Dictionary Search Preferences by Engineering Students: A Small-Scale Survey

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ABSTRACT

Understanding a student's dictionary search preferences is crucial for us to determine learner language needs. We can restructure our instructional materials and strategies for our learners. This paper reports a small-scale dictionary use survey conducted at BITS Pilani, Pilani campus. 91 engineering students from different disciplinary backgrounds have responded to a questionnaire which included items on aspects the students tend to look up in a dictionary and the purposes that determine their look up practices. The findings clearly indicate that many students rely on online dictionaries, and their search preferences are mostly determined by their need to comprehend information rather than produce it.

Keywords: Dictionary use, search preference, vocabulary knowledge, learning dictionaries

Introduction

It could be the pandemic which might have driven more and more students towards online education, but we do not fully know how the students have managed to overcome some of these major hurdles the pandemic has brought forth in education. Particularly, when the students are deprived of their natural learning habitats, the classrooms, they are more likely to depend upon certain educational resources and reference materials. YouTube videos, Wikipedia entries, science blogs and learner's dictionaries are some resources that are consulted by students often. While many of these resources are strategically accessed depending on the requirements, dictionaries become the primary sources of reference every time language becomes a barrier to comprehension or communication. Therefore, learner's dictionaries—online or paper-based—remain to be important tools in education, and we must periodically engage in research that informs us about their use.

Although we know that our students use dictionaries extensively, probably often outside the classrooms, we barely attempt to understand what they use their dictionaries for. Particularly in India, many people assume that students hardly use the dictionaries, and if at all they are consulted, it is usually for the meanings of difficult words. In some cases, although these expert guesses are true, what our learners search for in a dictionary is still an alluring area since the modern learner's dictionaries provide a lot more useful information than just the meanings of difficult words. This study thus attempts to understand through a survey questionnaire the dictionary use practices of Engineering students. The survey was administered to undergraduate, postgraduate and PhD students who are studying their STEM (Science, Technology, Engineering, and Mathematics) programmes at BITS Pilani, Pilani campus.

Dictionary Use in the Digital Age

Christiane Fellbaum from Princeton University has rightly observed (Fellbaum, 2014) the impact the digital age has made on modern lexicographic research: it is immense and immediate. It has completely freed the dictionary entries from space constraints and allowed more data to be added while giving instant access to updated entries. It also allowed the learners to access information without having to know the exact spellings of the words, without which navigating through a paper dictionary would be challenging. There are many more such advantages that a digital dictionary has brought forth. Although each entry is limitlessly large and is more colourful and attractive in the online mode, the information look out processes seem to be limited to a few aspects, probably, the pronunciation and meanings. We need more data to confirm this guess.

Dictionary use studies before the digital revolution seemed to focus more on the extent of the usefulness of a learner's dictionary as a learning tool. Some studies verified the usefulness of a dictionary—bilingual or monolingual—in a controlled environment in which the students were asked to recall words that were learnt, with or without a dictionary, in a comprehension task or a vocabulary test (Y. Chen, 2012; Dziemianko, 2010); some have studied the user look up strategies while consulting a dictionary as part of a real-life dictionary use task (Farina et al., 2019; Laufer, 2011). Some other studies kept the users or the learning contexts aside and analysed the principles behind organizing meaning senses, identifying examples (Farina et al., 2019), and treating certain types of lexical items (P. Chen & Zhao, 2022). And much of the dictionary use research was based on the paper-based dictionaries. In the last two decades, however, several studies have looked into the usefulness of electronic or online dictionaries in language learning, such as the effectiveness of the visually enhanced input in dictionary warning notes in the Longman Dictionary of Contemporary English Online (Nural et al., 2022) and the dictionary consultation behaviour of students in self-editing collocation errors (Kim, 2018). Each of these studies have specifically looked at an aspect or a few aspects of dictionary use, and their findings have significantly contributed to our understanding of dictionaries as learning tools. For example, the research on warning notes in the online LDOCE showed us the usefulness of different types of warning notes and how their positioning in the entry affected the look practices.

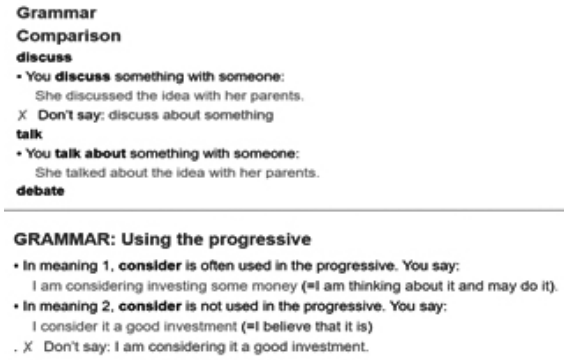

Figure 1: Two screenshots of warning notes from the online LDOCE.

And in a study on dictionary use by Slovenian learners, the researchers pointed out that students wanted to read full-sentence examples in place of skeleton type examples (Farina et al., 2019). Similarly, they also wanted the publishers to specify the colour codes and what they represented in the dictionary. While studies that examine specific aspects of a dictionary use, such as the warning notes and colour codes, are

highly relevant in restructuring the entries and in educating the learners about what a dictionary can offer, conducting periodic surveys about learner preferences for dictionary use is crucial. These surveys tend to provide useful information about users and their preferences, which can be utilized by both the lexicographers and classroom teachers. Here we report on one such small-scale survey.

The study

A survey questionnaire was sent to around 400 students at BITS Pilani, Pilani campus, and 91 responses were received. Of the 91 were 70.3% undergraduate students, 20.9% postgraduate students and 5.5 % PhD research scholars (some dual degree students have marked their entries differently). While 50.5% of the respondents were speakers of Hindi as their mother tongue, and around 38.5% respondents' mother tongues were other Indian official languages (2.2% mentioned that they would speak five languages). Also, around 41.8% respondents could speak and write in at least three Indian languages. A majority of the respondents self-rated their English language proficiency in English as advanced learners. The survey mainly focussed on gathering information about the respondents' dictionary use practices.

	Speaking in Mother Tongue	Writing in Mother Tongue	Speaking in English	Writing in English
N	91	91	91	91
Mean	3.99	3.36	3.97	4.2
SD	1.05	1.29	0.888	0.734

Table 1: Self-rated proficiency of speaking and writing in mother tongue and in English

Results

As can be seen in figure 2, a majority of the respondents (59.3%) did not own a physical copy of any dictionary, and around 85% students relied on online dictionaries. Around 13 % of students own pocket dictionaries.

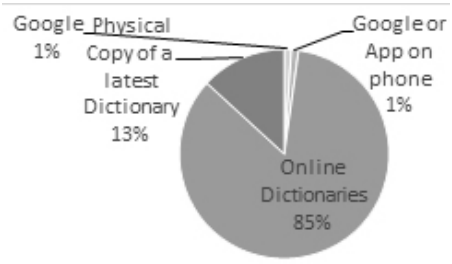

Figure 2: Dictionaries most frequently consulted by the students

Although many of them preferred to use the online dictionaries over physical copies, they did have specific preferences in terms of the source of information; and their preferences also include Wikipedia entries and the Free Online Dictionary. Around 42.9% students mentioned that they consulted Wikipedia entries for information while around 56% students looked up the entries from the Oxford online dictionary. As far as the technical vocabulary is concerned, many students seemed to go by the search results generated by Google rather than following any specific website.

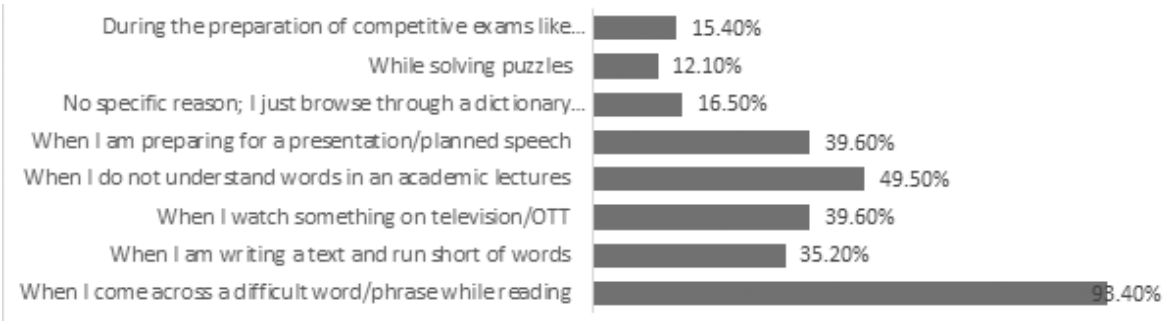

Figure 3: Specific reasons for consulting dictionaries

The need to understand the meanings of difficult words while reading (93.4%), while listening to academic lectures (49.5%) and while watching television/OTT (39.60%) were cited as the main reasons why they consulted a dictionary. Although no specific information pertaining to the specific programmes that led to consulting a dictionary was mentioned, informal discussions with the respondents revealed that many of them spend a lot of time watching Netflix and Amazon Prime. Similarly, they mentioned that while attending lectures, they looked up words that often carried the load of meaning which determined their lecture comprehension. For some students, however, dictionaries were also tools that helped them solve the puzzles.

	Word Knowledge aspects								
	Word Formation	**Spellings**	**Pronunciation**	**Meanings**	**Examples**	**Syn/Ant**	**Formal/Informal usage**	**Collocations**	**PhV/Idioms**
N	91	91	91	91	91	91	91	89	91
Mean	2.51	2.53	2.57	4.26	3.3	3.45	2.77	2.47	2.69
Standard deviation	1.21	1.19	1.17	0.88	1.19	1.36	1.37	1.32	1.31

Table 2: The frequency of consulting a specific aspect in the dictionary

The table provides information about the frequency of dictionary consultations for each of the aspects of word knowledge encoded in the entries. As can be seen, meanings/definitions and the meaning related synonyms or antonyms were the most frequently searched aspects. The mean scores of the Likert scale data showed that aspects such as collocations, word formation, spelling and pronunciation were not searched frequently by the students.

In one exclusive section of the survey, informed by intuition, a series of words that were perceived to be at different frequency levels were given. Only Coxhead's academic word list (Coxhead, 2000) was used to identify some words such as *significant, parameter,* and *induce*. The users were asked to mark out the likelihood—highly unlikely and highly likely—of looking up these words in a dictionary. As the table below show except the words *epistemology* (3.85 mean score), *diminution* (3.38 mean) *antisemitism* (3.21 mean), and *concordance* (2.52), which could be classified under the low frequency word category, the other words received lower mean

scores. It is important to note that based on the cut-off mean value (2.60) the AWL words were not in the search preference of the respondents. Similarly, multi-word expressions such as *on the other hand* and *as can be seen* were also not marked out.

	significant	concordance	antisemitism	epistemology	correspond	reactionary	parameter	induce	erosion
N	90	91	91	91	91	91	91	91	90
Mean	1.47	2.52	3.21	3.85	1.43	2.13	1.41	1.45	1.52
SD	1.06	1.35	1.62	1.34	0.944	1.2	1	0.934	0.939
	inclination	fundamental	diminution	displacement	transmission	migratory	as can be seen	on the one hand	
N	90	91	90	91	91	91	90	90	
Mean	1.42	1.41	3.38	1.42	1.46	1.43	1.52	1.52	
SD	0.936	1.01	1.39	0.895	0.97	0.944	1.02	1.03	

Table 3: The possibility of looking up the words in a dictionary

Discussion

While the reasons for consulting a learner's dictionary are largely consistent with the literature available on dictionary use, learners in higher education contexts are increasingly relying on online dictionaries. However, although many have preferred to consult the standard online dictionaries published by Oxford and Cambridge, often their search preferences are determined by the search results shown by Google. It appears that students consult other online sources such as Wikipedia and other popular online dictionaries.

Dictionary use seems to be mostly determined by the users' reading and listening needs, and it is the low frequency or difficult words which are often searched for. Although most of the modern advanced learner's dictionaries offer extensive guidance for the most frequently used general and academic vocabulary, which are used to define the concepts and terms, students do not seem to pay much attention to these words. This also resonates with the view that many users are not familiar with some of the writing dictionaries such as Activator and Lexicon. Since 75% of our everyday language use is made up of high frequency words that are often misused by the student, we should encourage them to study those words in depth.

Although the modern learner's dictionaries offer guidance for a wide range of aspects, students seem to look up, mostly the monolingual dictionaries, for the meanings/definitions and synonyms and antonyms. Since their search preferences are mostly determined by their reading and listening comprehension needs, they might be consulting the dictionaries often for these aspects. They also seem to go through the examples of word use. Not many students, however, seem to show interest in using the bilingual dictionaries. This could probably be due to the fact that the majority of them are at an advanced level of proficiency in English. Also, a majority of the users prefer to consult the British dictionaries over the American ones.

It is important that we acknowledge the scope and nature of the modern online dictionaries as pedagogical tools rather than just reference

materials. They provide us with a good deal of information for grammar and aspects such as phrasal verbs, collocations, and idioms. Websites such as *Wordnet* (https://wordnet.princeton.edu/), Text analyser tools from COCA (https://www.english-corpora.org/coca/) , and *Colllocaid* (https://collocaid.uk) are some freely available dictionary-based tools one can resourcefully utilize to improve their writing skills; we can perhaps try to integrate their use in our writing classes. We can also train our learners through several dictionary-based online activities which are available, for example on Adrian Underhill's personal website (https://adrianunderhill.com/) for pronunciation-related aspects and British Council's Teaching English website for dictionary activities.

This study is limited in its scope in terms of the sample. However, although most of the respondents were engineering students from one of the BITS campuses, their linguistic and socio-cultural backgrounds are different. In fact, they represent a population of students from various parts of the country. However, here no attempt is made to propose strong claims. I suggest, however, that teachers take up such small-scale studies to get a better picture of our teaching-learning contexts.

Conclusion

Dictionaries are ubiquitous and students use them regularly. However, their use is limited to exploring a few aspects such as meaning and synonyms. We can guide students to notice and study other aspects which are equally important. This guidance, however, does not have to be discreet or isolated from the context of language use; we can encourage our students to write texts and use the online tools suggested to expand their lexical range. In fact, research shows that learning the aspects such as collocations and phraseology along with aspects such as meanings and synonyms helps learners relate and retain vocabulary for a long period. So teachers can devise exercises which require the students to use the same set of words across multiple contexts (Vijayakumar, 2016). Similarly, the students can engage in dictionary quizzes which cover all the aspects of word knowledge.

Since carrying physical copies of the dictionaries is no longer feasible, we should encourage students to use their mobile phones to find answers for language related queries rather than teach them words explicitly. All we need to do is to show them how the dictionaries are learning resources rather than language resources.

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