for lexical information, then – once it has been more fully developed and become more learner-oriented – the electronic dictionary could be much more than a reference tool. An exciting prospect!

5 Conclusion

In conclusion, an English learners' dictionary on CD-ROM, like the two Oxford dictionaries that were studied here and which were taken to represent other similar CD-ROM dictionaries, could be a much better reference and language building tool – and to some extent even language learning tool – than a book dictionary.

However, a number of design and content features in such dictionaries will have to be changed if the aim is to create a tool that would really benefit users.

There is a need for a software solution to student misspellings in cases where the initial letters of an entry word are wrong. Also desirable would be the inclusion of synonyms and collocations as well as semantically related words. Thirdly, there should be a framework for systematic vocabulary expansion and revision as the basis for the exercises.

Finally, without some training in how to make effective use of a CD-ROM dictionary, any user will find it difficult to exploit all the information, the facilities and features such an electronic dictionary could offer.

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