

L2 Vocabulary Research and Instructional Practices: Where Are the Gaps?

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Abstract

This study investigates the vocabulary knowledge, beliefs, and practices of adult English as a second language (ESL) instructors. Thirty participants responded to an online survey designed to elicit information regarding their knowledge and beliefs; approaches to assessment; vocabulary teaching techniques and strategies; instructional practices related to repetition, retention, and extensive reading; use of technology, dictionaries, frequency lists, corpora, and formulaic sequences; and professional development interests. We used descriptive statistics to analyze responses and identified discrepancies between teacher beliefs/practices and current research findings in: (1) the setting of instructional priorities (word phrase frequency and coverage; expectations of learning rate and retention); (2) vocabulary assessment; (3) vocabulary teaching practices; (4) extensive reading; (5) technology; and (6) dictionary choice, use, and training. Participants expressed greatest interest in the following professional development topics: teaching techniques, learning strategies, assessment, the linking of classroom practice to research findings, and effects of repetition. Professional development in evidence-based best practices in these areas would enhance the teaching and learning of second language (L2) vocabulary.

Keywords: English as a second language, vocabulary, instruction, beliefs and practices, adult

Introduction

Although native speakers naturally acquire vocabulary through contextualized input over many years, second language (L2) learners often need to learn a large amount of vocabulary in a limited period of time; thus, vocabulary instruction is of fundamental concern to educators. Language teachers are faced with decisions regarding vocabulary assessment, instructional priorities, teaching techniques, vocabulary learning strategies, and resources, among others. In the past 20 years, a revival of research interest in L2 vocabulary teaching and learning (Folse, 2010; Laufer, 2009; Miura, 2005; Read, 2013) has expanded our understanding of vocabulary acquisition and led to the development of best practices that instructors can use to enhance learning. However, many English language instructors are not reading academic journals (Borg, 2013) and “the gap between research and practice seems to have increased rather than diminished” (Korthagen, 2007, p. 303). To determine if gaps exist between vocabulary research and instructional practices, we conducted a survey to explore adult English as a second language (ESL) teacher knowledge and beliefs, assessment of vocabulary knowledge, and L2 vocabulary teaching and learning techniques, strategies, and resources (i.e., repetition and retention, dictionaries, frequency lists and corpora, and formulaic sequences).

Teacher Knowledge and Beliefs

According to Borg (2003), teacher cognition is “what teachers think, know, and believe and the relationships of these mental constructs to what teachers do in the language teaching classroom” (p. 81). Teachers’ beliefs about teaching and learning, the role of teachers, curricula and materials, and effective instructional techniques affect their classroom practice (see, for example, Borg, 2003, 2006; Fleming, Bangou & Fellus, 2011; Phipps & Borg, 2009; Zhang, 2008). These beliefs are influenced by factors such as education and other forms of professional development, experience, and engagement in and with research.

Teacher cognition studies have focused primarily on the teaching of grammar, reading, and writing (Borg, 2003, 2006). As Zhang (2008) notes:

[I]n recent years, vocabulary instruction, one of the most important curricular aspects in language teaching, has attracted little attention. To better understand L2 teacher knowledge, more work will be needed focusing on this underexamined curricular aspect of language teaching, including vocabulary instruction. (p. 25)

Little research to date, however, has been conducted on L2 vocabulary research and teacher cognition (i.e., the study of teachers’ knowledge, beliefs, attitudes, and practices; but see Gao & Ma, 2011; Niu & Andrews, 2012; Zhang, 2008).

Assessment of Vocabulary Knowledge

Nation (2001, 2008) argues that in order to provide effective instruction, teachers must first measure learners’ vocabulary knowledge, but he adds that this is not common practice in all institutions (Nation, 2011). He recommends the use of tools such as the Vocabulary Levels Test and the Productive Vocabulary Levels Test for assessing ESL learner vocabulary (Nation, 2008).

Research suggests that speakers whose first language (L1) is English acquire approximately 1,000 new word families per year for the first 20 years of their lives, so an average educated English L1 speaker knows about 20,000 word families (Nation, 2013) or 70,000 words (Folse, 2011). Schmitt (2008) summarized research studies on post-secondary English as a foreign language (EFL) learners' vocabulary size, which ranged from 1,200 to 2,000 word families after 800 to 1,500 hours of instruction. A study by Webb and Chang (2012) showed vocabulary gains in groups of Taiwanese EFL learners that ranged from 18 to 430 in one year; such considerable gaps between learner and L1 speaker vocabulary knowledge emphasize the need for efficient vocabulary teaching and learning practices. Many studies (e.g., Hu & Nation, 2000; Nation, 2006; Schmitt, Jiang & Grabe, 2011) have found that in order to comprehend a written English text without the use of a dictionary, native speakers and non-native speakers need to know at least 95-98% of the words in the text. Therefore, learners need to know approximately 8,000 to 9,000 word families in order to understand texts such as novels and newspaper articles. According to a corpus analysis by Nation (2006), the most common 2,000 words of English would facilitate comprehension of about 90% of the words in everyday spoken English; however, an understanding of 98% is recommended. To make up the additional 8% text coverage, an increase in 6,000-7,000 word families would be required.

L2 Vocabulary Teaching and Learning Techniques, Strategies, and Resources

Nation (2008, 2013) lists many typical techniques that teachers and learners employ: saying a new word aloud, write the word on the board, giving a simple definition, looking up the word in a dictionary, using vocabulary notebooks to define new words and their forms and other information of interest, studying target word lists and their L1 translations, and reviewing word cards with the target word written on one side of a small card and its L1 translation/picture on the other. These techniques assist in the development of the nine aspects of word knowledge: pronunciation, spelling, word parts, meaning, associations, grammar, collocations, register, and frequency (Nation, 2013). Because there are multiple aspects of word knowledge, ranging from simply knowing its spelling and pronunciation to learning its collocations and frequency, learning a new word is an incremental process.

In an interview with Miura (2005), Nation reminds us that although the current communicative approach emphasizes contextualization and implicit vocabulary learning, research shows explicit vocabulary learning to be very effective. Nation (2008) asserts that:

Every piece of research comparing deliberate learning with incidental learning has shown that deliberate word learning easily beats incidental vocabulary learning in terms of the time taken to learn and the amount learned. The deliberate learning studies also show that such learning lasts for a very long time. (p. 104)

Learning the form-meaning connection (the L2 word form and its meaning) of target words in a short period of time is facilitated by explicit instruction of isolated words (Folse, 2004; Nation, 2001, 2011; Webb, 2009). However, context is very important for

strengthening and deepening word knowledge, so students should have access to both types of instruction. Nation (2001) urges instructors not to spend valuable class time in the direct teaching of vocabulary words outside of the 2,000 most frequent words of English; instead, students should be encouraged to study these on their own time using effective vocabulary learning strategies.

Repetition and retention

Schmitt (2008) suggested that the number of times learners need to encounter a new word in order to learn its meaning ranges from 8 to 10, and Webb (2007) found that to gain sizable receptive and productive word knowledge, participants needed more than 10 exposures to a word. The need for repeated exposure varies according to factors such as student motivation, attention, similarity between the L1 and L2 words, short-term memory capacity, and quality of input. Nation (2013) noted that in addition to the number of repetitions, the spacing of repetitions affects acquisition, facilitates retention, and inhibits attrition (Ebbinghaus, 1913; Weltens & Grendel, 1993).

Repetition and retention are also enhanced through extensive reading, which Nation (2001) defines as the reading of relatively large amounts of text with a focus on comprehending meaning. Graded readers are typically used in L2 extensive reading programs because they have controlled vocabulary and grammatical structures for specific reading levels. Extensive reading has also been recognized as an important means of increasing students' exposure to comprehensible input (Cobb, 2008; Horst, 2005; Krashen, 1989; Nation, 2011; Pigada & Schmitt, 2006; Waring & Takaki, 2003).

Technology

With advances in technology, a greater variety of tools (e.g., computer programs, Internet websites, electronic dictionaries, cell phone apps, e-book readers) are available to enhance L2 vocabulary acquisition (Nurmukhamedov, 2012). Although the benefits and drawbacks of such tools have not yet been extensively researched, some preliminary studies (e.g., Kilickaya & Krajka, 2010; Loucky, 2010; Varley, 2009) have shown positive effects of technology use on vocabulary acquisition.

Dictionaries

Currently, one can find online dictionaries, handheld electronic dictionaries, dictionary applications for cell phones, and software versions of dictionaries (that often come as an accompanying CD-ROM with paper dictionaries). Although there is still limited research in this area, some studies (e.g., Dziemianko, 2010; Pasfield-Neofitou, 2009) have found that electronic dictionaries are at least as or more effective than their paper counterparts.

Bilingualized dictionaries are a cross between traditional monolingual dictionaries and bilingual dictionaries that present only the L1 headword and an L2 translation (Laufer & Kimmel, 1997). These dictionaries are thus a hybrid form that includes definitions and details of word usage in both languages. Although many ESL instructors have a preference for monolingual dictionaries (Folse, 2004), a variety of studies suggest that bilingualized dictionaries are the better choice for students at all levels of proficiency (Chen, 2010, 2011; Folse, 2004; Laufer & Kimmel, 1997; Nation, 2013).

Many researchers (e.g., Folse, 2004; Nation, 2001; Tang, 1997) have noted that students, especially those with a non-alphabetic L1, often do not know how to use dictionaries effectively and that they benefit from training in dictionary use, such as understanding how to find alphabetized entries, using the dictionary's pronunciation guide, and comprehending grammar explanations. Pasfield-Neofitou (2009) notes: "It appears that teachers need to give at least some explicit instruction on how to use the various kinds of dictionaries" (p. 17).

Frequency lists and corpora

Frequency lists (the most common words in English) and corpora (electronic collections of written/spoken authentic texts) illustrate the increasing role of technology in enhancing language acquisition (Horst, Cobb, & Nicolae, 2005; Read, 2004). English frequency lists commonly used by ESL teachers include West's (1953) General Service List and Coxhead's (2000) Academic Word List. Well-known examples of large English corpora used to examine vocabulary use in context are the 425-million-word Corpus of Contemporary American English (COCA) (Davies, 2008) and the 100-million-word British National Corpus (BNC) (British National Corpus, 2007).

Formulaic sequences

Formulaic sequences are recurrent multi-word lexical items that function and need to be learned as a single unit, for example, idioms (*kick the bucket, a piece of cake*), phrasal verbs (*call off, throw away*), and other 'chunks' (*I was wondering if, on the other hand*) (Schmitt, 2010). These are key to achieving fluent production (Nation, 2013). According to the literature, the percentage of speech/text made up of formulaic sequences varies from 32% (Foster, 2001) to 58% (Erman & Warren, 2000); Nation (2006) estimates that in spoken English, it is perhaps as high as 90%. Martinez and Schmitt's (2012) Phrasal Expressions List (PHRASE List) presents the 505 most frequent formulaic sequences in English, based on the BNC. The Academic Formulas List (Simpson-Vlach & Ellis, 2010) presents the most common 3-, 4-, and 5-word formulaic sequences (e.g., *the question of, referred to as, to some extent*) found in a variety of academic corpora. These are useful resources for instructors; however, more empirical research is needed on best practices for teaching formulaic sequences, which are not adequately represented in published learner texts (Meunier, 2012).

Teacher knowledge and beliefs have a profound effect on their vocabulary instructional practices; however, due to the wide variety of contextual factors in the L2 classroom, approaches to teaching and learning vocabulary may differ. According to Folse (2010), "[alt]hough teachers recognize their learners' lexical gaps, many feel uncertain about how vocabulary can best be incorporated into their teaching plans" (p. 143). Thus, the purpose of this study was to explore adult ESL teachers' knowledge, beliefs, and instructional practices by addressing the following research questions:

1. What knowledge and beliefs do ESL instructors have with respect to teaching L2 vocabulary?
2. When and how often do instructors assess student vocabulary?
3. What vocabulary teaching techniques do they use and how frequently do they use them?

4. What vocabulary learning strategies do they develop in their classrooms?
5. What vocabulary learning resources are most frequently used?

Method

Participants

An online *SurveyMonkey*® questionnaire was sent via email to members of a professional ESL teaching organization. Responses were received from 30 adult ESL instructors (85% female, 15% male) with at least one year of full-time teaching experience. They ranged in age from 28 to 65 years ($M = 48y$; $Mdn = 52$; $SD = 10.5$). Experience was used as a criterion because, as Borg (2003) noted, pre-service and novice teachers often have knowledge and beliefs that differ greatly from those of experienced teachers. Eight-nine percent of respondents indicated that they had at least 5 years of ESL teaching experience in Canada ($M = 15$ years; $Mdn = 11$; $SD = 6.4$; $Range: 3-41$). Ten participants reported having taught full-time English as a foreign language overseas ($M = 5$ years; $Mdn = 3.5$; $SD = 4.6$; $Range = 1-15$).

To provide a context for the study, participants were asked to choose one course as a frame of reference for answering the survey questions – it was recommended that this course be either the course most recently taught, or a course with which the participant was very familiar (i.e., had taught most frequently). Of the 30 respondents, 7% chose ESL literacy courses as their frame of reference, 47% beginner courses, 33% intermediate courses, and 13% advanced courses. Forty-three percent of the instructors were teaching settlement ESL, 27% general ESL, 20% English for Academic Purposes, 3% English in the Workplace, and 7% in other (ESL literacy, grammar) classes. The mean length of course was 14.5 weeks ($Mdn = 14$; $SD = 5.7$; $Range: 8-40$), and the classes met an average of 4.5 times a week ($Mdn = 3$; $SD = 1.1$; $Range: 1-5$) for 3.6 hours per class ($Mdn = 3$; $SD = 1.3$; $Range: 1-5$).

Instrument

The online survey elicited information regarding teacher context and demographics, instructor beliefs, and classroom teaching practices (see Appendix A). Question types included multiple choice, fill-in-the-blank, Likert-type scales, check-all-that-apply, and ranking. Completion time was approximately 20 minutes.

Procedure

Permission was requested to use the professional TESL association's listserv to disseminate the survey, which was available online for two weeks. The *SurveyMonkey*® data were downloaded and analyzed using descriptive statistics.

Results and Discussion

Teacher Knowledge of Selected Vocabulary Research Findings

Three multiple-choice questions explored instructors' vocabulary knowledge and beliefs. One asked them to select the number of words known by the average educated English L1 speaker; only one respondent correctly selected Folse's (2011) estimate of

70,000 words, which is equal to about 20,000 word families (Nation, 2013). When asked what percentage of everyday spoken English is covered by the 2,000 most frequent English words, 19% of respondents chose 90%, the correct answer (Nation, 2006). Over half of the respondents (53%) estimated that formulaic sequences comprise 50% or less of everyday spoken English, although researchers estimate that formulaic sequences make up perhaps 90% of spoken English (Nation, 2006) and 32% to 58% of spoken/written English (percentages reported by Foster, 2001; Erman & Warren, 2000, respectively). Inaccurate estimates of vocabulary coverage, as evidenced in many responses, could result in misplaced emphasis on critical components of L2 vocabulary instruction, particularly with respect to explicit instruction of high frequency vocabulary and formulaic sequences.

Assessment of Vocabulary Knowledge

Of 29 respondents, 62% assessed their students' vocabulary knowledge at the beginning of the course, 72% at the end, and 21% at neither point. Although one might expect that those respondents who assessed their students' vocabulary at the beginning of the course would also assess their students at the end of the course, 11% of them indicated that they did not. Assessment enables instructors to choose level-appropriate vocabulary, as native speaker intuitions about word frequency and learner word knowledge are not always accurate (Nation, 2001). Frequent assessment provides instructors with a means of monitoring their students' vocabulary learning and retention rates. On average, instructors gave a vocabulary test in every seventh class ($Mdn = 5$; $mode = 5$; $SD = 4.79$; $Range: 0-20$). Systematic vocabulary testing involves testing cumulative vocabulary at spaced time intervals (weekly, bi-weekly, monthly). This encourages students to review previously learned vocabulary; re-study sessions promote mastery learning and retention of vocabulary (Folse, 2004; Nation, 2001; Pashler, Rohrer, Cepeda, & Carpenter, 2007). Of those respondents who reported administering regular vocabulary tests, only 37% included words learned both recently and in earlier classes. However, to effectively recycle students' vocabulary, minimize forgetting, and discourage students from cramming (and likely soon forgetting), cumulative tests are considered more effective (e.g., Folse, 2004; Nation, 2001, 2008).

Vocabulary Teaching Techniques

Table 1 shows the frequency with which teachers used a variety vocabulary teaching techniques. At least 75% of respondents sometimes/often used the following teaching techniques in class: saying the word aloud, using the word in an example sentence, giving a simple definition, writing the word, giving examples of a synonym or related word, asking students for definitions, identifying the stress pattern of the word, acting out the word using gestures, using supplemental materials, discussing underlying meanings of words, identifying prefixes or suffixes, referring to information in the course textbook, and drawing/displaying a picture of the word. Participants less frequently had students look up the word in a dictionary and displayed important words and phrases in the classroom. Learners would benefit from greater availability and use of appropriate dictionaries (Chen, 2010, 2011; Folse, 2004; Laufer & Kimmel, 1997; Nation, 2013), as well as visual representations posted around in the classroom to reinforce learning (Schmitt, 2008; Webb, 2007). The instructors in this study did not

appear to be taking adequate advantage of these last two valuable resources. Many other useful teaching techniques can be found in the list of recommended teacher resources in Appendix B.

Table 1. How Often Instructors Use Vocabulary Teaching Techniques (n = 30)

<i>When teaching a new word, I:</i>	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	<i>M</i>	<i>SD</i>
Say the word aloud	0	0	2	28	2.9	0.3
Use the word in an example sentence	0	0	5	25	2.8	0.4
Give a simple definition	0	0	6	24	2.8	0.4
Write the word	1	2	3	24	2.7	0.8
Give examples of a synonym or related word	0	1	12	17	2.5	0.6
Ask a student for the definition	0	2	13	15	2.4	0.6
Identify the stress pattern of the word	1	3	9	17	2.4	0.8
Act out the word using gestures	1	3	10	16	2.4	0.8
Use supplemental materials	1	3	11	15	2.3	0.8
Discuss the underlying meaning of the word	1	3	13	13	2.3	0.8
Identify prefixes or suffixes	3	3	9	15	2.2	1.0
Refer to the information provided in the course textbook	2	5	8	15	2.2	1.0
Draw/display a picture of the word	3	2	11	14	2.2	1.0
Look up the word in a dictionary	2	8	16	4	1.7	0.8
Display important vocabulary and phrases around the classroom	6	9	4	11	1.7	1.2

Vocabulary Learning Strategies

Participants were presented with a list of ten vocabulary learning strategies recommended in the literature (e.g., Nation, 2001, 2008; Schmitt, 2000). Using a Likert-type scale (0 = never, 3 = often), they reported how often they had students use each of them. The most frequently used vocabulary learning strategies were guessing from context ($M = 2.5, SD = 0.7$), working in pairs/groups ($M = 2.4, SD = 0.6$), guessing the

meaning of a word from its parts ($M = 2.3, SD = 0.9$), and choosing words to learn ($M = 2.2, SD = 0.9$). These frequently used strategies were also rated by instructors as the most effective vocabulary learning strategies of the choices provided (see Table 2).

Table 2. Instructor Beliefs About Effectiveness of Vocabulary Learning Strategies ($n = 30$)

<i>When students learn new words, I believe it is highly effective for them to:</i>	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	<i>M</i>	<i>SD</i>
Guess the meaning of the word from context	1	1	1	8	19	4.4	1.0
Work in pairs/groups to complete vocabulary activities	0	0	2	14	14	4.4	0.6
Choose words that they are interested in learning	0	1	4	9	15	4.3	0.9
Guess the meaning of the word from its parts	2	0	2	9	17	4.3	1.1
Study using a vocabulary notebook	2	0	1	14	13	4.2	1.0
Study using mnemonic strategies	0	4	5	7	14	4.0	1.1
Study using word cards	0	1	8	12	9	4.0	0.9
Look up the word in a dictionary	1	4	4	12	9	3.8	1.1
Study using word lists	2	3	4	13	8	3.7	1.2
Use a vocabulary learning program such as <i>Wordchamp</i>	2	0	21	3	4	3.2	0.9

When asked if guessing word meanings from context was highly effective, 90% of instructors agreed or strongly agreed, 7% disagreed or strongly disagreed, and 3% were unsure. Participants were asked to choose, from four options, the percentage of words in

a text that must be known to correctly guess the meaning of an unknown word from its context. The majority (93%) were not aware that this is effective only when students know at least 98% of the surrounding words (Hu & Nation, 2000; Nation, 2006; Schmitt et al., 2011). These results suggest that instructors over-estimate their students' ability to learn new vocabulary from context, and that instructors and their students would benefit from being made aware of research in this area.

When asked if studying word cards was a highly effective strategy for learning new words, 70% of respondents agreed with research (e.g., Folse, 2004; Nation, 2001, 2008) that has shown the benefits and efficiency of focused, decontextualized learning using word cards to memorize the meanings of new words. Only 23% of instructors, however, agreed that vocabulary learning computer programs were highly effective. This suggests that instructors may be unsure of the technological benefits of using computer programs for vocabulary learning (as outlined by Kilickaya & Krajka, 2010), that they may not be aware of such programs or how to use them in their classes (Breyer, 2009), and/or that they may not have access to computers in their classes. Further studies on the availability, use, and effectiveness of specific computerized vocabulary learning programs and application software would help to address these issues.

Repetition and retention

Instructors reported that they expected their ESL students to learn an average of 19 words per week ($Mdn = 16$; $SD = 13.4$; $Range = 2-50$). If students were enrolled in three 16-week sessions, they would learn an average of 912 words a year at this rate; this is far fewer than the 2,000 words needed to comprehend 90% of spoken English or the 8,000 to 9,000 word families needed to understand authentic texts, such as novels or newspapers (Nation, 2006). Greater awareness of these statistics may motivate curriculum developers, instructors, and learners to re-assess their vocabulary teaching and learning goals.

When asked to select from four multiple-choice options the number of times students must encounter a word in order to learn its meaning, the majority of responses (70%) were supported by the research, which suggests that 8 to 10 exposures (Schmitt, 2008) are necessary and that more may be needed for productive word knowledge (Webb, 2007). Participants were asked to choose, from four options, the chance that a student would remember the meaning of a word one hour after encountering it for the first time; 21% chose the correct response (45%), while only 4% over-estimated students' chances. When asked what chance a student would have of remembering a word without having seen it for one day, 83% selected 10%, the lowest of four options provided. Spaced repetition is necessary to facilitate long-term retention; according to Ebbinghaus (1913), the average retention rate after one hour is 45% and after one day is 30%. The discrepancy between the research and our findings suggests that ESL instructors need to raise their expectations of the rate at which students can learn and remember new vocabulary.

Respondents were asked how often (0 = *never*, 1 = *rarely*, 2 = *sometimes*, 3 = *often*) they used each of three techniques for reinforcing vocabulary in their lessons. Presenting previously studied words in new contexts was done sometimes/often by 97% ($M =$

2.7, $SD = 0.7$); requiring students to use studied words in their writing by 93% ($M = 2.6$, $SD = 0.7$), and reading extensively in areas of interest by 67% ($M = 1.8$, $SD = 1.1$). These findings suggest that instructors should be made aware of the benefits of extensive reading and provided with strategies for implementing successful extensive reading programs. Extensive reading is highly recommended by many researchers (e.g., Cobb, 2008; Horst, 2005; Krashen, 1989; Nation, 2011; Pigada & Schmitt, 2006; Waring & Takaki, 2003) as a motivational means of reinforcing and enriching L2 learners' vocabulary knowledge.

Vocabulary Learning Resources

When asked about dictionary availability and use, 57% of respondents reported that they had a class set of dictionaries, but only 43% of all participants provided dictionary instruction, which ranged from 1 to 10 hours ($M = 3$ hr; $Mdn = 2$; $Mode = 2$; $SD = 2.44$; $Range: 1-10$). Having a class set was not a prerequisite for providing dictionary training: 53% of instructors with class sets provided dictionary training, and 31% of instructors without also provided training. Research shows that instructors often mistakenly believe that students already know how to use an English language dictionary efficiently (e.g., Pasfield-Neofitou, 2009). These findings suggest that students' dictionary skills should be assessed at the beginning of a course. Efficient instruction is facilitated when all students have individual access to the same dictionary at the same time, whether it is a cell phone application or a class set in paper or electronic format. Instructors reported that they often allowed the in-class use of English-English (86%), bilingual (28%), and bilingualized (21%) dictionaries (with which instructors may be less familiar). Of the three types, respondents selected the bilingual dictionary as most appropriate for beginner ESL learners (48%), and the English-English dictionary as most suitable for intermediate (89%) and advanced (100%) proficiencies. Although English-English dictionaries pose fewer problems for advanced than for beginning or intermediate students (Nation, 2001), current research suggests that bilingualized dictionaries are the best type of dictionary for all ESL proficiencies (Chen, 2010, 2011; Folse, 2004; Laufer & Kimmel, 1997; Nation, 2001). The latter combine the speed and ease of understanding of a translation with the deeper understanding provided by extended English usage information and example sentences.

Eighty percent of respondents were aware of word frequency lists, 63% of corpora, 60% of concordancers, and 53% of formulaic sequences that are freely available on the Internet. Varying percentages of instructors reported that they sometimes/often used these resources to guide their instruction: frequency lists (66%), formulaic sequences (50%), corpora (43%), and concordancers (27%). Only 28% used a computer program such as Lextutor (Cobb, n.d.) to verify the reading levels of supplementary materials used in class and, by extension, to ensure that students were provided with comprehensible input.

Advances and reductions in the cost of technology will expand the use of technology-related resources in L2 classrooms and result in the need for continuing professional development. Computer programs have the potential to promote learner autonomy and enhance language learning (e.g., Kilickaya & Krajka, 2010; Loucky, 2010) by

incorporating audio and visual material, offering instant on-screen translations, tracking individual progress, and providing tailored spaced repetition, among other options.

Finally, instructors were presented with a list of 11 vocabulary-related topics for professional development. They expressed greatest interest in the following: teaching techniques (83%) and learning strategies (83%); assessment (69%); the linking of classroom practice to research findings (69%); and effects of repetition (59%).

Conclusion

Discrepancies between current research and adult ESL instructors' beliefs have been identified in this study, suggesting that instructors' teaching would benefit from a deeper understanding of evidence-based best practices, especially with regard to the setting of instructional priorities (e.g., word/phrase frequency and coverage, expectations of learning rate and retention), assessment, extensive reading, technology, and dictionary choice, use, and training. Participants' reported priorities for professional development reflected these themes.

Research with larger numbers of instructors teaching at varying ESL levels would provide a more representative sample and allow for comparisons of vocabulary knowledge, beliefs, and instructional practices across proficiency levels. Further investigation into instructor knowledge and beliefs and how they affect actual classroom practices (rather than perceived/self-reported practices) is necessary to corroborate these findings; however, this study has provided an important first step in ascertaining the state of adult ESL teacher cognition and practice in relation to current L2 vocabulary research. The gaps identified by this research can also be used to inform English as a second language teacher preparation and professional development.

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Appendix A

Vocabulary Beliefs and Practices SurveyMonkey® Questionnaire

A. COURSE INFORMATION

In order to focus your answers, please think of one ESL course you have taught.

A1. Please provide the proficiency level of the ESL course that you will refer to during this survey.

This course will be your frame of reference for answering the rest of the questions in this survey. The level of my course was:

- ◆ ESL literacy (Pre-Benchmark)
- ◆ Beginner (Canadian Language Benchmarks [CLB] 1 – 4) [1]
- ◆ Intermediate (CLB 5 – 8)
- ◆ Advanced (CLB 9 – 12)

For questions requiring a numerical answer, please write your answer using Arabic numerals (e.g., 1, 2).

A2. The main focus of my course was:

- ◆ Language Instruction for Newcomers to Canada (Settlement ESL)
- ◆ General ESL
- ◆ English for Academic Purposes
- ◆ English for Specific Purposes
- ◆ English in the Workplace
- ◆ Exam Preparation (e.g., TOEFL, IELTS, CAEL)
- ◆ Other (please specify) _____

A3. The course indicated above was _____ weeks long.

A4. The class met _____ times per week.

A5. Each class was _____ hours long.

B. TEACHING AND LEARNING VOCABULARY

This section asks about how you teach new vocabulary.

Please give your best estimate as to how often you employ the following techniques.

<i>When teaching a new word, I:</i>	Never	Rarely	Sometimes	Often
Refer to the information provided in the course textbook.				
Say the word aloud.				
Write the word.				
Draw/display a picture of the word.				
Use the word in an example sentence.				

<i>When teaching a new word, I:</i>	Never	Rarely	Sometimes	Often
Give a simple definition.				
Look up the word in a dictionary.				
Ask a student for the definition.				
Give examples of a synonym or related word.				
Act out the word using gestures.				
Discuss the underlying meaning of the word. (e.g., <i>neck</i> of a person/bottle/river = a skinny connecting part.)				
Identify the stress pattern of the word.				
Identify prefixes (<i>un-</i> , <i>re-</i>) or suffixes (<i>-able</i> , <i>-tion</i>).				
Use supplemental materials (i.e., materials other than those in the course textbook).				
Display/create important vocabulary and phrases around the classroom (e.g., posters, word walls).				

C1. BELIEFS ABOUT VOCABULARY LEARNING STRATEGIES VOCABULARY LEARNING STRATEGIES

Please refer to the definitions below to help you answer section C1.

Vocabulary Notebook: a space where students write down information about words they encounter or find interesting/useful.

Word List: a list that has the English word in one column, and the meaning/translation/example sentence in another column.

Word Card: an English word is written on one side of a card, and the meaning is written on the other (in either English or the student's first language). Students look at one side of the card, guess the answer, then check the back.

Mnemonic Strategy: strategies other than traditional memorization that help students to remember a word's meaning. For example, creating mental image of the word or mentally linking the word to a similar-sounding word in the student's first language.

	Often	Sometimes	Rarely	Never
<u>This section asks about what strategies you have your students use when learning vocabulary. When my students learn new words, I have them:</u>				

Keep a vocabulary notebook .				
Study using word lists .				
Study using word cards .				
Use a mnemonic strategy to better remember a word.				
Guess the meaning of the word from context.				
Guess the meaning of the word from its parts. (e.g., <i>redraw</i> must mean “draw again”.)				
Look up the word in a dictionary.				
Use a vocabulary learning program such as <i>Wordchamp</i> .				
Choose words that they are interested in learning.				
Work in pairs/groups to complete vocabulary activities.				

C2. BELIEFS ABOUT VOCABULARY LEARNING STRATEGIES

This section focuses on **your beliefs about the effectiveness of the following vocabulary learning strategies**. Please refer to the definitions in section C to help you answer section C2.

<i>When students learn new words, I believe it is highly effective for them to:</i>	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
Study using a vocabulary notebook .					
Study using word lists .					
Study using word cards .					
Study using mnemonic strategies .					
Guess the meaning of unknown words from context.					
Guess the meaning of the word from its parts.					
Look up the word in a dictionary.					
Use a vocabulary learning					

<i>When students learn new words, I believe it is <u>highly effective</u> for them to:</i>	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
program, such as <i>Wordchamp</i> .					
Choose words that they are interested in learning.					
Work in pairs/groups to complete vocabulary activities.					

D. DICTIONARY USE

This section asks about dictionary use in your classroom.

D1. My classroom has a class set of dictionaries. ♦ Yes ♦ No

D2. In my class, I provide my students with dictionary training. ♦ Yes ♦ No

D3. I spend approximately ____ hours total in this course on dictionary training.

D4. Please select all that apply.

<i>I believe that the <u>best</u> dictionary for:</i>	English-English	Bilingual	Bilingualized ¹
Beginner ESL students is:			
Intermediate ESL students is:			
Advanced ESL students is:			

¹**Bilingualized** = A dictionary that has all the features of an English-English dictionary, plus a translation of the bolded headword.

D5. Please select all that apply.

<i>In class, I allow my students to use:</i>	Never	Rarely	Sometimes	Often
English-English dictionaries.				
Bilingual dictionaries.				
Bilingualized dictionaries.				

E. REPETITION AND WORD LEARNING This section will explore your thoughts on repetition and learning new words.

E1. On average, I expect my students to learn ____ new words per week.

E2. I think that, on average, students need to encounter a new word ____ times in order to learn its meaning.

- a) 1-4
- b) 5-12
- c) 13-20
- d) 21-35

E3. When a student studies a new word for the first time and does not see the word again for one hour, the chance the student will remember its meaning is probably ____%.

- a) 25
- b) 45
- c) 65
- d) 85

E4. And after one day of not seeing the word again, the chance that a student will remember its meaning is probably ____%.

- a) 10
- b) 30
- c) 50
- d) 70

E5. <i>In my class, I:</i>	Never	Rarely	Sometimes	Often
Reinforce previously learned words in my lessons by presenting them in different contexts.				
Require students to use, in their writing, words studied in class.				
Require students to do extensive reading in areas that are of interest to them.				

F. FREQUENCY LISTS AND CORPORA

This section asks about frequency lists and corpora as they relate to vocabulary learning.

Please refer to the definitions below to help you answer questions F1 – F4.

Corpus (plural “corpora”) = an electronic collection of written/spoken authentic texts. These collections are usually comprised of millions of words, from sources such as newspaper articles, textbooks, and TV shows. An example of a corpus is the 425 million word COCA (Corpus of Contemporary American English).

Frequency List = these are word lists developed from corpora. These lists rank the frequency of words. For example, there are frequency lists for the most common 1000, 2000, 3000, etc. words of English. An example of a frequency list is the General Service List developed by West in 1953.

F1. I am aware of free corpora available on the Internet. ♦ Yes ♦ No

	Never	Rarely	Sometimes	Often
F2. I use corpora to help guide my vocabulary teaching.				

F3. I am aware of free word frequency lists available on the Internet. ♦ Yes ♦ No

	Never	Rarely	Sometimes	Often
F4. I use frequency lists to help guide my vocabulary teaching.				

G. FORMULAIC SEQUENCES

This section will ask questions about teaching formulaic sequences.

Please refer to the definitions below to help you answer questions G1-G4.

Formulaic Sequences = set phrases like idioms (raining cats and dogs), phrasal verbs (to give up, to be fed up), and other words which commonly “go together”. An example of a frequency list of formulaic sequences is the Academic Formulas List, compiled by Simpson-Vlach and Ellis (2010).

Concordancer = a computer program which lets users search for instances of a specific word or phrase in a corpus. The program then lists the word/phrase with its surrounding context, which enables users to see the word in authentic contexts. An example of a concordancer can be found on Cobb’s LexTutor website.

G1. I am aware of free formulaic sequences lists available on the Internet. ♦ Yes ♦ No

	Never	Rarely	Sometimes	Often
G2. I use formulaic sequences lists to help guide my vocabulary teaching.				

G3. I am aware of free concordancers available on the Internet. ♦ Yes ♦ No

	Never	Rarely	Sometimes	Often
G4. I use concordancers to help guide my vocabulary teaching.				

H. ASSESSING VOCABULARY KNOWLEDGE

This section focuses on assessing your students’ vocabulary knowledge.

H1. I assess my students’ vocabulary knowledge at the beginning of the course. ♦ Yes , ♦ No

H2. I assess my students' vocabulary knowledge at the end of the course. ♦ Yes ♦ No

H3. I give my students vocabulary tests once per _____ (number of) classes.

H4. What kind of vocabulary tests do you usually give your students?

♦ Non-cumulative (includes only words the class is currently studying)

♦ Cumulative (includes current words plus all previously-studied words)

H5. Do you use a program (such as Lextutor) to check the reading level of supplementary materials you use in class? ♦ Yes ♦ No

I. INSTRUCTOR KNOWLEDGE

I1. I think that first-year university native speakers of English know approximately _____ words.

a) 30,000

b) 50,000

c) 70,000

d) 90,000

I2. I believe students need to know about _____ % of the words in a text in order to correctly guess an unknown word's meaning from context.

a) 68

b) 78

c) 88

d) 98

I3. I believe that the most common 2,000 words in English make up about _____ % of the words used in English in daily conversation.

a) 60

b) 70

c) 80

d) 90

I4. I think that approximately _____ % of everyday spoken English is made up of formulaic sequences.

a) 30

b) 50

c) 70

d) 90

J. INSTRUCTOR VOCABULARY INTERESTS

The responses to this section will help determine which aspects of teaching vocabulary will be the focus of a follow-up report.

<i>How interested are you in learning more about...</i>	Not Interested	Somewhat Interested	Very Interested
...techniques for teaching			

<i>How interested are you in learning more about...</i>	Not Interested	Somewhat Interested	Very Interested
vocabulary?			
...strategies and skills for learning vocabulary?			
...dictionaries?			
...aspects of word knowledge?			
...which vocabulary is best taught together?			
...repetition and vocabulary learning?			
...frequency lists and corpora?			
...formulaic language teaching techniques?			
...assessment of vocabulary knowledge?			
...linking classroom practice to research findings?			
...using technology to teach vocabulary?			

K. DEMOGRAPHIC INFORMATION

This final section asks you for some demographic information.

K1. Please select your gender.

- ◆ Female
- ◆ Male

K2. Please provide your age. _____

K3. I have taught ESL for _____ years full-time in Canada.

K4. I have taught ESL for _____ years full-time overseas.

Note:

[1] The Canadian Language Benchmarks (CLB) standard is a descriptive scale of English as a second language ability; it consists of 12 reference points (benchmarks) on a continuum that ranges from basic to advanced levels of language ability.

Centre for Canadian Language Benchmarks. (2012). *Canadian Language Benchmarks: English as a second language for adults* (rev. ed.). Ottawa, ON: Author. Retrieved from <http://www.cic.gc.ca/english/pdf/pub/language-benchmarks.pdf>

Appendix B

Recommended Teacher Resources

Folse, K. S. (2004). *Vocabulary myths: Applying second language research to classroom teaching*. Ann Arbor, MI: University of Michigan Press.

Nation, I. S. P. (2008). *Teaching vocabulary: Strategies and techniques*. Boston, MA: Heinle Cengage Learning.

Nation, I. S. P. (2013). *Learning vocabulary in another language* (2nd ed.). Cambridge, UK: Cambridge University Press.

Zimmerman, C. B. (2009). *Word knowledge: A vocabulary teacher's handbook*. New York, NY: Oxford University Press.

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