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Version 1.1 of the SDGs Service List: Vocabulary for Society and Sustainability

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Abstract

This paper introduces the first version of a specialized vocabulary list created from a corpus of materials related to the SDGs (Sustainable Development Goals). The SDGs were developed by the United Nations General Assembly in 2015 and are a map of 17 goals to address pressing social, environmental, political, and economic challenges faced by every country in the world. With a target date of 2030, the SDGs and their importance have been incorporated into school curricula at multiple levels since their implementation in 2016. The global nature of the goals makes common dialogue and shared understandings necessary. To this end, a service list of the vocabulary items that most frequently appear in discussions about the SDGs is long overdue. Version 1.1 of the SDGs Service List fills this critical gap and lays the groundwork for future learning and dialogue. In addition to the list itself, we provide Quizlet (2018) study sets that can be easily used in EFL classrooms or content courses teaching the SDGs.

Introduction

Established by the United Nations General Assembly in 2015, the Sustainable Development Goals (SDGs) are a set of 17 interlinked global goals designed to be “a blueprint to achieve a better and more sustainable future for all” (United Nations General Assembly, 2015). The SDGs address inequality and social issues common across every country in the world and highlight some of the biggest crises facing humanity and the planet today. As part of each of the 17 goals, there are several targets that help countries take steps toward the goal's achievement, and these are coupled with indicators that help measure progress. The United Nations has set a target date of 2030 for achieving the goals.

Since the SDGs were implemented in 2016, educators and curriculum planners in Japan and many other countries have been steadily incorporating the SDGs into curricula across many different fields of study, including English language education. Indeed, in the Japanese context, recent textbooks for EFL university courses such as Oseki and McManus's *Living as Global Citizens: An Introduction to the Sustainable Development Goals* (2021), Sasajima *et al.*'s *CLIL SDGs: Sustainable Development Goals* (2021), and Sasajima *et al.*'s *CLIL Primary SDGs* (2022) are specifically written for use in general EFL classes in Japan. And while these textbooks have some activities centered on vocabulary, they are done in conjunction with the readings in the text and in some cases the vocabulary items are highly specialized. In addition, except for Duran-Silva *et al.* (2019), there has been no study into the vocabulary, specialized or otherwise, that most frequently appears in the materials written about the SDGs, and to these researchers' knowledge, no graded reading materials have been developed specifically for the SDGs.

Purpose

Therefore, the purpose of this current research project is two-fold:

- (1) First, to develop an SDGs Service List of important vocabulary items that English language learners need to know when reading materials related to the SDGs.
- (2) Second, to use the words from the SDGs service list in conjunction with the first 1800 headwords according to The Extensive Reading Foundation (ERF) Grading Scale (The Extensive Reading Foundation, 2013) to create a collection of 17 graded readers and other level-appropriate materials. As determined by the ERF Grading Scale, these materials are aimed at Early-Upper Intermediate learners. This Scale is explained in further detail below.

This short paper introduces the first part of the project, the creation of [version 1.1 of the SDGs Service List](#). However, it also explains how the SDGs Service List is being used by the researchers to develop a set of level-appropriate graded readers.

Methodology

1. The lead researcher collected a 1.13-million-word corpus of materials about the SDGs published online from September 2015 until the end of July 2022. The actual goals, targets and indicators published on the official United Nations website, <https://sdgs.un.org>, were used as a starting point. From there, a collection of reports, journal articles, newspaper articles, newsletters, academic papers, and educational materials written about the SDGs were added. To be included in the corpus, each resource had to contain a direct reference to at least one of the SDGs, although the majority of sources used to form the corpus discussed

multiple SDGs. A comprehensive list of all of the websites used to form the corpus can be found on the third sheet of the [SDGs Service List](#) Excel file.

2. After the corpus was created, AntWordProfiler (Anthony, 2022), a tool for profiling the lexical difficulty and complexity of texts, was used to profile the contents of the corpus. Parameters were set to categorize the words of the corpus as either 'in list,' 'out,' or proper nouns. 'In list' words were defined as the 1st - 20,000th most frequent words of English as determined by Paul Nation's (2017) BNC/COCA word family lists, and 'out' words were items that appeared beyond the 20,000th most frequent words. All proper nouns and the majority of 'out' words were eliminated from the output list. However, there were some important exceptions. 'Out' words such as SDG(s), microplastic, statelessness, and policymaking, for example, were kept because of their importance when discussing topics related to the SDGs. All of the 'in list' items that appeared in the corpus 50 times or more were also kept for consideration. Finally, the authors went through the remaining 'in list' items. After deliberation, 24 words that appeared outside the parameter of 50 occurrences but were deemed necessary for creating graded readers because of their immediate relevance to the SDGs, were included. The output for the frequency and rank of the vocabulary items can also be found on the [SDGs Service List](#).
3. Next, the potential vocabulary items for the SDGs Service List were analyzed using the Online Graded Text Editor (OGTE) (Er-central, 2016). The OGTE is an online tool that enables educators and materials developers to grade texts according to various lexical levels. As the SDGs graded readers by the authors are aimed at learners at the Early-Upper Intermediate on the ERF Grading Scale (The Extensive Reading Foundation, 2013), vocabulary contained in the 1800 headwords was eliminated from the service list because of the expectation students would be familiar with this vocabulary from lessons in junior high school or high school classes. After completing the first three steps of this process, 600 words were selected for version 1.1 of the SDGs Service List.
4. Finally, the parts of speech (POS) were added next to each vocabulary item on the service list. Definitions were not added to the service list itself; however, the 600-word SDGs Service List was divided into 15 bands of 40 vocabulary items based on frequency, and [electronic study sets that included definitions were created on Quizlet](#) (2018). Instead of simply listing the most common meaning and/or parts of speech of each word, which is common on many vocabulary service lists, words with multiple meanings and/or parts of speech were investigated within the context of this corpus. Based on their usage in the corpus, the lead researcher chose the most appropriate automatically generated Quizlet (2018) definition(s) and manually added additional part(s) of speech. Furthermore, the lead researcher revised the automatically generated definitions to make them appropriate and relevant to the specific needs of this corpus. Some examples of this are displayed in Table 1. After completing the study sets, the authors again revisited the definitions, and revisions were made when necessary.

Table 1
Examples of words with multiple definitions and/or POS

Word	POS	Definition
track	verb	to follow
	noun	the path or direction that somebody/something is moving in
minor	adjective	small, unimportant
	noun	under the legal age of full responsibility
shelter	noun	a place that provides protection from weather, such as a house
	verb	to protect from something dangerous or harmful
displace	verb	to take the job or position of someone or something
	verb	to force people or animals to leave the area where they live
	verb	to move something so that it is no longer in its regular location

Results

Version 1.1 of the SDGs Service List and the accompanying electronic vocabulary cards have been created to provide English language learners with a study tool to learn some of the most important vocabulary items they need to know when reading materials related to the SDGs. The words from the SDGs Service List were selected outside of the first 1800 most frequent words of English, making this service list particularly useful for learners at or above the Early-Upper Intermediate level on the ERF Grading Scale. The 1800 words were drawn from The Extensive Reading Foundation Grading Scale. In this scale, the levels were determined through extensive analysis of hundreds of graded readers on the market. The main features are that the Scale goes from the Alphabet level (50 headwords) to Near Native (18,000 headwords) and includes materials other than graded readers (e.g., the new mid-frequency readers which go up to 8,000 headwords). A second feature is that it is divided into five readily recognizable levels each with three sub-levels for finer classifications. Finally, the Scale is based on headword counts only, not based on wordlists. At the same time, this particular scale is of great use in this project as we move into the second stage of the project, writing a collection of 17 graded readers and other level-appropriate materials. For each of the 17 SDGs, the authors select important vocabulary items from the SDGs Service List related to that particular SDG and use a variety of vocabulary-building activities to pre-teach the words before the reading. With a pre-existing knowledge of high-frequency vocabulary, learners can easily read the surrounding text while focusing on the new SDG vocabulary.

Limitations

There are some limitations to this project in its present iteration. The biggest limitation is the relatively small size of the corpus. Print materials including books and textbooks about the SDGs will also be included to expand the corpus in the future. Additionally, articles published online after the end of July 2022 will be collected. Second, specialized vocabulary is frequently used when discussing the SDGs; however, as discovered in this

study, its frequency of use in broader contexts is quite low. This point is exemplified when comparing the results of the SDGs Service List to a list of specialized terminology given in a project to uncover “a set of controlled terms that define the scope and breadth of SDGs” (Duran-Silva *et al.*, 2019). When applying the same parameters used to create the SDGs Service List to the service list created by Duran-Silva *et al.*, 215 words appeared on both service lists. However, Duran-Silva *et al.*'s list also contained 1031 additional ‘in list’ words (not proper nouns or ‘out’ words) which fell outside of the first 1800 most frequent words of English. Further investigation found that these vocabulary items appeared only a handful of times in the corpus collected for this study. Since this project aimed to identify the most frequently used vocabulary in SDGs-related material, the authors decided on a threshold of 50 occurrences to be considered for this service list, which did not apply to the twenty-four of the items that we included because of their relevance to the study of the SDGs. However, Duran-Silva *et al.*'s findings call into question whether this threshold is in fact too low. Expanding the corpus in the future might necessitate an increase in the frequency of some of these items. Finally, to avoid any copyright issues, definitions automatically generated on Quizlet (2018) were used or adapted whenever possible. Although the lead researcher referred to the online Oxford Learner's Dictionaries (Oxford University Press, 2023) when trying to choose the simplest definition that Quizlet (2018) offered, some of the definitions inevitably included low-frequency terms that may be difficult for some learners.

Future Research

After expanding the size of the corpus, the lead researcher plans on creating a new version of the SDGs Service List that is specialized, so that there is no overlap with the lexical items found on the New General Service List, New Academic Word List, TOEIC Service List, and Business Service List (Browne *et al.*, 2013a, 2013b; Browne & Culligan, 2016a, 2016b). This will provide learners with yet another important special-purpose vocabulary list that compliments the valuable pre-existing lists of high-frequency vocabulary and fulfills the necessity of giving students vocabulary to talk about some of the crises facing the planet and society today.

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