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研究課題名(和文) Addressing the issue of assessing English as an Additional Language (EAL) learners: Developing and validating a word list and Vocabulary Levels Test for EAL learners

研究課題名(英文) Addressing the issue of assessing English as an Additional Language (EAL) learners: Developing and validating a word list and Vocabulary Levels Test for EAL learners

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研究成果の概要(和文)：このプロジェクトでは、日本のインターナショナルスクール数校と協力し、EMIの文脈で学ぶEALの学生を対象とした包括的なコーパスと単語リストのセットを作成しました。現在、最終的な単語帳を出版しているところです。これらの単語帳は、それぞれのサブコーパスの9.5%から22.6%をカバーし、481から845のレンマを含んでおり、このグループの学習者をサポートするのに役立ちます。これらの単語帳が提供するカバー範囲は、既存の単語帳を凌駕しており、教室でEAL生徒をサポートするための貴重なリソースとしての可能性を示しています。

研究成果の学術的意義や社会的意義

The wordlists that we have compiled with help to support EAL learners studying in the international school setting. The word lists will make it possible to evaluate materials, develop supporting materials, and assess EAL learners in this context.

研究成果の概要(英文)：Through this project, we collaborated with several Japanese international schools to create a comprehensive corpus and set of word lists aimed at EAL students studying in an EMI context. We are currently in the process of publishing the final word lists. These wordlists will help provide support for this group of learners as they cover between 9.5% to 22.6% of their respective subcorpora with between 481 - 845 lemmas. The extent of coverage offered by these word lists surpasses that of existing ones, indicating their potential as valuable resources for supporting EAL students in the classroom.

研究分野：Applied Linguistics

キーワード：EAL Vocabulary Corpus Linguistics Assessment

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1 . 研究開始当初の背景

The motivation behind this research was to build on our previous Kaken project that showed the EAL learners are likely to struggle in the international school classroom due to a lack of vocabulary knowledge compared to their FLE counterparts (Brooks et al., 2021). The hope was that this project would provide EAL learners with the tools that they need to succeed in the classroom. In November 1989, the United Nations Convention on the Rights of the Child adopted a resolution that enshrined the right of all children to receive an education that permits them to develop to the best of their abilities and talents (United Nations, 1989: articles 28–30). For EAL learners, if this is to be realised, it is first necessary to address their language needs. However, efforts to do this have been hampered by a lack of research in this area. This gap in the research is clear in vocabulary instruction and assessment. For example, to date, there are no assessment tools or vocabulary frequency lists that specifically target EAL learners. As a result, researchers who are investigating vocabulary knowledge in EAL learners are left using frequency lists and assessment tools developed for ESL or FLE learners (e.g., Brooks et al., 2021; Coxhead, 2012; Coxhead & Boutorwick, 2018). To provide these learners with the educational experience that they deserve, this project was designed to help develop the tools necessary to support them in the classroom.

2 . 研究の目的

We designed this project to respond to and expand upon our previous project Kaken project, which highlighted the extent to which EAL learners' vocabulary knowledge relates to their academic success and identify precisely what vocabulary is necessary for these learners to succeed. Our collaboration with international schools in Japan allowed us to identify eight subjects that learners are likely to study in the international school context and the types of texts that they are likely to encounter in these classes. Our research focused on compiling a corpus and developing a set of word lists for these academic domains. The word lists provided by this research can then be used to support EAL students studying in the international schools we were working with as well as other international schools in Japan. It would also allow for the development of materials and assessments based on the words found in these word lists.

3 . 研究の方法

The research methodology we followed in this project builds upon previous research in the field. The corpus was compiled using best practices laid out over the past 20 years (e.g., Hunston, 2002, Nation & Sorell, 2016) to ensure that the size, content balance and representativeness, and permanence of the International School Corpus of Academic Texts (IS-CAT) was appropriate for its purpose. The final International School Corpus of Academic Texts (IS-CAT) comprises just under 9 million running words. It is made up of eight subject-specific subcorpora ranging in size from just over 800,000 words to just over 1,400,000 words. The books were scanned into the computer and OCRed and the resulting text files were cleaned following the current practices for compiling a corpus for the purpose of developing wordlists (see Nation, 2016). The total number of tokens for the corpus and each of the subcorpora is given in Table 1.1.

Table 1.1

The Total Number of Running Words for the IS-CAT and Each of the Subcorpora

Subject	Total Words
Literature	1,116,532
Social Studies	735,733
Economics	1,458,809
Biology	966,820
Chemistry	1,394,017
Physics	1,213,839

Mathematics	1,138,391
Theory of Knowledge	952,700
Total	8,976,841

We then set about to investigate the best way to develop a set of wordlists from the corpus using the best practices available, including those outlined by Greene and Coxhead (2015), Davies (2014), Lei and Liu (2016), and Green and Lambert (2018). Through this process, we were able to show that more modern techniques provided a more representative collection of word lists for each of the domains we examined. We then examined the final set of International School Academic Word Lists (IS-AWL) that we developed over a parallel corpus and a corpus of non-academic texts to ensure that the word lists were indeed representative and domain-specific. Finally, we received input from teachers teaching in the international school context regarding the usefulness of the word lists in their teaching context.

4 . 研究成果

In this study, we responded to the need for more vocabulary support identified in our earlier study by developing the International School Academic Vocabulary Lists (IS-AVL). These lists include discipline-specific lists of lemmas for eight subjects: Literature, Social Studies, Economics, Biology, Chemistry, Mathematics, and TOK. The IS-AVL we compiled during the course of this project provide coverage of between 11% to 23% of the relevant subcorpora across the eight subjects. The lists range from 379 to 845 lemmas. The coverage of the word lists over their respective corpora is given in Table 1.2.

Table 1.2
The Number of Words and Coverage Provided by the IS-AVLs

Subject	Words	Coverage
Literature	610	9.96%
Economics	481	11.44%
Social Studies	526	9.43%
Biology	845	20.70%
Chemistry	681	22.55%
Physics	578	17.45%
Maths	379	13.54%
TOK	685	12.81%

An analysis of the coverage provided by these different lists over the various subdomains of the IS-CAT shows that, mostly, the IS-AVL provides greater coverage than the lists currently being used by teachers in the classroom. What makes the IS-AVL even more effective than these existing lists is that it can provide better, or similar, coverage with significantly fewer words (see Table 1.3). The few times that another word list provided similar, or better, coverage, it required significantly more words to do so. For example, the BNC/COCA (Nation, 2020) 3,000 to 5,000 frequency bands provide 10.69% coverage of the economics corpus, compared to 11.44% for the IS-AVL, which constitutes a fairly negligible difference. However, it requires 15,039 lemmas to achieve this coverage, compared to 481 for the IS-AVL.

We can see that the coverage provided by the IS-AVL is quite comprehensive, providing between 10% to 20% coverage across all subcorpora using very few words. To further ascertain the effectiveness of the lists as a pedagogical tool, we examined the types and difficulty of the words on the IS-AVL. Previous studies (see Nation & Waring, 2019) have shown that learners acquire high-frequency vocabulary more easily than low-frequency or technical vocabulary. From our previous study, we know that many EAL learners are likely to have mastered at least the first 1,000 high-frequency words (Brooks et al., 2021). Our analysis of the vocabulary in the IS-AVL shows that most of the words come from the first 2,000 to 4,000-word bands of the BNC/COCA, with a few more items at the 5,000 to 8,000 level and very few after that. Such figures indicate that, given what we know about the vocabulary profiles of EAL learners, these are words they should be able to acquire.

Table 1.3

Coverage Provided by the IS-AVL Over the IS-CAT Compared to the Most Common Word Lists Being Used in EMI Classrooms

Subject	IS - AVL		BNC/COCA 3K – 5K				MSVL	
			5K		AWL			
	Tokens	Cov	Tokens	Cov	Tokens	Cov	Tokens	Cov
Literature	610	9.96%	3082	6.88%	6370	9.49%	722	6.03%
Economics	481	11.44%	3082	10.69%	6370	15.36%	NA	NA
Social Studies	526	9.43%	3082	7.80%	6370	12.06%	NA	NA
Biology	845	20.70%	3082	7.62%	6370	10.68%	858	11.53%
Chemistry	681	22.55%	3082	9.46%	6370	12.14%	858	12.97%
Physics	578	17.45%	3082	6.99%	6370	11.50%	858	9.51%
Math	379	13.54%	3082	8.12%	6370	8.71%	616	9.46%
TOK	685	12.81%	3082	8.38%	6370	11.38%	NA	NA

Note. Bold text indicates where that word list provides better coverage than the IS-AVL. Abbreviations used in the table are: Cov = Coverage, BNC/COCA 3K – 5K = the 3,000 to 5,000 frequency bands of the BNC/COCA, AWL = The Academic Word List (Coxhead, 2000), MSVL = Middle School Vocabulary Lists (Greene & Coxhead, 2015)

Because of the coverage and make-up of the IS-AVL we believe that it will prove to be an invaluable tool in the EAL classroom. Teachers will be able to use these word lists in conjunction with existing word lists, such as the new General Service List (Brezina & Gablasova, 2015), the AWL (Coxhead, 2000), and the AVL (Gardner & Davies, 2014) to help their EAL learners to achieve the 95% coverage necessary for understanding (e.g., Hu & Nation, 2000; Laufer & Ravenhorst-Kalovski, 2010). These lists can also be combined with existing middle school (Greene & Coxhead, 2015) and secondary school (Green & Lambert, 2018) word lists to cover most of the learning environments EAL learners can expect to find themselves in. As a result, our newly compiled IS-AVL will make it easier for teachers to identify the vocabulary that EAL learners need to succeed in the classroom and help them support these students in acquiring those words.

5 . 主な発表論文等

〔雑誌論文〕 計0件

〔学会発表〕 計5件（うち招待講演 0件 / うち国際学会 4件）

1 . 発表者名 Gavin Brooks, Jon Clenton, Simon Fraser
2 . 発表標題 Creating an EAL Word List: Bridging the Gaps in EAL Learners ' Vocabulary Knowledge
3 . 学会等名 Journées de la Recherche en Education (JRE) 2021 (国際学会)
4 . 発表年 2021年

1 . 発表者名 Gavin Brooks, Jon Clenton, Simon Fraser
2 . 発表標題 Academic vocabulary and formulaic language in the EAL context: Creating a discipline-specific EAL word list
3 . 学会等名 30th Conference of the European Second Language Association (国際学会)
4 . 発表年 2021年

1 . 発表者名 Gavin Brooks, Jon Clenton
2 . 発表標題 The Importance of Vocabulary for English as an Additional Language Learners ' Reading Comprehension
3 . 学会等名 British Association of Applied Linguistics (国際学会)
4 . 発表年 2021年

1 . 発表者名 Gavin Brooks, Jon Clenton, & Simon Fraser
2 . 発表標題 Academic Vocabulary and Multiword Expressions in an EAL Context
3 . 学会等名 Hiroshima Lexical Research Foundation (国際学会)
4 . 発表年 2021年

1. 発表者名 Gavin Brooks, Jon Clenton
2. 発表標題 Using the VLT to Assess Young EAL Learners: Benefits, Issues, and a Way Forward
3. 学会等名 Hiroshima Vocabulary Assessment Research Group 2020 Conference
4. 発表年 2020年

〔図書〕 計0件

〔産業財産権〕

〔その他〕

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6. 研究組織

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7. 科研費を使用して開催した国際研究集会

〔国際研究集会〕 計0件

8. 本研究に関連して実施した国際共同研究の実施状況

共同研究相手国	相手方研究機関
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