

# Developing Leveled Grammar Content for WordBricks

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## Abstract

This paper proposes a new approach developing grammar content for WordBricks project.

The project have a research the development of 'WordBricks' that is a new virtual language lab project based on M. Mozgovoy. Towards WordBricks - a Virtual Language Lab for Computer-Assisted Language.

WordBricks is intended to serve as a "virtual language lab" that supports open experiments with natural language constructions.

Being based on dependency grammars, this instrument illustrates the use of modern natural language processing technologies in language learning.

The latest prototypes of WordBricks also show how dependency-styled constructions can be represented in a more natural sequential form that facilitates easier user interaction. [1]

## 1 Introduction

In this study, we identify a list of grammar rules and an initial vocabulary to be implemented in the first version of the system for the WordBricks project.

And I present the list specifically. Currently, Because we need a system that can be considered as a combination of a dictionary and a grammar book. We must have words and rules that have been limited. [1]

English learners practice English by creating a simple sentence. We speculate that students can learn the English skills by testing the hypothesis of the accuracy of a particular structure. The learning process of Students It is important to make sure that the sentence is built properly.

## 2 Systematization of language limitations

### 2.1 The Basic words for "Word Bricks"

In this study, the word list is created by the two languages list.

• OGDEN's BASIC ENGLISH : "BASIC ENGLISH" is a basic word list of 850 words and its use rules that have devised by Charles Kay Ogden.

And it is possible to represent all events by fewer words by using them. However, there is a need to extend the use of the grammar rule list because it is selected in only the root. [2]

• Oxford3000 : a list of the 3000 most important words to learn in English. The keywords of the Oxford 3000 have been carefully selected by a group of language experts and experienced teachers as the words which should receive priority in vocabulary study because of their importance and usefulness.[3]

These two language lists be sufficient role to talk about things and events in the normal life is expected.

### 2.2 Design and placement of the word list

We divide the word list into three groups.

- Group1-Absolute minimum: 850 words
- Group2-Beginner: 1515 words
- Group3-Intermediate: 3792 words

Group1 is a word list using a list of Ogden of basic words. We adopted it, since they are expected that can make the syntax less word. We were added to 665 words in Group1. They are words that should know in any scholar. Word Group2 are words for standard English, and they were selected using the generic methods Ogden. Currently, we have speculated that it can almost understand the friendly conversation in everyday conversation in English with it if you know about 2000 words. Therefore, Group3 is a word list that have been added the word of oxford3000 to Group2.

	A	B
1	word	parts of speech
2	a	an indefinite article
3	about	adv., prep.
4	across	adv., prep.
5	after	prep., conj., adv.
6	again	adv.

List1 Word list

## 3 Systematization of language grammar

### 3.1 Systematization of grammar.

This language grammar list is composed of “Basic English Grammar“ by Betty Schramper Azar and Stacy A. Hagen.

This book is a classic development skills text for beginning students of English as a second or foreign language. [5]

Grammar list is create of five elements.

- Detailed unit
- Point
- Grammar
- Example

“Detailed unit” is chapter and unit of this book . “Point” is a brief description of the main points each “Detailed unit?”. "Grammar" is designed by format of parts of speech. We expect that it is possible to use it to the system of WordBricks as a condition of syntax. "Example" is made by simple words to facilitate levels of sentences because we can expect that students are likely to learn by that the syntax is configured to simple. Grammar list is divided into 16 units. And we have created a sentence of total 600 in it.

detailed unit	point	Grammar	Example
1-1	noun + are + noun	N. + is + N.	Canada is a country.
1-2	noun + are + noun	N. + are + N(plural)	Cats are animals.
		N. + and + N. + are + N(plural)	Dogs and cats are animals.
1-3	pronoun + be + noun	I + am + N.	I am a student.
		You + are + N.	You are a student.
		He + is + N.	He is a student.

List2 Grammar list

### 3.2 Handling different cases in the grammar list

When making an English sentence, there is a need to convert a word according to the grammar.

We must create different variations in order to distinguish it, on the grammar list.

For example, In case of "Noun".

"Noun" used in the text it is necessary to confirm whether singular or plural. And If First Noun is singular, Second noun have to be singular. If First Noun is plural, Second noun have to be plural.

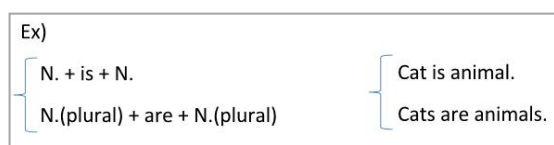


Figure2 In case of “Noun”

Next, In the case of "Verb". There is third person singular system problem in this case. Both “He” and “We” is 3rd parson, but form of “have” is different.

Therefore, in order to solve this problem, it was divided “3rd-parson” by A and B

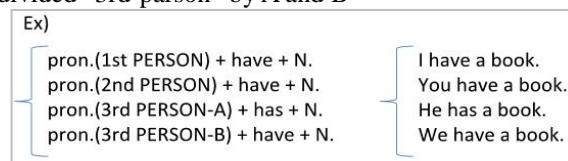


Figure3 In case of “Verb”

## 4 Adapting the grammar for CEFR framework

CEFR(Common European Framework of Reference for Languages)is a guideline to be used to learning situation of foreign language learners in the whole Europe.

It was made for the purpose of providing an evaluation and guidance of the process of learning situations that can be applied to all of the languages of Europe. Currently, CEFR is started to be introduced in Europe and the United States as an international standard in order to represent the level of language of communication skills.[4]

### 4.1 Common reference levels

The CEFR describes foreign language proficiency at six levels: A1 and A2, B1 and B2, C1 and C2. It also defines three ‘plus’ levels (A2+, B1+, B2+). Based on empirical research and widespread consultation, this scheme makes it possible to compare tests and examinations across languages and national boundaries (see the section “The CEFR and language examinations: a toolkit”). It also provides a basis for recognising language qualifications and thus facilitating educational and occupational mobility. [4] (List3)

### 4.2 CEFR’s Can-do list

CEFR’s Can-do list is intended to consolidate the "can do descriptor" of about 2800, which is posted on the European Language Portfolio has been on the list of about 650. by Professor. Tono Yukio of Tokyo University of Foreign Studies.[6][7] (List4)

### 4.3 Placement of sentence by CEFR

First, Only "write" unit was excerpt from the Can-do list. Next, on each of the sentence was put a level on each of the sentence.

A1:13rules

A2:43rules

B1:51rules  
 B2:47rules  
 C1:12rules  
 C2:20rules

Grammar	Example	level
N. + is + N.	Canada is a country.	A1
N. + are + N(plural)	Cats are animals.	A1
N. + and + N. + are + N(plural)	Dogs and cats are animals.	A1
I + am + N.	I am a student.	A1
You + are + N.	You are a student.	A1
He + is + N.	He is a student.	A1

List5 Placement list

## 5 Result

In this research, we designed initial vocabulary list and set the difficulty of the grammar to be implemented in the first version of the system.

As a result, we get completion of the initial vocabulary list, the grammar list and the placement of the example sentences in grammar list.

But, the level of the initial vocabulary and grammar list were selected in this study has determined it is necessary to verify that it is correct.

## 6 Future work

We should check whether a certain word and grammar is appropriate in a certain context.

- Presented syntax is in the correct language form?
- Restricted grammar and language has a drawback?
- Is Level of its syntax worthy in fact of education?

## Reference

[1] Maxim Mozgovoy, Roman Efimov, "WordBricks : a Virtual Language Lab Inspired by Scratch Environment and Dependency Grammars",

[2] Charles Kay Ogden "OGDEN's Basic English" [Online](2014/1/11) <http://ogden.basic-english.org/>

[3] The Oxford 3000TM from the Oxford Advanced Learner's Dictionary [Online](2014/1/11) <http://oald8.oxfordlearnersdictionaries.com/oxford3000/>

[4] COUNCIL OF EUROPE, "Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR)". [Online](2014.1.10) <http://www.coe.int/t/dg4/linguistic>

[5] Azar B., Hagen S. "Basic English Grammar" (3rd Ed) pp 1-485

[6] EUROPEAN LANGUAGE Portfolio [Online](2014/1/11) <http://www.coe.int/t/dg4/education/elp/>

[7] CEFR-based framework for ELT in japan CEFR-J [Online](2014/1/11) <http://www.cefr-j.org/index.html>

[8] Graeme Porte, University of Granada, Spain Editorial Board "Language Teaching" pp 1-18

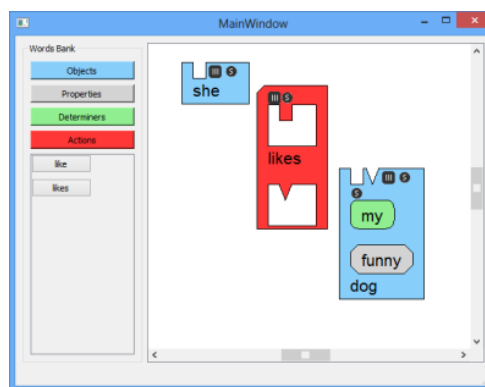


Figure1 "Word Bricks"

Level	Type	Language activity	Category	English
A1	ability	Pragmatics ability	Fluency of spoken language (Functional capacity)	Can manage very short, isolated, mainly pre-packaged utterances, with much pausing to search for expressions, to articulate less familiar words, and to repair communication.
A1	ability	Pragmatics ability	Cohesion and consistency (Discourse ability)	Can link words or groups of words with very basic linear connectors like "and" or "then".
A1	ability	Social language skills	Appropriateness of social linguistic	Can establish basic social contact by using the simplest everyday polite forms of greetings and farewells; introductions; saying please, thank you, sorry, etc.
A1	ability	Organizational Competence of Language	Understanding of orthography	Can spell his/her address, nationality and other personal details.
A1	ability	Organizational Competence of Language	Understanding of orthography	Can copy familiar words and short phrases e.g. simple signs or instructions, names of everyday objects, names of shops and set phrases used regularly.
A1	ability	Organizational Competence of Language	Understanding of phoneme	Pronunciation of a very limited repertoire of learnt words and phrases can be understood with some effort by native speakers used to dealing with speakers of his/her language.

List4 Can-do list

## List3 CEFR list

	A	B	C
	Basic User	Independent User	Proficient User
1	<ul style="list-style-type: none"> <li>• Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type.</li> <li>• Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has.</li> <li>• Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.</li> </ul>	<ul style="list-style-type: none"> <li>• Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc.</li> <li>• Can deal with most situations likely to arise while traveling in an area where the language is spoken.</li> <li>• Can produce simple connected text on topics that are familiar or of personal interest.</li> <li>• Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans.</li> </ul>	<ul style="list-style-type: none"> <li>• Can understand a wide range of demanding, longer texts, and recognize implicit meaning.</li> <li>• Can express ideas fluently and spontaneously without much obvious searching for expressions.</li> <li>• Can use language flexibly and effectively for social, academic and professional purposes.</li> <li>• Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organizational patterns, connectors and cohesive devices.</li> </ul>
2	<ul style="list-style-type: none"> <li>• Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment).</li> <li>• Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters.</li> <li>• Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.</li> </ul>	<ul style="list-style-type: none"> <li>• Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialization.</li> <li>• Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party.</li> <li>• Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.</li> </ul>	<ul style="list-style-type: none"> <li>• Can understand with ease virtually everything heard or read.</li> <li>• Can summarize information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation.</li> <li>• Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in the most complex situations.</li> </ul>