

Word Blitz

An examination of EFL-learners'  
written word lists produced in five minutes

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### Abstract

This descriptive research study aimed at discovering patterns in word lists that English-language learners write in five minutes. Once a week at the start of class from September through December 2017 four Kazakhstani tweens (two boys and two older girls) wrote as many words as they could in five minutes. The words they wrote were analyzed for vocabulary level and for patterns in parts of speech and semantic domains.

Patterns in both the aggregate and differences between the two pairs were present. Most words were one syllable long, twice as many as those with two syllables. The most common part of speech was noun (60%), followed by verb (18%). This contrasts with patterns on two basic lists of English learners. The National General Service List (NGSL) drops from 50 to 25 percent for nouns to verbs and the Dolch list has more verbs than nouns (39% to 30%). The actual words the children wrote overlapped with both the NGSL and the Dolch list. But little more than two-thirds of the 315 Dolch words are included, and over a quarter of the Word Blitz words are not on the NGSL. These distributions seem to be due to the presence of simple, common words in the lists that are not common in English readers or general English, respectively. This is especially true of concrete nouns such as *apple* and *balloon*. In addition, words of personal interest, and words from the course contributed less common entries.

Among the SIL International's semantic domains, topics popular among young people dominated. *Food* was the most popular category, especially for the girls. Other popular domains were *social*, *animal*, *quality*, and *teach*. A few gender differences in domain representation stood out. The boys had a far greater percentage of types falling in the *part of speech* category, whereas the girls had more than half again as many food terms.

Relative frequency of types for *social activity* and *animals* were virtually the same for the two groups.

*Keywords:* EFL, English as a Foreign Language, foreign-language learning, Kazakhstan, Kazakhstanis, language learning, rapid recall, Russian speakers, semantic domain, vocabulary, Word Blitz

## Абстракт

Данное исследование описательного характера направлено на выявление закономерности списков слов, которые учащиеся английского языка пишут за пять минут. Один раз в неделю в начале занятий с сентября по декабрь 2017 года четверо казахстанских подростков (два мальчика и две девочки постарше) писали столько слов, сколько могли за пять минут. Слова, которые они писали, анализировались на уровень словарного запаса и на закономерность частей речи и семантических областей. Закономерности представлены как в совокупности, так и в различиях между двумя парами. Большинство слов состояло из одного слога, превышая количество двухсложных слов в два раза

Наиболее распространенной частью речи были существительные (60%), за которыми следовали глаголы (18%). Это значительно отличается от образцов двух основных списков изучающих английский язык. Согласно новому списку общего обслуживания (NGSL) показатели существительных до глаголов снижаются с 50 до 25 процентов, а в списке Dolch показатель глаголов выше чем существительных (39% и 30% соответственно). Списки слов детей совпадают с теми, что указаны в NGSL и в списке Dolch. Из 315 слов списка Dolch две третьих встречались в списках, а более четверти слов с записей детей отсутствуют в NGSL. Эти соотношения, по-видимому, обусловлены наличием простых, общих слов в списках, которые не являются общими для английских читателей или общего английского языка, соответственно. Это особенно верно для конкретных существительных, таких как «яблоко» и «шар». Кроме того, слова личного интереса и слова из курса способствовали менее распространенным записям. Согласно Международному Летнему Институту Лингвистики (Sil International) среди семантических областей доминировали темы, популярные среди молодежи. Еда была

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самой популярной категорией, особенно среди девочек. Другими популярными областями были социальные, животные, качество и обучение. Были отмечены некоторые гендерные различия в представленности областей. У мальчиков был гораздо больший процент типов, подпадающих под категорию "часть речи", в то время как у девочек было в полтора раза больше терминов питания. Относительная частота типов социальной активности и животных была практически одинаковой для обеих групп.

*Ключевые термины:* английский язык как иностранный, быстрая память,

Ворд Блиц, изучение языка, Казахстан,

Казахстанцы, преподавание

английского языка как иностранного,

русскоговорящий, семантическая область,

словарный запас, EFL, Word Blitz

## **Chapter 1. Introduction**

### **Introduction of the Problem**

The three main components of a language are vocabulary, grammar and pronunciation. In order to learn and use a foreign language, one must become proficient in each of these. Until recently, though, vocabulary acquisition was relatively neglected in both teaching and research on learning (Coady, 1997; Nation, 2011). Without an adequate body of words at ready disposal, a language learner can at best stumble forward in trying to communicate (Alqahtani, 2015). In fact, it has been asserted that vocabulary is “the chief hurdle faced by English learners...” (Díaz-Rico, 2004, p. 174). An examination of what words language learners know and can readily produce promises to provide insight into vocabulary lacunae, predilections, patterns, and strengths. But at present, there is little information on those words.

### **Background, Context, and Theoretical Framework for the Problem**

In the last half century, foreign-language teaching has been buffeted by various approaches and theories. Some of these have come very pragmatically from practitioners such as Ray and Seely (2004), frustrated by the lack of effectiveness of the methods they had been using. Some of these have come from other related fields such as psychology, general learning theory, and linguistics (Brown, 2014). And much of it has been influenced by forces and movements outside of academia, such as globalization and the commodification of education. Both globalization and the commodification of education have put a heavy emphasis on language learning as developing a skill set rather than a humanistic appreciation of literature (Hammond-Darling, 2010; Saeed & Mehdi, 2012). Today, much if not most, foreign-language instruction, especially English as a Foreign Language (EFL), aims at

communicative competency, getting a good score on a standardized test, or acquiring the language as a technical or academic tool (British Council, 2017; Kyriacou & Kobori, 1998; Most Chinese kids, 2012; Saeed & Mehdi, 2012; Shaaban & Ghaith, 2000).

Among the powerful theories that found their way into EFL teaching were Skinner's behaviorist approach (1957). This approach gave rise to the audio-lingual method, in which language was treated as conditioned response and accordingly taught in that way (Díaz-Rico, 2014, p. 48). The audio-lingual method included explicitly stating concrete, discrete goals and training in responses by using drills and rote memorization of sentences. A combination of practitioners' frustration with the relatively inflexible results, a growing acceptance in pedagogical circles that people learn at different rates and in different ways, and Chomsky's (1959) robust attack on behaviorism in terms of language learning gradually led to a change in focus in many EFL class-rooms (Cook, 1986; Valdés, Kibler, & Walqui, 2014). The roles of cognition and creativity in language were recognized as important in language learning, and attempts were made to incorporate them into teaching methods (Brown, 2014; Díaz-Rico, 2014, p. 109).

Additional forces for change came from anthropological linguistics (especially Hymes, 1961), where a wider view of language brought an added focus on discourse into consideration. Thus, the progressive language class-room took on the nature of negotiated exchange in which students were encouraged to discover and create in order to deal with a socially created reality (Brown, 2014, p. 225; Harmer, 2007, p. 43). The emphasis on standardized learning with fixed, uniform vocabulary goals was replaced by individualized goals and variable lists of words.

Still, in learning and using a language, a critical mass of vocabulary is necessary, even if it need not be uniform from learner to learner. Not only does the language learner have to



recognize and understand words, but the learner needs to be able to recall and use them in order to communicate (Alqahtani, 2015; Nelson, McEvoy, & Schreiber, 2004).

### **Statement of the Problem**

Various factors inhibit speech production in the foreign-language class-room (Brundage & Dammers, 2007; Hemerka, 2007; Kostić-Bobanović, 2009). The author has noted that especially at the beginning of a lesson, low-level second-language learners typically have problems in speaking fluently in the target language because they cannot quickly recall words that they have learned. What words can they in fact easily call up?

Vocabulary is one of the main elements of a language, which in turn means that learning vocabulary, which has to be spoken or written, is an important part of learning a foreign language (Alqahtani, 2015 ; Díaz-Rico, 2014, p. 81). For a speaker, this means that it must be recalled and properly placed in an intelligible sentence within a reasonable amount of time (Temple, 2002). The author of this study has noticed in EFL classes that it is not uncommon for a student to know a word but not be able to recall it in time of need. This can happen in the class-room or in ordinary interactions, in the EFL setting in particular, where many students live in a non-English environment. When these students come into the class-room thinking and speaking their mother tongue, this problem can be acute. English, including vocabulary, is lodged in the recesses of their minds rather than being on the tip of their tongues. In neurological terms, these L2 speakers need to access and activate their procedural memory to call up their English vocabulary (Ullman, 2001).

### **Purpose of the Study**

One possible technique to overcome this problem with using words that are known but not readily retrieved in the EFL class-room is to have them recall as many words as they can in a limited amount of time, thus activating the routes to these vocabulary depositories. This

can be done either as a spoken or as a written exercise. The written version, called *Word Blitz*, does not produce as many words since people can speak faster than they can write (Gould & Boies, 1978), but it has the advantage of dramatically reducing accidental duplication and of being easy to assess. Word Blitz is conducted weekly in a number of classes run by StudyRoom, an educational center in Almaty, Kazakhstan. The students can also chart their output showing their progress, which is incentivizing since these children generally like to see how they improve.

A search of the literature indicates that this issue has yet to be studied. The purpose, then, of this study is to determine what words and kinds of words are rapidly recalled by foreign-language learners in the early stages of their studies.

However, looking more broadly, one does find, first, research on the ability of language learners to give rapid recall within certain categories, and, second, an extremely large body of literature on productive language. In the former, there is some research on Spew tests (Yue & Fan, 2016). In a Spew test, participants write down as many words of a given category as they can remember in a short time period. The given category might be a semantic domain (e.g., fruits) or a linguistic domain (e.g., verbs or words starting with the letter B). Thus, the task is like Word Blitz, except that in Word Blitz, the choice of words is free. There are two primary foci of the research literature on productive language. They are 1) on how much and what words a language learner knows at what level and age (Larsen-Freeman & Long, 2014, p. xiv) and 2) what language is needed at various levels and for various purposes (e.g., Nation, 2014). The free-association (FA) literature is tangentially related to the current study. In FA literature, the focus is on pairs of words: the eliciting word and the response. While the preceding word (or words) of a word-blitz respondent could be seen as possibly being an eliciting word, this is beyond the immediate scope of the research.

The purpose of the proposed study is to learn about the words that are easily produced by English-language learners. There is virtually no discussion of ready access to vocabulary in EFL. This means it is not known what words or kinds of words come quickly to mind for foreign-language learners' spontaneous speaking.

### **Research Question**

What words do young EFL learners readily call up? This thesis presents a descriptive research study to document the efforts and results of six young Kazakhstani learners of English in their Word Blitz use. This includes a descriptive and numerical analysis of the words the participants came up with in five-minute free-recall exercises. The study covers material produced and collected in September through December 2017 as a normal part of the students' classes.

### **Rationale, Relevance, and Significance of the Proposed Study**

The words readily available to English-language learners in “real life” as well as in class-rooms using a communicative approach must be effective to express what the learner wants to say. At present, while there is a plethora of prescriptive lists, there is very little descriptive information on what the learners actually know and can and do use. The one major collection is the Cambridge Learner Corpus, which is a compilation of words produced on EFL learners' Cambridge language exams (Cambridge University Press, 2017; Capel, 2010; Sketch Engine, 2018). This massive corpus contains the words produced in writing texts constrained by the exam questions and produced in a longer time frame. Because of the paucity of information on EFL students' readily accessed vocabulary, this study begins to fill the gap and suggests leads for modifying vocabulary teaching. For example, a comparison of words rapidly recalled with the Dolch sight words and Dolch nouns (Amazon, 2017; Johns, 1975) or the New General Service List's words (Browne, 2017) might be used to

focus learning on the less-quickly recalled words. In addition, an examination of the semantic domains represented can provide insight into the salient interests of students, which can be of help to teachers attempting to engage students more effectively. On a theoretical level, the results of this and subsequent studies can be used to throw light on language-learning theories and perhaps even check their validity, for example, concerning the order in which words are acquired and the degree to which word complexity can be an issue in language learning.

### **Nature of the Study**

To address the lacuna, this study will discover what kinds of words are recalled in rapid listing of words by lower-level Russian-speaking EFL students and thereby generate ideas that can be of use to teachers and learners.

This study used an explanatory design. It began with an exploratory data analysis of six children's weekly five-minute lists over a four-month period. The patterns in semantic domains used, level of words used, and linguistic aspects of words as well as their numerical analyses and correlations with English level were used to give a description of overall patterns found and generate hypotheses or general areas for further study.

### **Definition of Terms as Used in This Study**

This study uses the following words, phrases and abbreviations in specific ways.

- *Word Blitz*: A list of English words that participants recall and write down in a five-minute period; not restricted to any particular subject
- *A5*: paper measuring 148 × 210 mm as specified by the ISO 216 standard
- *rapid recall*: reproduction of items during a short time period
- *beginner*: An EFL learner who is at the A1 level in the CEFR classification. In terms of vocabulary range, this is characterized by someone who “has a basic vocabulary

repertoire of words and phrases related to particular concrete situations” (Council of Europe, 2017, p. 131).

- *CEFR*: Common European Framework of Reference for Languages, a standard guideline for indicating foreign-language achievement
- *EFL*: English as a Foreign Language: English learned in a setting in which it is not the common language
- *elementary learner*: An EFL learner who is at the A2 level in the CEFR classification. In terms of vocabulary range, this is characterized by someone who “has a sufficient vocabulary for the expression of basic communicative needs [and who has] a sufficient vocabulary for coping with simple survival needs” (Council of Europe, 2017, p. 131).
- *L1*: first language (mother tongue)
- *pre-intermediate learner*: An EFL learner who is at the B1 level in the CEFR classification. In terms of vocabulary range, this is characterized by someone who “has a good command of a range of vocabulary related to familiar topics and everyday situations [, that is, someone who has] a sufficient vocabulary to express him/herself with some circumlocutions on most topics pertinent to his/her everyday life such as family, hobbies and interests, work, travel, and current events” (Council of Europe, 2017, p. 131).
- *productive vocabulary*: words a language learner can independently produce in speaking or writing
- *TL*: target language, the language someone is studying

### **Assumptions, Limitations, and Potential Variables**

Any study is surrounded by assumptions and limitations. This is especially true with work that has a small and restricted study population. The current study uses a small sample

from a relatively tightly controlled population. These participants are 6 advanced beginner through pre-intermediate EFL students living in Kazakhstan who were native Russian speakers between 8 and 13 years of age. It is assumed that the findings will have a certain amount of generalizability, especially among Slavic EFL students. A limitation is that it is likely that specific words – if not categories – that are prominent in the recall of pre-teens and young teens would differ from that of both very young learners and that of adults. It is also possible that specific course material can skew the responses to particular content that is not especially generalizable.

Potential independent and intermediary variables include age and gender as well as L1 (first language) and language level. Correlation factors and other concerns may include the following: semantic domain, word rarity as measured by the New General Service List and other lists, presence in EFL learners' vocabulary at various levels as recorded in the CEFR's English Vocabulary Profile, parts of speech, number of words recalled, and average number of syllables.

### **Organization of the Thesis**

Chapter 2 presents a review of the literature relevant to lexical learning and rapid-recall of vocabulary. Chapter 3 explains the methodology design. In chapter 4, the detailed research methodology is described as a framework for the actual data analysis that is given in the chapter. The final chapter, chapter 5, presents conclusions along with recommendations for further research and suggested applications.

## Chapter 2. Literature Review

### Introduction

Since vocabulary constitutes the building blocks of language, it is only fitting that scholars should investigate vocabulary acquisition (Clark, 1993, p. 1; Díaz-Rico, 2014, p. 81).

This was recognized over a century ago by Nice (1915), who studied the development of her daughter's vocabulary. About a half century later, Brown's heralded in-depth study of the language development of three children (1973) included but scant attention to the lexical items per se. After years of neglect that set in during the middle of the twentieth century (Laufer, 1986), vocabulary of native speakers and second-language learners has been of growing interest in recent decades (Farkas & Beron, 2004; Farnia & Geva, 2011; Ma, 2009). However, most of this work has been on acquisition by the former (Berman, 2004; Butler et al., 2010; Ebert et al., 2013 ; Song et al., 2015). Until recently, almost all of the work on foreign-language learners' vocabulary was focused on what words *should* be learned rather than what is actually learned. However, Carnegie Mellon University's Language Technologies Institute (<https://lti.cs.cmu.edu/work>) and Cambridge have attempted to shift the focus by assembling a corpus of material from EFL learners from around the world (Capel, 2010).

### Theoretical Framework

Development and production of vocabulary, though essential to language use, are only part of what is necessary for communicating with language (Hymes, 1974). And language, though a core and unique element of culture, is itself part of the matrix of nature and nurture that is humankind. To what extent language is learned and to what extent it is the expression of innate skill is an open question that has its roots in antiquity. Modern theories have argued this point in both academic and public realms (e.g., Skinner, 1957; Chomsky, 1959).

Thus, we see Skinner's influential behaviorist approach applied to language learning, which brought together ideas he had promulgated for more than a decade in lectures (1957). His lectures, published as an influential book, described language learning as a case of conditioned responses developed through modification of behavior primarily through rewards and punishments. The mind is explicitly excluded from this approach. Although behaviorism was generally in ascendancy in American psychology at this time (von Glasersfeld, 1990), there were other currents that espoused consideration of more than observable behavior.

One of these stemmed from the work of the Swiss developmental psychologist Piaget (1923; 1926). His opposition to the views of Skinner were in terms of the nature of psychology down to the specifics of ontological language development. For Piaget, the mind constructs reality in interaction with the experienced world, and language develops along with this created, negotiated reality in ordered stages. Although his work on children and cognitive development, including language had been published in the early twenties (Piaget, 1923; 1926), it was not until about the time of Skinner's book that his contrary ideas started making waves first in psychological circles and then in linguistic circles in the United States (von Glasersfeld, 1990).

Better known as an antagonist to Skinner is Chomsky, whose review (1959) of *Verbal Behavior* is often seen as a starting point of the shift in American psychology from behaviorism to cognitive approaches (Adelman, 2007, p. 29). Chomsky championed a Cartesian view of the mind, with a universal language deep structure hard-wired into human minds, waiting to be awakened and molded into the particular pattern of the child's mother tongue (Chomsky, 1957). This innatist view also goes against that of Piaget, though both fall



into the cognitive camp of language theories (Piattelli-Palmarini, 1980). More recent work on chunking, the learning of words in phrases, has produced positive results in language learning (e.g., Gobet et al., 2001). This tends to go against Chomsky's idea of a universal deep structure in that Chomsky used the claim that practically every sentence spoken is unique as an important argument for such universal grammar (Pinker, 2007, p.9), whereas numerous phrases or “chunks” of language do in fact recur often (Martinez & Schmitt, 2012). And, of course, many of these are, contrary to Chomsky's claim, complete sentences, such as “Good morning” and “I'm from Almaty.” In a sense, this provides a continuation of the ideas derived from Skinner's behaviorist approach and the audiolingual method that came from it: rapid drill (Brown, 2014, p. 104).

Gagné (1987), while clearly in the cognitive movement, retained objective elements of behaviorism in his schema in memory recall but provided learning patterns similar to the audiolingual method of foreign-language learning that sprang from behaviorism.

Today, theories of language acquisition are in flux, with research from neuroscience and corpus work constantly bringing new but not fully incorporated data and insights into the field (e.g., Wasserman & Zambo, 2013 on the former; Huang, 2011 on corpus with references). It is precisely because language-learning there is not settled that research into how language is acquired is crucial. This should include information on how words are learned and recalled, in order to test, refine and expand the theories. And that is what this study addresses.

### **Productive knowledge of vocabulary in English as a second language**

The most comprehensive collection of the use of English words by EFL learners is that of the *Cambridge Learner Corpus (CLC)*, with over six million words added yearly (Capel,

2010, endnote 6). This represents a survey of the written lexis of thousands of English learners from around the world to determine the vocabulary used at various levels up through B2. The database is freely searchable online (Cambridge University Press, 2017). This data source is analyzed by Capel (2010), who reports that there are 4,666 entries, significantly less than EFL texts use and less than the vocabulary of native speakers, which is estimated to be around 5,000 for a four-year-old native-speaker and over 20,000 for adults, based on results from [testyourvocabulary.com](http://testyourvocabulary.com) (Johnson, 2013). Milton (2010) approaches the issue of second-language learners' corpora a bit differently. In his study and survey, he focuses on the correlation between vocabulary size and CEFR level, concluding that vocabulary size is a strong predictor of second-language level.

Other valuable databases of written English are based on massive corpora. These provide frequency ranks of words from various sources, most of which are written. Of particular use are the Corpus of Contemporary American English, the British National Corpus (both freely searchable via Davies, 2017), and Google Ngram Viewer (Google, 2013). The data from these more universal lists, which contain billions of tokens (i.e., they record all occurrences rather than one entry per unique word) can provide a backdrop against which the production of EFL learners can be placed and evaluated, providing a tool for assessment and a collection of words that the learners can produce spontaneously.

### **Rapid-recall research.**

Studies dealing with timed *unrestricted* production of word lists appear to be totally lacking in the research literature. Nevertheless, two somewhat similar tests have been promulgated – but these tests have restrictions. These are the spew test and the Lex30.

In the spew test, participants are asked to speak as many words as possible in the target language. However, there is a constraint on the kind of words that can be given (Yue &

Fan, 2016). This restraint can be subject matter (e.g., only fruits) or linguistic (e.g., only interjections or only words beginning with given letters). The test is given in a restricted time frame, e.g., three minutes for each category. It has been used as a measure of productive vocabulary. Nevertheless, Waring (1999, 8.4.2) found “that the number of tokens produced on a written spew test does not correlate well with independent tests of vocabulary size or the average frequency of the tokens produced.” Nor does it have a statistically significant correlation with EFL levels (Waring, 1999, 8.3.3.3). On the other hand, a 0.53 correlation between (adult) participants' producing less-common words and the levels was observed (Waring, 1999, 8.4.4). This observation was made in conjunction with one that noted that there was a fall-off in frequency of tokens used as they became less common in the Collins Birmingham University International Language Database (COBUILD). It appears that no attempt has been made to analyze the kinds of words elicited in this test, even when the test uses a constraint such as initial letters that is relatively free from constraints on parts of speech, inflection, or cognitive domain. Meara (2010, pp. 35-36) says the test lacks standardization and in general needs more development before it can be considered an effective tool for studying foreign-language learners. In any case, it has not been used to explore semantic domains of learners.

With Lex30, a small set of stimulus words is used to produced responses, and these are used to gauge foreign-language learners' vocabulary knowledge (Fitzpatrick & Meara, 2015; Jiménez Catalá & Moreno, 2005; Meara, 2010; Meara & Fitzpatrick, 2000). This online software gives a static set of 30 stimulus nouns, adjectives, a verb and words that can be verbs or nouns and asks the respondent to enter four associated words. The results of this relatively quick and easy-to-administer instrument have been found to correlate fairly well with more extensive tests of productive vocabulary size (Jiménez Catalá & Moreno, 2005). On the

other hand, researchers have recently indicated that it is difficult to use this tool to specify an exact vocabulary level (Meara & Olmos Alcoy, 2010, p. 223). Furthermore, it differs from the present study in its aim, constraints (i.e., the use of prompts), and its lack of a strict time limit. Although designed to predict size of productive vocabulary of English learners, Lex30 has also been used to discern gender-related differences. Because of the constraints in Lex30, it is not well designed for getting a true cross-section of learners' productive vocabulary in terms of parts of speech or cognitive domains. Thus, it appears that no previous work on spontaneous vocabulary production per se has done this. The present study will start to open a new door in this aspect of language learning and production.

**Conclusion.**

By examining what words and kinds of words the individual pupils use, the study can infer their saliency. This can be used on a practical level with the individuals, but it can also suggest patterns that could be investigated in future studies. Also, by comparing individual learners' spontaneous vocabulary at a relatively early stage of their English with the larger collections cited above, it should be possible to discover what areas are more or less represented. By addressing the issue of individual words produced spontaneously in five minutes, the current study begins to fill a lacuna in the study of foreign-language acquisition and production.

### **Chapter 3. Methodology**

#### **Introduction**

This study explores the words that a small sample of elementary-to-pre-intermediate EFL Russian-speaking children produced when asked to write as many English words as they can in five minutes. Because this is a new area of study, an exploratory approach is taken. The primary emphasis is on discovering general patterns through finding semantic and grammatical groups and relationships to lists of words considered to be needed by or produced by EFL students. This new area of study is still in an exploration phase. What patterns of semantic and grammatical relations can be found in students relatively new to English?

#### **Statement of the Problem**

Especially at the beginning of a lesson, low-level second-language learners typically have problems in speaking fluently in the target language because they cannot quickly recall words that they have learned. What words can they in fact easily call up?

Vocabulary is one of the main elements of a language, which in turn means that learning vocabulary is an important part of learning a foreign language. Vocabulary has to be spoken or written. For a speaker, this means that it must be recalled and properly placed in an intelligible sentence within a reasonable amount of time. It is not uncommon for a student to know a word but not be able to recall it in time of need. This can happen in the class-room or in ordinary interactions, in the EFL setting in particular, where many students live in a non-English environment. When they come into the class-room thinking and speaking their mother tongue, this problem can be acute. English, including vocabulary, is lodged in the recesses of their minds rather than being on the tips of their tongues.

One possible technique to overcome this problem in the EFL class-room is to have them recall as many words as they can in a limited amount of time, thus activating the routes to these vocabulary depositories. This can be done either as a spoken or as a written exercise. The written version, called *Word Blitz*, does not produce as many words since people can speak faster than they can write, but it has the advantage of dramatically reducing accidental duplication. The practice is also easy to assess. Word Blitz is conducted weekly in a number of classes run by StudyRoom. The students can also chart their output showing their progress, which is incentivizing since the children like to see how they improve.

### **Purpose of the Proposed Study**

The purpose of the proposed study is to learn about the words that are easily produced by English-language learners. There is virtually no research or academic investigations of ready access to vocabulary in EFL. This means it is not known what words or kinds of words come quickly to mind for foreign-language learners' spontaneous speaking.

### **Research Question**

This thesis describes a descriptive research study documenting the efforts and results of six young Kazakhstani learners of English in their Word Blitz use. This includes a descriptive and numerical analysis of the words spoken in five-minute free-recall exercises. The study covers material produced and collected in September 2017 through January 2108 as a normal part of the students' classes.

### **Research Design and Methodology**

The qualitative aspect of the study consists of using open coding (Khandkar, 2009), examining for part of speech, number of syllables and semantic domain or domains. As Cooper and Schindler (2013) point out, qualitative research provides insights that can later be examined quantitatively. From the insights, hypotheses can be drawn and tested. The use of

open coding is consistent with an overarching exploratory data analysis approach (Yandell, 2017) and has as its goal eventual development of grounded theory (khandkar, 2009; Lonkila, 1995; Ethnographic coding, 2002).

In the present study, the words were entered onto spreadsheets and then “scrubbed” for analysis. Each word on the A5 sheets was transcribed and tagged with notes indicating original spelling if not standard, any problems the researcher had reading handwriting, possible alternative interpretations or other difficulties, date, and anonymized characteristics of the participant (gender, age, English level). The entries were sorted by and labeled with part of speech, nature of inflection if any, semantic domain and subdomain. These various factors could then be taken as variables for distributions on scatter plots so that correlations or other distribution graphic organizers could be used to make sense of the data and their patterns.

### **Target Population and Sampling Method**

The target population is low-level EFL learners, specifically native speakers of Russian from Kazakhstan. The sample was a convenience sample of three girls and three boys, ages 8-13. All Word Blitz lists produced during the time period were to be used. The number of different words that were to be produced by each participant and in total were unknown until counted.

### **Source of Data**

The data were collected from some of the Russian-speaking Kazakhstani students in the Tuesday-Thursday EFL evening class for elementary-pre-intermediate tweens (age 9-12) and teens (age 13 -19) at the StudyRoom Educational Center in Almaty, Kazakhstan taught by the researcher. The actual ages of the students involved were 9 to 13. Starting in first grade, English is a required subject in both public and private schools in Kazakhstan;

however, many students and parents find this inadequate and enroll the children in private language academies such as StudyRoom for additional classes during the school year and/or in summer language camps. Classes in academies are typically smaller than in schools. For example, at StudyRoom, classes have no more than twelve students, with typical class sizes being four to eight.

### **Data Collection**

The data collection procedure consists of having the participants write a *Word Blitz* at the beginning of the first class each week. The participants do this exercise as a routine part of their classes. Word Blitz follows a specific pattern. Students are each given an unlined A5 sheet of paper and write as many words as they can in five minutes. The students have been told that no numbers and no proper nouns or proper adjectives are allowed. They also know that they must produce the words from memory rather than copying words from books or any other source in the room.

They are observed by the teacher while they do the Word Blitz. The students have also been told not to worry about spelling. After five minutes, each one of them counts how many words he or she has written and puts that number on the sheet while telling the rest of the class. For the materials used in this study, the sheets, with names and dates, were then collected for later transcription and coding. The transcription includes the original spelling and, where it is not a correctly spelled English word, the word that the researcher guesses is meant. If it was unintelligible due to handwriting, it was stricken from the list. However, if the letters were discernible but not matching with any likely English word, the “word” was kept in the database but separated and not counted. Numbers and proper nouns and adjectives were also kept in the database but separated and not counted.



### Data Analysis Procedures

The words were listed on separate pages in a spreadsheet for each student in the original order and spelling, grouped by date written. The data were “cleaned” of inappropriate and non-English words: that is, these words were separated and not included in the counts and analysis, though they have been retained on the spreadsheet. In addition, words that are not correctly spelled are so indicated; they *are* included in the analysis. It was estimated that there would be about six thousand tokens, since the six students average about 60 words a sitting and there were to be 17 weeks. The words were marked as to part of speech and the inflected form noted if present (e.g., plural, past simple). In addition, any special conditions such as ambiguity (e.g., is orange a fruit or a color) or confounding factor (e.g., the rare word *pied* is marked with a note that the legend of the pied piper of Hamelin was taught in the class) were entered for each word.

As originally planned, the next step was to examine a 10% sample of the data in order to get an impression of what categories might emerge. Using the results of this examination, tentative semantic categories were to have been set up and modified as the aggregate occurrences and quantities were tabulated. In fact, the examination of the sample revealed a number of problems. For example, words could be put into more than one category. In addition, determining categories and levels of categories proved to be difficult, subjective – perhaps even arbitrary – and extremely time-consuming. At this point, the researcher decided to search for an existing standard for semantic domains. The SIL system (explained in chapter 4) was found and subsequently used. Then the occurrences and distributions were examined in terms of standard word lists (Dolch [Amazon, 2017; Johns, 1975], CLC [Capel, 2010] and NGSL [Browne, 2017]) and demographic variables (gender, age and English level) and correlations tested. At this stage, distribution patterns, especially in terms of the

aggregate data were sought out. These patterns were to be compared to individual's responses and by demographic and education variables: gender, age and EFL level based on CEFR test results. Items that were removed from the "clean" list were also examined individually to see if any meaningful patterns occurred. Possible errors occurring in the "dirty" data could be writing non-existing cognates.

### **Internal Validity**

Unfortunately, there are a number of threats to the internal validity of this study. The following list identifies them and attempts to evaluate their significance and how, if possible, they can be reduced in this study.

**History.** Because Word Blitz was written once a week over a four-month period, it is possible that the participants would hear English words about outside events or simply think of the concepts relating to them. Because these particular children are not particularly interested in current events, it was thought that unless a truly major event occurred during the time covered, it would be unlikely that such words or ideas would play a role of any meaningful magnitude. On the other hand, words relating to the seasons (e.g., snow) might vary across the study period. Also, when a fad (such as fidget spinners) spreads through the cohort, it can be expected to affect the data. Seasonal words were to be checked for their temporal variance. Any fad was to be noted and related words checked for.

**Maturation.** The participants are all young people studying English in their schools and in the course in which Word Blitz is done. It is likely that not only the number of words but also the range and difficulty of words would change as the individuals learned more English and grew as people. The time period is short enough that the individual socio-psychological maturation of the participants is not likely to have changed substantially. On the other hand, it is long enough that the vocabulary that they know should significantly

increase and change. However, since the goal of the study was to get an aggregate picture of low-level students rather than a comparison of before and after a treatment, this change is not a serious problem. Still, since the entries are all marked with the date the words were given, a check can be made by comparing early and late samples.

**Selection.** Although participants were not selected randomly, they have no known special traits different from other young low-level Russian-speaking learners other than an interest in taking extra English classes.

**Drop off.** It was possible that not all students would stay for the entire period. More likely is that a few days will be missed due to illness..

**Ennui through Task Persistence.** Students might lose interest in Word Blitz and not put in much effort or begin to simply repeat words each week. So far, this is not the case: The students look forward to Word Blitz and try to raise their scores.

**Testing.** In many tests of skill such as vocabulary recall, it is to be expected that there is a testing effect, in which simply taking the test another time improves the score (Colman, 2009). While this is true for the first compared to the second time the test is taken, it seems reasonable (and it is suggested by the change in progress from a jump to a gradual rise) that it is not a major factor thereafter. The first Word Blitz of each participant, though recorded, is not included in the data analysis. Furthermore, since this study is not diachronic, this factor has little relevance.

**Setting.** The three girls go to the same school, with two of them being classmates. The specific content of their English lessons could influence their Word Blitz responses. The three boys, on the other hand, each go to different schools. Of course, all six students study English in the class in which the Word Blitz is conducted. This can be at least informally

controlled for by examining the themes and target vocabulary in the class and comparing it to the responses.

**Cleanliness of data.** There are three confounding factors dealing with individual entries. A preliminary examination of the data indicated that spelling errors are fairly common. While most of them do not obscure the meaning of the word, it is to be expected that some words will not be clear, especially in cases where the given “word” lies between two common and similarly spelled words. There can also be words spelled by the participant the way a different word is actually spelled (e.g., “fiend” for “friend”). Sloppy handwriting could bring in some error or data-entry omission. Words that have multiple meanings within and across grammatical and semantic domains (e.g., shot) are certainly confounding factors that are present at least to some degree. These were to be marked and descriptive statistics tested with their being variously categorized to at least get upper and lower limits.

**Chronic absenteeism.** Students fail to arrive in class on Word Blitz days. This did not occur, although one girl did leave the program.

**Halo Effect.** Students perform at high rates due to researcher bias, excessive prompting or praise. Since the object of the research was to learn about the kinds of words rather than the amount, the halo effect is not considered a real problem.

In spite of these threats to internal validity, the study can provide valuable guideposts as to what patterns might be generally valid – at least to the extent of offering them as hypotheses for testing in populations that reduce the afore-mentioned threats. In sum, most of these threats are minor, considering the goal of the research. The data should be a good representation of words produced by these individuals.

**External Validity**

This is an initial study using a very small convenience sample in terms of number of participants, so the goal is to generate hypotheses. It is not intended to claim greater applicability per se. Rather, its purpose is to generate ideas that can be tested. To what extent the results apply beyond the specific individuals, their age range, their English level, and their nationality and first language is something that is unknown but can be hypothesized based on the results and then tested.

**Expected Findings**

It was expected that certain high-frequency words would recur. Most of the words should be common ones found in the Dolch lists, the CLC and/or the NGSL although function words might be under-represented. Less-common nouns were also expected, especially ones from the course's themes and foci (Argentina, Germany, folk tales). Nouns, verbs and adjectives should dominate, possibly in that order. Certain semantic groupings were expected to emerge, at least for individual participants if not as a whole. These were thought to include food and animals as well as social relations. There may be a gender difference in semantic categories represented and their weighting. It was hoped that some tentative ideas about teaching methodology and learning vocabulary would come out of the results.

**Ethical Issues**

Doing Word Blitz was a regular part of class routine, so the research imposed no additional onus on the participants. The data (words in lists) are devoid of context and should be harmless. Nevertheless, all records were kept anonymous. Students are identified, where necessary, only with arbitrary numbers.

**Summary**

Although words are the bricks of the house of language, only in the last few decades has their study within the framework of modern learning and language theories taken place. The study of vocabulary lists by EFL learners undertaken here in an exploratory manner is designed to suggest what words and categories are present or absent from lists low-level learners produce without significant restrictions. The methods used were primarily finding groupings and outliers using a standard domain and set and researcher-perceived domains and examining distributions.

## Chapter 4. Research Methodology and Actual Data Analysis

### Setting

The research was conducted using Word Blitzes (lists of words produced in five minutes) that had been generated and collected as part of the regular class activities of a twice-a-week, 90-minute EFL class for tweens at the upper elementary through pre-intermediate level. Word Blitz was generally conducted at the beginning of the first class day of the week over the period September 5 – December 26, 2017. The classes were held in the regular class-rooms of StudyRoom Educational Center in Almaty, Kazakhstan. With a population of over one and a half million, Almaty is the largest city in the country. The metropolis has a flourishing financial, business and government environment. Kazakhstan is a developing country in western Asia with two official languages, Russian and Kazakh. The strongly predominant language in Almaty is Russian. Children in Kazakhstan are required to take English starting in the first grade. Through the fourth grade, they will each have had two hours of the language a week, or 66 hours per year for four years. (Ministry of Education and Science, 2016). After these 266 hours, English learners should have attained A2 on the CEFR according to Guided learning hours – Cambridge English Support Site (2019)

### Participants

The class consisted of Kazakhstani children aged 8 through 13, with one boy turning 9 and the two girls turning 13 during the term. All of them are native speakers of Russian enrolled in one school or another in Almaty. They were taking the supplementary course with StudyRoom out of personal interest and/or in accordance with their parents' wishes. The number of students in the class fluctuated, with five students present throughout the fall semester.

**Data**

Besides demographics and English-level information, the project's data consisted of the words the participants wrote in a timed activity at the beginning of the class, just after a physical warm-up and before any English instruction. This exercise was done as a routine part of the class based on the assumption that it would activate the students' English. Each student was given a sheet of A5 paper and asked to write date and name on the paper. The students were then given a timed five-minute period with instructions to write as many words in English as they could, not worrying about spelling or neatness. Numbers and proper nouns and proper adjectives were excluded. The reason for excluding numbers was that for participants at this level, writing numbers might be too easy and not engage them enough. Proper nouns and proper adjectives were excluded to eliminate simple cognates that could be little more than transcriptions from the Cyrillic to the Latin alphabet. A nominal downside of this decision is that some proper nouns, such as days of the week, are either not cognates or distant enough as to require actual acquisition. Nonetheless, this downside is considered to have had only a minor impact.

After the first few lessons, the instructions were omitted except when a new student joined the class. Students were asked to count their words to chart their progress and write their score on the papers. The papers were then collected and put aside after the reported (but not always completely accurate) scores were recorded. In January, the papers were taken out and sorted by name.

**Procedure of Analysis**

Except for the actual producing of the words in the weekly five-minute periods, all processing and analysis were done by the researcher, who was also the participants' teacher during the time of the Word Blitzes examined. The coding of the data began in early 2018 but



extended into June due to difficulties with coding. These included difficulty in reading some of the handwriting, decisions on categorizing, and errors in coding and their corrections. The individual words on the Word Blitz slips were transcribed sequentially onto a spreadsheet, with one sheet dedicated to each participant. Each word was typed in the order written and orthography to the best of the researcher's ability. Any word that appeared to be misspelled was so indicated in a designated column. In another column, the inferred word was written in. For problematical words, notes were entered in an additional column. These notes were about such things as handwriting or entries that are misspelled but could be attempts at more than one word. The (inferred as well as the easily read) words were then marked for part of speech, length, number of syllables, how they were inflected (unless they were in a base form), presence in the Dolch and NGSL lists, and if there was some known factor (class focus, Hallowe'en, or popular mobile-phone or computer game) that would make the word more likely to be entered. Each word was also assigned a semantic domain code using the SIL International's system (2019). Where a word was not found in the SIL International's database, a near synonym was used to assign a value, and this variant was noted. Only 19 words were marked as invalid and not used. Potential reasons for excluding items included nonsense sequences of letters, duplicates (on the same day), and disallowed items (numbers and proper nouns and proper adjectives). In fact, the excluded items were duplicates (respondents 1 [1 case], 2 [2 cases], 3 [2 cases], and 4 [1 case]), numbers (respondent 3 [3 cases]), and proper nouns (respondents 2 [3 cases], 3 [4 cases], and 4 [3 cases]). All cases of proper nouns were either *Santa* or names of months. Homographs (e.g., *saw*), were assigned the meaning that the researcher thought most likely to have been meant based on nearby words in the list and the teacher/researcher's personal knowledge of the individual

students. The most difficult decision was probably with *orange*, which was listed a number of times and coded as both a fruit and a color.

## Results

Although the study started with six participants, the input from only four of them was used. One girl left the course, and one boy had handwriting that was so bad that his submissions were deemed unusable. The results can be looked at in the aggregate and in terms of demographics. Because of the small number of participants and apparent absence of any comparable research, this study was specifically conceived as exploratory rather than hypothesis-testing. For that reason, no standard statistical tests were applied to either the aggregate results or the subsets.

The aggregate material was examined in terms of types (i.e., different “words”) rather than the 2,872 usable tokens (occurrences). The total number of usable types written during the weekly Word Blitzes from 17 September 2017 through 26 December of the same year was 825. These were examined in terms of level of “difficulty,” parts of speech, and semantic domain. Level of difficulty is defined, first, in terms of presence or absence in two basic word lists: the Dolch List of sight words for American children learning to read (Amazon, 2017) and the New General Service List, or NGSL (Browne, 2017). The Dolch List is comprised of 315 words that frequently occur in children's readers. The latter list is a slightly modified compilation of the 2,818 most common lemmata in British English. Though “based on a carefully selected 273 million-word subsection of the 2 billion word Cambridge English Corpus” (Browne, 2017) to represent the most common lemmata, the list has been slightly modified based on input from EFL and ESL teachers and researchers to include useful but slightly less common lemmata for English-language learners. Secondly, level of difficulty is defined in terms of number of letters and number of syllables. Since the students were trying

to get as many words as possible, a preference for shorter words was to be expected in addition to an expectation of shorter words being more likely to be known. No attempt was made to disentangle these two factors.

Since all the participants were between upper elementary and middle pre-intermediate, inclusive, it seemed reasonable that the words would mostly be short and simple and come from basic vocabulary. This was only partially borne out. In terms of number of syllables per word, the pattern was clear, with well over half being only one syllable, and two-syllable words accounting for just over three-tenths of the words. The mean number of syllables per type was 1.55, and the mean number of syllables per token was 1.51, or essentially the same. Because more than half the set have only one syllable, the integer median (as well as the mode) is 1. This skewing toward the low end seems to be a reflection of three factors: the relative frequency of words in the language with each number of syllables, the fact that the participants were trying to maximize their number of words (shorter words can be written faster), and the fact that words with fewer syllables are generally simpler and learned sooner and more easily. It would seem worth looking at the longer words to get an idea of what words or kinds of words occur in this rarefied set.

First, though, a few caveats are in order. It should be noted that syllable-counting is not perfect because of the issue of homographs (see discussion below in the section on semantic domains) and the issue of syllable identification. The number of syllables in some words, such as *chocolate*, can be counted in more than one way. As much as possible, the decision on these words was based on the pronunciation used by the participants, which was influenced by such factors as cognate terms from Russian and Russian consonant-cluster patterns as well as the teacher's idiolect. Thus, *chocolate*, *easily* and *mystery* were counted as having three syllables, whereas *world* was counted as having one. On the other hand, *girl*

was counted as having two syllables. These cases are relatively uncommon. At most, these decisions would raise the mean for tokens 0.02 points and do not lower it, taking the most extreme reductions and additions, respectively. For types, the difference would also be nominal: lowering it at most 0.01, and not raising it.

The four-syllabic words were *geography, generator, legendary, supermarket, taxi driver, vegetable, vegetables, watercolor, and watermelon*. The five-syllabic words were *hippopotamus, metropolitan, pronunciation, and refrigerator*.

The number of letters per word roughly approximates a normal distribution shifted to the left, with an extended tail to the right (see Table 1). It peaks at 4 (28% of all types), drops somewhat at five (22%) and then about equally to 3 (13%) and 6 (14%). Since there are only two common words with only one letter (*a, I*) and only a handful with just two (Two-letter words, 2018), it is not surprising that the distribution drops sharply for these two values. On the other end of the distribution, the drop-off is a little less dramatic, ending with three 13-letter words (e.g., *pronunciation*). Thus, this distribution seems unremarkable. Because of the insignificant difference between values for tokens and for types and because variation in type is more meaningful for our purposes, only types are presented here.

It can be of interest to compare this distribution to that in the language in general (see Table 2). Such a distribution has been estimated using the *CMU Pronouncing Dictionary* (moonmilk, 2013, November 12). In contrast to the distribution from the Word Blitz set, the larger, general English sample's distribution has the most words in the two-syllable range (43%), followed distantly by three-syllable words (28%). One-syllable words barely exceed ones of four syllables (12% to 11%). Not surprisingly, even longer words, though not frequent, are more common in the over-all body of the language.

WORD BLITZ

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<b>Number of Letters per Word</b>	1	2	3	4	5	6	7	8	9	10	11	12	s
<b>Percentage of types</b>	0.2	3	13	28	22	14	7	5	3	2	0.4	0.5	0.4

*Table 1.* Number of letters in unique words in Word Blitz material

Total percentage is less than 100 due to rounding.

<b>Number of Syllables per Word</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8 or more</b>
<b>Percentage of types in the Word Blitz Responses</b>	60	31	8	1	0.5	0	0	0
<b>Percentage of Words in the <i>CMU Pronouncing Dictionary</i></b>	12	43	28	11	3.5	0.89	0.16	0.03

*Table 2.* Number of syllables in unique words in Word Blitz material and in English in general

Note: Total percentages differ from 100 due to rounding.

Two well-known lists of common English words are used in teaching and testing reading by American school children and students of English as a second language. The Dolch lists are based on a survey of lower grammar-school books and contain the most commonly occurring words in children's books (Leibert, 1991). The compiler, E. W. Dolch, felt American school children should know these words as sight words. There are two sublists: the basic one of 220 words and a noun list with 95 words (Ramsay, 2019). The New General Service List is based on a 273-million word subset of the two-billion-word Cambridge English Corpus and represents the core vocabulary that covers 90% of the words of a typical general reading text and was specifically designed for English-language learners (Browne, 2017).

While determining the part of speech of individual words in lists is in some measure subjective or arbitrary, the majority of words can in fact be assigned to one category or another with a fair amount of accuracy. The Word Blitz distribution of parts of speech is similar to the relative frequencies in the Dolch and NGSL lists, though the supremacy of nouns is more marked in the Word Blitz material (See Table 3 and Figure 1). Nouns and verbs are clearly the most common kinds of words, with nouns accounting for over 60 percent of tokens in the Word Blitz material, followed distantly by verbs at just 18%, in turn followed at a significant distance by adjectives and then adverbs. The other parts of speech trail. In the other two lists, verbs more closely approach nouns in frequency: 30% nouns and 29% verbs for Dolch and 50% and 25%, respectively, for NGSL. Adjectives and then adverbs hold the next positions on all three lists, though they are strongest in Dolch (14% and 10%, respectively). Not surprisingly, pronouns, the next most frequent category, are most strongly represented in the Dolch list (8.3%). This can be attributed to the need to teach these key words early on. Because they are a closed and relatively small set, their percentage in the much larger NGSL is perforce much smaller (0.71%). Their frequency in the Word Blitz set

falls in between, at 2.1%. This can be attributed to the intermediate number of types but perhaps also to the relatively restricted use of pronouns to the most common forms by elementary and lower pre-intermediate EFL speakers.



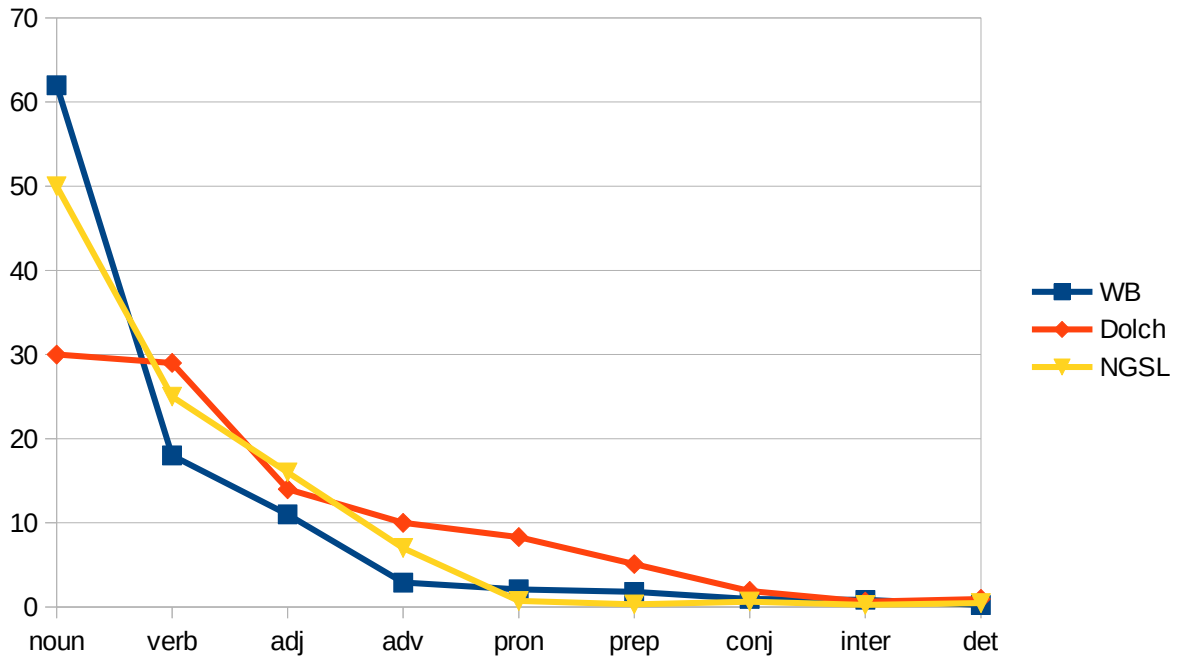


Figure 1. Relative frequency of parts of speech in Word Blitz (WB) and on the Dolch list and the NGSL

The four participants produced a total of 2872 valid tokens. These yielded 860 types when considering each inflection as separate. Of the 795 “separate” types (that is, not counting inflections as separate types), 213 were on the Dolch lists and 582 were not. Altogether, 102 Dolch words were not written on any of the Word Blitzes compared to the 213 that were. An examination of the lemmata in the New General Service List (NGSL) found that 582 of them were on the Word Blitzes and 219 were not. Thus, 78% of the 315 Dolch words appeared on the exercises compared to only 21% of the 2,802 NGSL lemmata. Contrariwise, 27% of the Word Blitz types were on the Dolch lists; whereas 73% of the types were found among the NGSL lemmata. While the presence of so many words outside the Dolch lists is not surprising, that more than a quarter of the words were not in the NGSL seems significant. Even though these A2/B1 (upper elementary/low pre-intermediate) students operate at a level consistent with people having a vocabulary less than the complete NGSL (Alexiou & Alexiou, 2009, as cited in Linas, 2016), more than a quarter of the types they spontaneously produced in a five-minute period were more rarefied.

Words appearing in the Word Blitzes that are not in the NGSL are listed in Figure 2. The students in the study are at a level of English that suggests a vocabulary size somewhere under 2500 to around 2750 (Alexiou & Alexiou, 2009, as cited in Linas, 2016), which is similar in size to that of the NGSL. The words that were not in the NGSL, especially those written by more than one participant, are mostly fruits and other foods (e.g., *apple*, *burger*), school items (e.g., *marker*, *scissors*), and informal names for kin (e.g., *granddad*, *grandma*), as well as games and playthings (e.g., *wizard*, *doll*). In addition, there were a few words that were related to the class projects (e.g., *ember*, *pied*) and various odds and ends (Figure 2).

Participant 1	adjective, <i>apple</i> , arena, <i>banana</i> , <i>basketball</i> , baton, berry, bow, bubble, <i>burger</i> , cloudy, <i>copybook</i> , corn, <i>dinosaur</i> , <i>doll</i> , <i>dragon</i> , earthquake, elevator, ember, epic, flour, <i>glue</i> , hipster, homework, <i>juice</i> , lag, laptop, legendary, <i>lemon</i> , <i>lion</i> , <i>marker</i> , <i>panda</i> , pats, peas, pen, <i>pencil case</i> , pickaxe, <i>pizza</i> , poison, <i>puzzle</i> , <i>rainbow</i> , <i>rose</i> , rubber, <i>scissors</i> , <i>snake</i> , soup, spoon, steak, sunny, supermarket, sword, <i>T-shirt</i> , <i>tiger</i> , <i>tomato</i> , toxic, transformers, turkey, turtle, underline, volleyball, <i>watermelon</i>
Participant 2	<i>apple</i> , addict, angel, bake, <i>balloon</i> , <i>basketball</i> , bathroom, birthday, born, <i>boyfriend</i> , <i>burger</i> , <i>cafe</i> , candy, <i>carrot</i> , <i>cherry</i> , cookie, <i>copybook</i> , crocodile, <i>cucumber</i> , dairy, dean, devil, DNA, donuts, <i>dragon</i> , fairy, fairytale, <i>folder</i> , <i>girlfriend</i> , <i>glove</i> , grandchildren, grandfather, <i>grandma</i> , <i>grandpa</i> , <i>grape</i> , handsome, harmony, hungry, <i>internet</i> , <i>juice</i> , <i>lion</i> , lollipop, <i>marker</i> , mask, metropolitan, <i>monster</i> , nope, notebook, onion, palm, parrot, peach, <i>pear</i> , pencil, <i>pencil case</i> , pepper, pied, <i>pineapple</i> , <i>plum</i> , policemen, poster, <i>rabbit</i> , <i>rainbow</i> , refrigerator, scary, <i>smoothie</i> , <i>snake</i> , <i>sofa</i> , spider, <i>strawberry</i> , sunbathe, super, <i>T-shirt</i> , thunder, <i>tiger</i> , tomato, trousers, umbrella, <i>underground</i> , unicorn, velvet, watercolor, whistle, <i>wizard</i> , <i>wolf</i>
Participant 3	ant, auto, awesome, <i>banana</i> , basket, beard, bee, beef, beg, breeze, cart, clay, cottage, cure, <i>dragon</i> , duck, eagle, elephant, fame, generator, <i>glue</i> , <i>granddad</i> , <i>grandma</i> , hare, honey, insect, karate, kite, <i>lemon</i> , <i>lion</i> , mazy, <i>melon</i> , mister, mum, note, ops, <i>panda</i> , party, <i>PE</i> , pet, pistolet, <i>pizza</i> , <i>puzzle</i> , <i>rabbit</i> , rat, rocket, rot, shit, sip, <i>snake</i> , squeeze, star, sticker, tennis, thin, timer, <i>wizard</i> , <i>wolf</i> , yo-yo
Participant 4	alphabet, <i>apple</i> , balcony, <i>balloon</i> , balloons, banana, basketball, blueberry, bod, bored, <i>boyfriend</i> , <i>butterfly</i> , bye, <i>cafe</i> , <i>carrot</i> , cartoon, case, chemistry, <i>cherry</i> , clown, cock, computer, crisps, <i>cucumber</i> , cute, <i>dinosaur</i> , <i>doll</i> , dolphin, flower, <i>folder</i> , fridge, frog, fury, geography, giraffe, <i>girlfriend</i> , <i>glove</i> , grandchildren, <i>granddad</i> , <i>grandma</i> , grandmum, <i>grandpa</i> , <i>grape</i> , gymnastics, hippopotamus, hockey, <i>Internet</i> , <i>juice</i> , <i>lemon</i> , lid, lime, <i>lion</i> , mall, <i>melon</i> , mike, <i>monster</i> , mum, notebook, parsley, <i>PE</i> , <i>pear</i> , pen case, pencil, <i>pencil case</i> , pillow, pineapple, playground, <i>plum</i> , pretzel, pronunciation, purple, <i>rabbit</i> , ridge, roar, rooster, <i>rose</i> , rucksack, rum, salad, sausage, <i>scissors</i> , skeleton, <i>smoothie</i> , <i>snake</i> , statue, <i>sofa</i> , speakers, <i>strawberry</i> , subway, <i>T-shirt</i> , teddy, <i>tiger</i> , tomato, tram, trousers, <i>underground</i> , vine, volleyball, <i>watermelon</i> , wedding, <i>wolf</i>

Figure 2. Words present in the Word Blitz material not present in the NGSL

SIL International (formerly, the Summer Institute of Linguistics) has published a hierarchical system of semantic domains created by Ron Moe (SIL International, 2019). Entering a word into the search box on the Institute's dedicated site produces a digital value indicating which of some 1800 lexical domains the word belongs to. These are nested with varying degrees of specificity. Thus, for example, *world* is 1.2, whereas *shop* is 6.5.1, and *room* is 6.5.2.7. A difficulty in using this service is that many words have various meanings. While the service lists alternatives, a researcher must make a choice from among them. In this study, the researcher used a combination of acquaintance with the individual participants and the neighboring words on the lists to make determinations. Although time-consuming, this was usually relatively easy, but on a few occasions the decision approached arbitrariness, such as *orange* occurring without nearby color or fruit words. In addition, in some cases words were shifted into different higher domains than the SIL source gave based on the researcher's acquaintance with the participants as students. This occurred with domesticated animals, which this study includes under *animals* rather than under *animal husbandry*, which is where *dog*, *cow* etc. are most specifically placed by Moe. The researcher's change in placement reflects the participant's urban background and their use of such words in class. The shift into higher domains also occurred with items such as *scissors*, *marker*, *paper* and *pen*, which were moved from *communication* to school (*teach*). A number of words were not in the SIL's database. These words, given in Figure 3, were assigned to categories by analogy. All the words' domains were recorded and combined under two-digit higher domains. The most common two-digit domains were *food* (with 12% of types, far and away the most common), *animals* (6.7%), *teach* (6.6%), and *social activity* (6.5%). The second-tier domain *food* includes fruits as well as popular prepared food that is often cognate between Russian and English (e.g., *pizza*). In addition, food is a universal activity that is commonly

taught early and visually in EFL courses as well as being a common theme in tween conversations. Animals are also familiar and a popular theme among tweens. Furthermore, they are easy for teachers to teach using pictures, sounds and toy animals. The domain *teach* includes common class-room objects that students here named and are encouraged to refer to in English in many EFL classes. They are also frequently introduced in beginner and elementary EFL textbooks. Social activity includes sports and socializing activities, both of which are popular among Kazakhstani children and teens. The category is also quite inclusive, which lends to its large size. Unlike the distribution of parts of speech, that of domains declines smoothly after the first very large drop from food.

A comparison of the categories with the most items and the kinds of items that are *not* in the NGSL reveals a strong similarity. This indicates that there is a strong production of words related to food, animals, school and social activities (in particular, playing) of both basic and less common words. Relationships (especially, kin terms) are also frequent in both the domain list and list of words beyond NGSL, though in the former they are slightly exceeded by words in the *quality* domain (due in part to its having many colors). It is perhaps surprising that emotions, which are so commanding among children of this age, are no more frequent than 1.7% of the total. Perhaps this is due to their lack of differentiation at this age: the only participant-produced word in this domain that is not in the NGSL is “awesome.”

bod, bye, cafe, copybook, dean, donuts, ember, hipster, karate, legendary, metropolitan, mike, mobile, nope, notebook, online, as, PE, pistolet, rucksack, sausage, statue, sticker, sunbathe, taxi driver, teddy, timer, trousers, underground, unicorn, van, velvet, *volleyball*, watercolor, yo-yo

*Figure 3.* Word Blitz words not found in SIL International's database

Domain	Number of types	Percent	Examples of words belonging to the domain	Comment
Food	58	7.3	apple, coffee	
Communication	39	4.9	Book, cry, hello, lie, page, smile	Some of these (e.g., book) could just as well have been transferred to school.
Animal	30	3.8	animal, bear	
Teach	36	4.5	board, paper, teacher	
Social activity	48	6	dance, teddy, volleyball, winner	
Quality	33	4.2	bin, red, soft	
Relationships	30	3.8	friend, meet, uncle	
Move	33	4.2	bus, slip	
Time	37	4.7	autumn, begin, hour	
Working with buildings	32	4	door, flat, traffic	
Part of speech	39	4.9	of, our, verb	
Body	23	2.9	lips, limb	
General words	20	2.5	do, is, make	
Life	18	2.3	girl, poison	
Occupation	19	2.4	draw, nurse	
Clothing	14	1.8	Coat, velvet	
Quantity	14	1.8	All, than	
Sky	15	1.9	sun, blew, rain	
World	12	1.5	forest, gold, mountain	
Tool	14	1.8	bag, computer, glue	
Government	21	2.6	Capital, city, president	
Emotion	17	2.1	Sad, love	
Household equipment	9	1.1	bed, poster	
Sense, perceive	12	1.5	cute, noisy, saw	
Big	9	1.1	big, small, tall	
Conflict	10	1.3	Lose sword	
Location	11	1.4	down, here, left	
Finance	9	1.1	Beg, money	
Plant	6	0.75	flower, rose, stick	
Religion	9	1.1	devil, fairy, god	Almost all are fantasy terms.
Semantic constituent relating to verbs	10	1.3	can, may, no, nope, not, should	
Behavior	7	0.88	bad, love, mistake	
Move something	23	3.6	close, send, took	
Work	10	1.3	lazy, use, work	

Think	10	1.3	new, fame, forget	
Healthy	5	0.62	Cure, toxic	
want	5	0.62	Aim, rules	
Arrange	4	0.5	Fill, mix	
Name	4	0.5	Dear, name	
Nature	4	0.5	River, pollution	Animals, plants, meteorology etc. have their own categories.
Person	3	0.38	Human, people	
Body condition	3	0.38	Relax, strong	
Cleaning	3	0.38	Clean, wash	
Hide	3	0.38	Hide, search	
Prosperity, trouble	3	0.38	Danger, save	
sleep	3	0.38	Dream, woke	
adornment	2	0.25	Ring, brush	
Authority	2	0.25	Mister, master	
Fire	2	0.25	Ember, fire	
Very	2	0.25	About, so	
Water	2	0.25	Pour, water	
Break, wear out	1	0.13	broke	
Body functions	1	0.13	blood	
Hunt, fish	1	0.13	miss	
Divide into pieces	1	0.13	cut	
Physical impact	1	0.13	strike	
Posture	1	0.13	sit	
Soul, spirit	1	0.13	observation	
Living things	1	0.13	DNA	
<b>Total</b>	795	Does not total 100 due to rounding		

Table 4. Relative frequency of second-tier semantic domains in the Word Blitz material



WORD BLITZ

	Tweens' and teens' interests	School-related	Food and food preparation and consumption	Nature	Sports	Every-day items	Fantasy and cyber games	Course PBL vocabulary	Residual
Number	21	31	42	34	18	11	36	8	24

*Table 5.* Numbers of words in Word Blitz responses that are on neither the Dolch List nor the NGSL

Representative words in tweens' and teens' interests category are *birthday*, *bod*, and *clown*; for school-related, *Chemistry*, *copybook*, and *folder*; for food, *beef*, *blueberry*, *flour*, and *hungry*; for nature, 27 animals (e.g., *ant*, *dolphin*, *frog*, and *insect*), *rainbow*, and *star*; for sports, *baton*, *gymnastics*, and *hockey*; for everyday items, *auto*, *bathroom*, and *cafe (sic)*; for fantasy and cyber-games, *devil*, *dragon*, and *epic*; and for content from the course, *cock*, *ember*, *lid*, and *pied*. It is apparent that most of these words are useful, relatively common ones that are especially relevant for these children learning English. The words from the PBL course provide exceptions to this pattern. Since the class chose to study countries (Germany, Portugal, and Korea) for their projects, some items of food as well as uncommon words from fairy tales were learned – and apparently well enough that they came easily to mind. Besides the words mentioned for this category, *cart*, *fairytale*, and *pretzel* were listed. All of these were used in the course of the project on Germany. It should be remembered that Word Blitz was done at the beginning of the first session of each week, so it was not the case that the students simply gave words that had just been heard.

Not surprisingly, some of the words in the residual category (Figure 4) are not very common, though it is not obvious whence they came. Two of the words might be misspellings: *lag* for *leg* and *pats* for *pets*. Also, *dean* might be a misinterpreted *dear*. But *addict*, *hipster*, *metropolitan*, and *pistolet* show more than just an acquaintance with words out of the norm for young learners at this level. Even though these outliers are few in number, their mere presence indicates an active engagement with English beyond the bounds of instruction. A short discussion with the participants concerning these words confirmed that.

**Residual outliers**

addict, beard, beg, born, cure, cute, dean, fury, generator, harmony, hipster, lag, metropolitan, mister, nope, pats, pistolet, rot, squeeze, sunbathe, thin, wedding, whistle

*Figure 4.* Words in Word Blitz responses that are on neither the Dolch List nor the NGSL and were not found to easily fit into any of the eight ad hoc categories

## Complications

A number of factors modified the study from the original plan. These included loss of two participants' results, one due to the child leaving the course and one due to almost unreadable handwriting. Nineteen tokens (0.66% of total for the four participants used) were eliminated as non-words, unreadables, numbers or proper nouns. Another factor was determining what words were meant. This did not come up very often, but with about 58 (2.0% of tokens used) uncertain calls due to handwriting or spelling and 49 cases (1.7% of tokens used) of ambiguous words. Working with these troublesome cases affected the study both in prolonging it and in introducing the possibility of error. In addition, the tediousness of coding on a computer screen introduced errors. The researcher attempted to eliminate these errors by going back over all the original participants' sheets and all the spreadsheet entries at least one time each after a period of time. The difficulty in deciphering some entries, the sheer bulk of entries, the repetitive nature of the work, and inexperience with the spreadsheet caused the data entry to take much longer than anticipated. An additional prolonging factor was the added entry fields that were felt necessary to retain as much of the original material as feasible and make the data as transparent as possible for both the current study and for future work.<sup>1</sup>

As mentioned, one kind of difficulty that introduced a degree of uncertainty or inexactness was related to the multiple meanings of some words such as *orange* and *right*. It was not always clear what the appropriate determination of the cognitive/semantic domain was. The original plan was to inductively develop semantic domains. After this was tried for some time, it was deemed too tedious and perhaps too arbitrary. A search for an existing system revealed that of the SIL International, which was then adopted. The SIL list of

<sup>1</sup> The spreadsheet will be available to scholars contacting the author at [kdammers@yahoo.com](mailto:kdammers@yahoo.com)

domains is not set up monothetically. This openness allows for a flexibility that is useful for many purposes but introduces an element of arbitrariness or at least subjectiveness. Thus, besides and beyond the uncertainty of homographs already mentioned, a word like *long* can be listed under a number of two-digit domains, most notably 8.2 for *distance*, 5.4 for *length*, and 3.5 for *time*. The researcher attacked this problem by trying to decide what domain was most likely appropriate for the individual participant, given the researcher's additional role as teacher of the participants. While no test of validity for these cases was used, these cases are noted in the spreadsheet. While the SIL gave fairly consistent results and was retained as a baseline, it did not seem focused enough and fine-grained enough at the two-digit level and too detailed and scattered at the three-digit level when considering the outliers, words not in the Dolch list or the NGSL. Therefore, for this restricted list, an inductive set of domains was generated. The words in this list are ipso facto less common, so that many problematic basic function words are excluded. Eight domains plus a residual category were decided on. The categories used were generated from the words, using knowledge of the children involved and other children in the community. The categories are teens' and children's interests, school-related, food and food preparation and consumption, nature (especially animals), sports, everyday items, fantasy and cyber games, and vocabulary from the course's projects [PBL]. Because this approach is monothetic, like the SIL system, a certain amount of arbitrariness has to be tolerated, e.g., *pretzel* and *sausage* clearly belong in the food category; however, they were often discussed during a project on Germany, the former term being new and the latter probably not. There are 225 complete outliers in total, plus 7 words on the Dolch list but on the NGSL. All but 24 were relatively confidently put into one of the 8 major categories (Table 5).

When examined demographically, the data fall into just two groups. As already mentioned, because of problems of legibility and leaving the course, only four participants' Word Blitzes are included in the study. Therefore, only a gender-cum-age comparison is presented here. Participants 1 and 3 are two boys, ten and eleven years old, respectively. Their English levels were high elementary and borderline elementary/pre-intermediate. Participant 1 completed 10 Word Blitzes with a total of 446 words, yielding 444 usable entries. Participant 3 completed 13 Word Blitzes with a total of 838 words, yielding 827 usable entries. Together, they produced 511 unique words.

The other two participants were two girls, both of whom turned 13 during the study. Both of them had low pre-intermediate English. Participant 2 completed 11 Word Blitzes with a total of 743 words, yielding 741 usable entries. Participant 4 completed 14 Word Blitzes with a total of 866 words, yielding 862 usable tokens. Together, they produced 520 unique words

WORD BLITZ

55

<b>Number of Syllables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Percentage of tokens</b>	65	28	5	1.2	0

*Table 6.* Number of syllables in unique words in Word Blitz material for Participants 1 and 3 (boys)

Note: Percentages sum to less than 100 due to rounding.

WORD BLITZ

56

<b>Number of Syllables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Percentage of tokens</b>	54	34	10	1.2	0.77

*Table 7.* Number of syllables in unique words in Word Blitz material for Participants 2 and 4 (girls)

Note: Percentages sum to less than 100 due to rounding.



The relative number of syllables for both groups is the same, descending with each additional syllable; however, rather than following Zipf's law (Powers, 1998), the slopes are irregular as well as different from each other: the boys' values (Table 6) drop more rapidly, with 2-syllable words 43% as frequent as 1-syllable ones, 3-syllable words only 18% as frequent as 2-syllable ones, and with a decreased fall of 24% for 4-syllable words compared to 3-syllable words, as the curve flattens to zero; whereas the girls' values (Table 7) drop to 62%, 29%, and 12% of the previous values before spiking (64%) as the values approach zero. In essence, the slightly older participants (the girls) produced a higher frequency of words with more syllables. Neither of these is consistent with the distribution calculated for 133,357 words in the *CMU Pronouncing Dictionary* (moonmilk, 2013), which actually has more of both two- and three-syllable words than one-syllable words (43% and 28%, respectively, versus 12%), probably due at least in part to the restriction of total phonemes available.

The distribution of semantic domains for the two groups is generally about the same save for some major differences (Table 8). The clearest differences are in percentage of domain types in *parts of speech* and *food*. Parts of speech is a puzzle. It seems the boys offered a greater variety of simple function words. All the participants know sundry *food* terms, so it is no surprise that this domain is strongly represented. However, why the older ones, who are girls, should come up with a higher percentage (12.9% to 7%) than the two boys is not obvious. It could be that girls generally are more focused on food. Or it could be due to their age. On the other hand, it – like any other pattern in this exploratory study – might just be individual variation. In the next-most common domains, the two groups generally coincide closely: social activities are only one-tenth of a percentage point different (6% for the boys versus 5.9% for the girls). The responses for *animals* were also only one tenth of a

percentage point apart. Other high-frequency domains were not quite as close in the responses from the two pairs. For example, the boys' *quality* and *time* domains had 5.6% and 5.0% , respectively, compared to the girls' 4.7% and 4.3%. In domains with somewhat lower types, boys' percentage points were at least double for *general words*, *location*, *tool*, and *quantity*. *Location* is striking, in that while the boys wrote enough tokens to produce 2%, there were no tokens from the girls in this domain. The girls produced a larger relative as well as absolute number of types in the *teach* (school-related words) domain: 6.1% versus 4.6%. Other frequently occurring domains where the girls' responses were greater were *relationships* (5.3% versus only 2.3%), *communication* (5.1% versus 3.7%), *move* (i.e., move oneself) at 4.9% versus 4.1%, *work with buildings* at 4.5% versus 3.5%.

Domain	Types in this domain			
	For participants 1 and 3: younger, boys, elementary to low pre-intermediate		For participants 2 and 4: older, girls, low pre-intermediate	
	Numbers	Percentage	Numbers	Percentage
Part of speech	38	7.4	3	0.59
Food	36	7	66	12.9
Social activity	31	6	30	5.9
Animal	29	5.6	28	5.5
Quality	29	5.6	24	4.7
Time	26	5	22	4.3
Teach	24	4.6	31	6.1
Move	21	4.1	25	4.9
Communication	19	3.7	26	5.1
Working with buildings	18	3.5	23	4.5
General words	16	3.1	5	0.98
Relationships	12	2.3	27	5.3
Body	12	2.3	20	3.9
Location	12	2	0	0
Tool	11	2.1	5	0.98
Emotion	10	1.9	12	2.3
Quantity	10	1.9	5	0.98
Conflict	9	1.7	2	0.39
Sky	9	1.7	12	2.3
Move something	9	1.7	6	1.2
Big	9	1.7	5	0.98
Semantic constituent relating to verbs	9	1.7	3	0.59
Life	8	1.5	16	3.1
Occupation	8	1.5	15	2.9
Work	8	1.5	3	0.59
Finance	7	1.4	3	0.59
Clothing	6	1.2	10	2
World	6	1.2	7	1.4
Government	6	1.2	10	2
Behavior	5	0.97	4	0.78
Sense, perceive	5	0.97	10	2
Want	5	0.97	1	0.2
Arrange	4	0.77	0	0
Connected with, related	4	0.77	0	0
Plant	4	0.97	5	1.8
Religion	3	0.58	9	0.98
Household equipment	3	0.58	9	1.8
Body condition	3	0.58	1	0.2
Healthy	3	0.58	2	0.39

Hide	3	0.58	0	0
Authority	2	0.39	0	0
Name	2	0.39	2	0.39
Person	2	0.39	2	0.39
Fire	2	0.39	1	0.2
Water	2	0.39	1	0.2
Very	2	0.39	0	0
Parts of things	2	0.39	0	0
Prosperity, trouble	1	0.19	2	0.39
Cleaning	1	0.19	2	0.39
Nature, environment	1	0.39	3	0.59
Posture	1	0.19	1	0.2
Divide	1	0.19	1	0.2
Physical impact	1	0.19	0	0
Soul, spirit	1	0.19	0	0
Sleep	0	0	2	0.39
Adornment	0	0	2	0.39
Body functions	0	0	1	0.2
Break, wear out	0	0	1	0.2
Have, be with	0	0	1	0.2
Hunt and fish	0	0	1	0.2
Living things	0	0	1	0.2
Total	517	100.5	511	100.4

*Table 8.* Relative frequency of second-tier semantic domains in the Word Blitz material sorted by gender/age

Note: totals and percentages are not compatible with those for the whole sample because of overlap between the two subsets.

**Intervening variables**

No major world, national or local event that might have influenced entries occurred during the study period. On the other hand, fidget spinners enjoyed a burst of popularity, and computer games, in particular one called Clash Royale were in vogue among the boys during this time. Additionally, the class did a project on Germany, which included the study of the fairy tales “The Pied Piper of Hamelin,” “Rapunzel,” and “The Bremen Town Musicians.” The computer games are likely sources of words relating to magic and violence, while the first fairy tale is undoubtedly the source of the rare words *ember* and *pied*. In spite of the popularity of fidget spinners during the period covered, the word *spinner* did not appear on any Word Blitz.

## **Chapter 5. Study Conclusions and Recommendations for Future Research**

### **Conclusion and Data Discussions**

As previously stated, this investigation of rapid recall of English vocabulary by EFL learners was conceived as an exploratory study. It was hoped that an examination of the responses would reveal patterns or tendencies that could be used in the future as hypotheses. Because of the novelty and open-endedness of the research, it was considered inappropriate and restricting to start with hypotheses.

In fact, some patterns did emerge. Patterns in both the aggregate and differences between the two pairs were present. Although the number of syllables per type was most typically one, the participants did produce longer types, with half as many two-syllable types and even a few four syllables in length. While this pattern shows a more modest use than generally present in English words, where two-syllable words are more frequent than one- and three-syllable ones combined, and the three-syllable words are half again as frequent as those of one syllable, which are barely more than those of four syllables; it must be remembered that the participants are striving to produce as many words as possible, so short words are at a premium. Even though the same general difference was observed for number of letters, the children were not loath to occasionally enter words over ten letters in length.

In terms of parts of speech, the Word Blitz responses differed both quantitatively and especially strongly qualitatively from lists of words they might be expected to know, the Dolch list of sight words for American children up through grade 4 and the New General Service List of roughly 2800 lexemes that are suggested for EFL learners to know at around the pre-intermediate level, being mostly the most common English words. Whereas the Word Blitz responses were 60% nouns, followed by 18% verbs, and then small amounts of adjectives

and adverbs and relatively negligible amounts of other parts of speech, the NGSL only drops from 50 to 25 percent for nouns and verbs, respectively, and the Dolch list actually has more verbs than nouns (39% to 30%). The reason for this discrepancy is not clear. Some possible explanations include a focus on things at the age of the participants, a greater ease in remembering and recalling objects as opposed to actions, and a focus by teachers on objects—especially ones like animals and foods, both of which were heavily represented in the Word Blitz material.

Perhaps of greater significance is the degree to which the Word Blitz responses coincide with the NGSL and Dolch list. This can be seen as a surrogate measure for lexical complexity. The fact that only just over two thirds of the Dolch words are included, and that in fact over a quarter of the Word Blitz words were not even on the NGSL, which is said to represent about the vocabulary size of learners at this level, is primarily a reflection of two factors. First, there are a number of words such as *elephant* and *pizza* that are probably considered simple and common by the average native speaker and are also of great interest and utility to EFL learners, especially younger ones that are not common in English readers or general English, respectively. This is especially true of concrete nouns such as *apple* and *balloon*. But an examination of the actual items shows that there are also less common words being written on Word Blitz. These include words of personal interest, and words from the course in which the Word Blitz activity took place. In addition, occasional uncommon words that do not fit either of these categories suggest a higher involvement or a special interest unnoticed by the teacher/researcher.

Looking at the semantic domains of the words using the SIL's system, one can see that *food* is the most popular category, especially for the girls. Other popular ones are *social*, *animal*, *quality*, and *teach*. All of these are natural topics of interest and involvement for

tweens and teens. From the perspective of a teacher, it is gratifying to see the children's interests strongly represented. Among the differences between the tween boys and the barely teen-aged girls, a few stand out. The first is the greater percentage of types falling in the *part of speech* category on the boys' papers. No explanation for this comes to mind, but it should be explored in future research. While both groups had a large number of food types, the girls had more than half again as many and had them over 40% more frequently relative to the other domains. Relative frequency of types for *social activity* and *animals*, on the other hand, were virtually the same for the two groups. One domain that showed a marked difference was *location* (2% by the boys and no occurrences by the girls). Whether this is simply a statistical anomaly for this relatively infrequently registered domain or a reflection of some difference age or gender orientation to spatial items is something that could prove of interest.

### **Strength of the Study**

This study explored new territory. It has taken first, suggestive steps. So, more than anything else, its novelty stands out. The study has a large sample of words from a controlled group with regular production following the research design. No significant intervening factors came up during the study. The study was performed uniformly in terms of method, setting and individuals. These strengths are moderated by several weaknesses, some of which, though, do have a positive flip side.

### **How Was the Study Weak?**

The current study was restricted in a number of ways. Some of the restrictions were by design. These included a small sample of originally six and ultimately only four participants. Additionally, all were from the same linguistic and national background and of a limited range in English levels. This has both disadvantages and advantages. The former



would be a narrow likely response range from one individual to another, leading to false and missed inferences. Counterbalancing the disadvantages is the lesser likelihood, given the small sample, of a smearing of results that might not have generated meaningful results. A weakness that some might see in a study of this sort is the lack of a hypothesis. This lack means that no strong conclusion could be reached. Again, the disadvantage has a paired advantage, to wit, the lack of a hypothesis allowed patterns to emerge without prejudgment. Besides weaknesses consciously built into the research design, some others emerged during the study. These had to do with interpretation, classification, time-consumption, and participant's speed of writing. All the results from one participant were discarded because of the difficulty in reading his handwriting. In addition, a small percentage of the words written by the remaining participants could not be confidently read. This was due in part to handwriting but more often to misspellings. Once the words were identified, for a number of them there arose the issue of classification. Errors here could have crept in when trying to determine the domain of a word that has a homograph. But even when a word was uniquely and correctly identified, there was on a few occasions the problem of which of two or more equally valid domains it should be assigned to. Even then, the usefulness of the classification using the international standard can be questioned to some degree. The two-digit domains are not of equal depth or specificity across the board. The alternative, the ad hoc classification additionally used for words not in either of the two learners' lists, while hopefully accurately reflecting groups that are meaningful to the learners, has a much smaller number of domains and also has a residual set that is not actually a domain. A minor weakness occurred in the counting of syllables. Since there were only a few cases where there were ambiguous instances or where the researcher gave a nonstandard value and since this variable was not a highlight of the research, this weakness seems insignificant. A weakness

not of the results but one that might nevertheless discourage further research is the large amount of time involved in the data entry and classification, all of which had to be done by hand. Finally, especially for the younger participants, manual dexterity might have slowed the production of tokens (though there is no reason to believe it restricted their variety of answers).

### **Validity and Internal and External Validity of the Data**

Given that the current study had only four participants, all of whom are young learners from the same city and cultural and linguistic backgrounds and of roughly the same level of English, it would be inappropriate to generalize beyond young Russian-speaking learners at around the beginning pre-intermediate level. Even there, the generalizability should only be stated in hypotheses, given the small number of participants. On the other hand, given the exploratory nature of the study, it can be said to have a certain degree of internal validity in that it was designed to produce lists of English words with no constraints other than the five-minute time limit. It was also administered regularly at the beginning of the first class session of the week. Other than the students' generally increasing English (mirrored in ever-better scores on Word Blitz) and the specific content of the PBL course, there is no indication that the repeated Word Blitzes did not in fact continue to measure the same thing. That is to say, if we consider the soliciting of the words as an independent variable and the producing of those words as the dependent variable (both taken in a rather loose sense), then there is good internal validity. As for external validity, there was no attempt to design the study to assure this, and it could only be determined by data from Word Blitzes from other populations.

### **What Impact Did the Setting Have on the Outcomes?**

The study was done in the place where the student-participants most often speak English: the English class-room of a language school. It was consistently done at the

beginning of the first session of the week, meaning that there was no immediate class input (other than the simple commands, the words of which in fact did not turn up on the participants' sheets). The test was administered by their regular EFL teacher. After the first two or three weeks, a spirit of competition set in. Interestingly, this did not prevent the occurrence of longer and less common words throughout the course period.

### **Research Anomalies**

There were anomalies in both administration/collection and in results. The former consisted of the loss of one student and the discarding of the papers of another student because of hand-writing. Anomalies in results were the high, unexplained incidence of *parts of speech* types for the tweens (boys) and a number of unusual words such as *pistolet* and the occasional presence of long words. The result anomalies are suggestive and discussed above.

### **Restatement of the Research Question and the Study Results in Light Thereof**

The research question was “What words do young EFL learners readily call up?” This question has been answered for a small sample of Russian-speaking boys and girls from Almaty, Kazakhstan. In addition to many but not all very basic words, more rarefied words from their course, as well as many food, animal and social-relations words were called up. Although nouns are by far the most common part of speech, verbs are also frequent. Even though the majority of words were one syllable long, participants did not seem loath to write two-syllable words and occasionally even longer ones.

### **How did this research meet the “gaps” in existing knowledge?**

In at least a nominal way, the research addressed the gaps in that it gave first, suggestive answers to the question of the kinds of words EFL learners produce spontaneously in a restricted time frame. Since this question appears not to have been

addressed before the current study other than the Cambridge Learner Corpus, which is constrained by the questions asked and, more importantly, by the words being used in sentences, any results should ipso facto start to fill the gaps in existing knowledge at least tentatively. Thus, no other work on unrestricted vocabulary recall learners of a foreign language, let alone of English learners in Kazakhstan has been found. The study sheds light on the lexical resources the participants have ready to hand. Since some of the results were not what one might expect, they provide promising avenues of future research. On the other hand, the restricted nature of the sample means that the results can only be suggestive. These suggested patterns are discussed below.

### **Recommendations for Further Research and Application**

Future studies using Word Blitz should test hypotheses based on the results of the current study in larger populations. In addition, controls for the usual variables should be included. These include age, level of English, gender, and cultural and linguistic background as well as applying it to learning of other foreign languages.

Specific topics for hypotheses based on the findings of the current study should include investigations of semantic domains (using both the SIL system and the one added here), word lengths and outliers, correlations between class content, student interests, official lists of target vocabulary on the one hand and Word Blitz results. Surveys of student interests might also be given to test for prevalence of words from these realms. Considering something related but further afield, a controlled study could be made to see if Word Blitz affects the production of words in class-room learning and review activities or in over-all language learning. This could be explored both quantitatively and qualitatively.

Furthermore, scholars should think about what implications these (tentative) results might have for teaching of foreign languages. For example, in a class of just boys, it might be

desirable to focus on either the domains where boys had a relatively high percent of types or to focus on areas that the teacher deems important but that were not heavily represented. Another area of interest for teachers is the modest but notable presence of uncommon words from beyond the realm of class-room English. These words seem to reflect the use of the language in their personal lives by young learners even at this relatively low skill level. For a teacher, this can provide insight into areas of interest that could strongly motivate the learners.

The current study has just taken a first look into what Word Blitz might tell us about foreign-language learning. Further research can test the hypotheses suggested here and possibly lead to additional insights.

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