

A Study on How Basic Polysemous Words Are Used in Extensive Reading Books

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1. Introduction

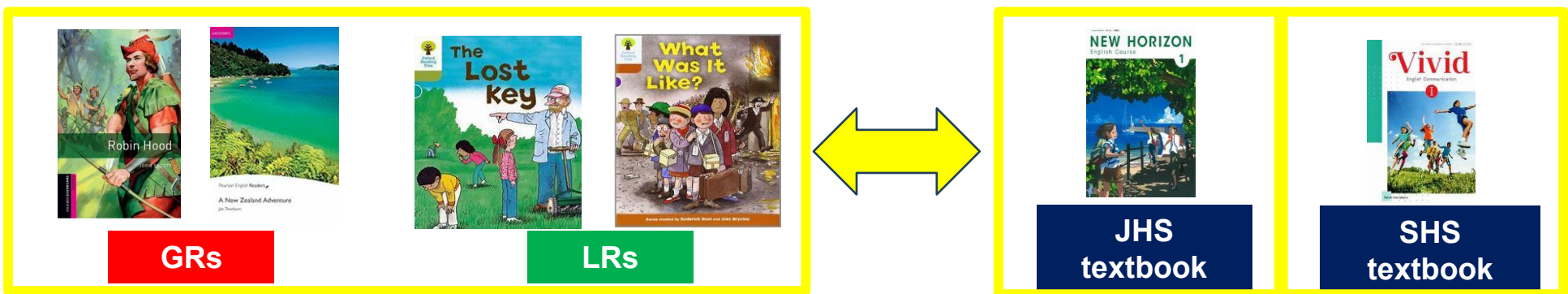
- Empirical research supports extensive reading (ER)'s effectiveness for incidental vocabulary learning (Nation & Waring, 2020). However, as ER requires **95%–98% known word coverage** for moderate comprehension, **some argue it is more effective for deepening existing vocabulary knowledge than for acquiring new words** (Brown et al., 2008).
- ER programs primarily use **Graded Readers (GRs)** with high-frequency basic words. Many of these basic words—especially verbs and prepositions—have **multiple meanings** (Tanaka, 2011). GRs present these words in a variety of contexts, which **may help learners deepen their understanding of these polysemous words**.
- However, **limited research has explored the effectiveness of ER books in using the multiple meanings of basic polysemous words**.
- If many meanings in basic verbs and prepositions are used in ER books, they can be effective materials not only in widening vocabulary size but also **acquiring the depth of vocabulary**.

2. Purpose of this Study

- This research examines how many meanings of basic polysemous verbs appear in ER books compared with formal English textbooks used in Japan.
- The study addresses the following research question (RQ):
 - RQ: Are the multiple meanings of the polysemous verbs *break*, *run*, and *take* used more extensively in ER books (GRs and LRs) compared to their use in English textbooks for junior and senior high schools in Japan?**
- Note.* Using COCA, three verbs with different frequencies were selected: *take* (63rd), *run* (202nd), and *break* (450th) (Table 1).

Table 1. Basic verbs (Tanaka, 2011) ranked by frequency based on COCA

go	get	make	come	take	give	keep	put	run	bring	hold	set	break	cut	carry	catch
31	34	50	61	63	98	151	153	202	213	235	339	450	467	572	603



3. Method

3.1. Framework: Cognitive Linguistics

- The polysemy of *break*, *run*, and *take* is analyzed within the framework of **cognitive linguistics (CL)**, which assumes that if a word shares the same form across usages, it has a common **central or core meaning**.
- For instance, the meanings of 'take' differ between 'She *took* some medicine' and 'It *took* two hours.' CL argues that 'take' has a core meaning due to its shared form and other meanings are extended from the core (Tanaka, 2011).
- This study adopts Seto's (2007) framework of central and extended meanings (Table 2).

Table 2. Central meanings and Extended Meanings of “Break”, “Run”, and “Take” (Seto, 2007)

	<i>break</i>	<i>run</i>	<i>take</i>
Central meaning	To cause something with a solid form to separate into pieces. (e.g., Break an egg.)	(People and animals) To move swiftly. (e.g., Run to the station.)	(A person) To grasp or hold (an object or person). (e.g., She took him by the arm.)
Extended meaning 1	To divide something whole into smaller parts. (e.g., They broke the machine into three parts.)	(People and animals) To participate in a race or contest. (e.g., An athlete refused to run in the Olympics.)	To move something by grasping it. (e.g., Let me take your coat.)
Extended meaning 2	To disrupt stability, allowing something to appear. (e.g., The dawn is breaking.)	(Vehicles) To operate or move. (e.g., The car ran steadily for two hours.)	To consume or receive. (e.g., Maggie was taking breakfast when he came in.)
Extended meaning 3	To violate rules or end relationships. (e.g., You can't break the engagement now.)	(Liquid) To flow continuously. (e.g., I heard water running in the bathroom.)	To require (time, effort, or resources). (e.g., He took seven years to decide to marry me.)
Extended meaning 4	To interrupt continuity. (e.g., Break the habit of eating too quickly.)	(Eyes) To move over something while looking. (e.g., She ran her eyes down the typed message.)	
Extended meaning 5		(Events, performances, or processes) To continue for a period of time. (e.g., The show ran successfully.)	
Extended meaning 6		(People and animals) To be in a particular condition. (e.g., The old cow is running dry.)	

3.2. Material

- This study builds corpora from four sources:
- (1) Major **Graded Readers (GRs)** at levels comparable to school textbooks (Fujii, 2025): **Cambridge English Readers Starter** (11 titles) and **Level 1** (13), **Foundations Reading Library Levels 1–7** (42), **Macmillan Readers Level 1** (15), **Oxford Bookworms Library Starter** (27), and **Pearson English Readers Easystarts** (24).
- (2) Widely used **Leveled Readers (LRs)**: **Oxford Reading Tree (ORT) Levels 1–9** (307 titles), **ORT Explore Levels 1+–9** (54 titles), and **ORT inFact Levels 1+–8** (48 titles).
- (3) Six MEXT-approved **junior high school English textbook series** (3 grades × 6 = 18 books).
- (4) Eight MEXT-approved **senior high school English textbook series** (3 grades × 8 = 24 books). (Tables 3 to 6)

Table 3. GR Corpora

	YL	No. of Books	No. of Tokens
CER0-1	1.0-1.4	24	81,161
FRL1-7	0.6-1.4	42	63,459
MMR1	0.8	15	10,934
OBW0	0.8-1.2	27	37,288
PER0	0.8-0.9	24	22,845
GR Total	0.6-1.4	132	215,687

Table 4. LR Corpora

	YL	No. of Books	No. of Tokens
ORT1-9	0.1-1.4	307	110,931
ORE1+–9	0.2-1.0	54	16,920
OIF1+–8	0.2-1.0	48	26,952
LR Total	0.1-1.4	409	154,803

Table 5. Junior High School Textbook Corpora

Corpus Name	No. of Books	No. of Tokens
JHS-A	3 (Year 1–Year 3)	8,374
JHS-B	“	11,309
JHS-C	“	10,897
JHS-D	“	13,349
JHS-E	“	13,520
JHS-F	“	9,381
JHS Total	18	66,830

Table 6. Senior High School Textbook Corpora

Corpus Name	No. of Books	No. of Tokens
SHS-G	3 (Year 1–Year 3)	11,437
SHS-H	“	10,749
SHS-I	“	31,052
SHS-J	“	20,472
SHS-K	“	33,967
SHS-L	“	17,925
SHS-M	“	14,507
SHS-N	“	21,250
SHS Total	24	161,359

3.3. Analysis

- The **New Word Level Checker** (Mizumoto, 2021) was used to extract examples of *break*, *run*, and *take* from each corpus. Their meanings were classified by the author. Most cases were straightforward, while ambiguous ones were resolved in consultation with a native English-speaking faculty member.

4. Results and Discussion

- Tables 7 to 9 present the frequency of each meaning of *break*, *run*, and *take* in each corpus.

Table 7. Number of Examples for Each Meaning of “Break”

	GR (%)	LR (%)	JHS (%)	SHS (%)
break-C	54 (85.7%)	60 (89.6%)	12 (42.9%)	18 (42.9%)
break 1	0 (0.0%)	3 (4.5%)	0 (0.0%)	3 (7.1%)
break 2	0 (0.0%)	0 (0.0%)	1 (3.6%)	7 (16.7%)
break 3	2 (3.2%)	2 (3.0%)	6 (21.4%)	7 (16.7%)
break 4	7 (11.1%)	2 (3.0%)	9 (32.1%)	7 (16.7%)
Total (Freq)	63 (1/3,423)	67 (1/2,310)	28 (1/2,387)	42 (1/3,841)

Table 8. Number of Examples for Each Meaning of “Run”

	GR (%)	LR (%)	JHS (%)	SHS (%)
run 0	370 (99.2%)	435 (90.8%)	31 (58.5%)	44 (51.2%)
run 1	0 (0.0%)	13 (2.7%)	11 (20.8%)	8 (9.3%)
run 2	3 (0.8%)	6 (1.3%)	2 (3.8%)	5 (5.8%)
run 3	0 (0.0%)	22 (4.6%)	4 (7.5%)	7 (8.1%)
run 4	0 (0.0%)	1 (0.2%)	0 (0.0%)	3 (3.5%)
run 5	0 (0.0%)	2 (0.4%)	4 (7.5%)	19 (22.1%)
run 6	0 (0.0%)	0 (0.0%)	1 (1.9%)	0 (0.0%)
Total (Freq)	373 (1/578)	479 (1/323)	53 (1/1,261)	86 (1/1,876)

Table 9. Number of Examples for Each Meaning of “Take”

	GR (%)	LR (%)	JHS (%)	SHS (%)
take-C	111 (18.5%)	24 (4.1%)	2 (1.5%)	10 (3.0%)
take 1	322 (53.8%)	450 (76.8%)	49 (36.0%)	67 (19.9%)
take 2	154 (25.7%)	86 (14.7%)	79 (58.1%)	237 (70.5%)
take 3	12 (2.0%)	26 (4.4%)	6 (4.4%)	22 (6.5%)
Total (Freq)	599 (1/360)	586 (1/264)	136 (1/491)	336 (1/480)

- Key findings: (1) **the percentage of the central meaning is higher in the ER books than in the textbooks**; (2) **the textbooks tend to use a broader range of meanings, but rarely cover all the senses of polysemous verbs**; (3) **the occurrence of these words is generally higher in the ER books compared to the textbooks**.

5. Conclusion

- 5.1. Answers to RQs**
 - Textbooks tend to cover a broader range of meanings compared to ER books, while ER books feature a higher frequency of basic verbs and the use of central meanings.**
- 5.2. Pedagogical Implications**
 - Easy ER books provide opportunities to encounter various contexts for the central meanings of polysemous verbs but may not cover all their usages. In contrast, textbooks offer a broader range of meanings for polysemous verbs.
 - Given these differences, using both can facilitate a more comprehensive understanding of basic polysemous verbs.
- 5.3. Limitations**
 - The limited number of examples (three verbs) and the constrained corpus of GRs and LRs. Future research needs to include larger datasets of GRs and LRs, potentially yielding different results.

Acknowledgments

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