Vocabulary :
How we can help students

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Synopsis

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- Role of vocabulary learning and teaching in EL curriculum and how it impacts students' language development
- Connections between EL and non-language subjects in the development of vocabulary
- Major principles and practices in vocabulary instruction
- Vocabulary building strategies to support learning across the curriculum
- Hands-on activities
- Resources sharing (online & free to support students vocabulary learning)

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What the research shows about the role of vocabulary in EL learning and teaching

Importance of vocabulary

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- Vocabulary is fundamental to language proficiency and print literacy (Beimiller, 2024)
- Plays a predicative role in the child's school achievement (Wasik et al., 2016).
- Comprehension fails without knowing what (a lot of) words mean (Graves et al., 2019; Fitzgerald et al., 2022)
- Needed for academic learning across the school years: learning to read and reading to learn (Duff & Brydon, 2020)
- Larger vocabulary sizes correlate with a range of linguistic and cognitive skills beyond literacy: e.g. behavior, task management, emotion regulation, executive functioning, mathematical abilities, and social skills (Romeo et al., 2018); Amorsen and Miller, 2017; Konza, 2016)

Vocabulary and print-based literacy

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- In pedagogical research, vocabulary has mostly been studied as part of literacy with written text (science of reading)
- Of course, oral language (OL) for L1/Lx students must be developed also- children need to know what a word sounds like & how to say it.
- Learning to read is mapping of OL to print. So, OL needs to be developed at school to facilitate this mapping, as better OL = better reading and writing.
- For ELLs (English language learners), OL in English needs additional support at school if there is limited exposure.
- Once decoding is mastered, if you follow a curriculum attentive to frequency of written words, you'll get most of the OL vocab students need 'for free' because it is high frequency.

The Simple View of Reading

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Tunmer and Chapman (2012):

"for children at risk of reading failure.. focus on improving these children's oral language skills, especially vocabulary knowledge, as well as their phonological and alphabetic coding skills" " (p. 464)

"Cognitive Foundations Framework"

Hoover and Tunmer (2019)

Vocabulary development

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- In the first stages of learning to read, decoding is more important in reading success and progression, then linguistic comprehension explains reading success (Kaefer, 2020)
- A child can't read with limited vocabulary, no matter how proficient in letters/sounds (i.e. decoding)
- Development: In OL about 5000-words enough, but this is not enough to comprehend written texts throughout the secondary school years where up 9000 will be needed (Schmitt et al, 2017).
- In CLIL/EMI, subjects emerge as discrete fields of knowledge, with specific vocabulary distinct from OL
- Children therefore (must) learn new words through written texts (Green, 2021)

English language learners

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- For a child entering EL learning environment at school, their EL vocab in OL sizes smaller
- But fewer differences longitudinally for vocabulary relevant to academic literacy (Bialystok et al. 2010)
- So, important point is that second language proficiency below ‘native speaker’ proficiency does not necessarily mean academic outcomes is compromised (for outcomes measured through EL).
- Initial deficits can be only a transitional ‘temporary lag’ (Sun and Yin, 2020, p. 60) with effective language instruction

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Discussion: How do you currently approach vocabulary development? Are there specific questions you have about vocabulary instruction?

‘Teaching vocabulary should be a focal point’ (Marzano, 2020, p. 4)

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What the research shows we can do to help vocabulary development

‘Teaching vocabulary should be a focal point’ (Marzano, 2020, p. 4)

What we can do: Teach Decoding

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- Teach decoding: how words are made up of sounds, what the sounds are and how they map onto written words
- Once a child has mastered grapheme-phoneme correspondences, they can learn vocabulary from reading
- This process is called phonological recording or self-teaching (Share, 1995). By secondary school, recoding is how most new vocabulary will be learned.
- For print literacy, they should not be taught to memorize whole words without decoding. This typically results in reading failure. Make sure they can connect words to the sounds (Snow, 2017).

What we can do: Teach Decoding

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- Direct instruction in decoding decoding is of value even in secondary school for:

    1) Weaker readers with poor lexical quality (Perfetti, 2007)

    2) Multilingual learners with less English language experience (e.g., late acquirers)

- Phonics needs to be systematic and sequenced (i.e., not be ad-hoc, as-and-when needed in rich texts).

- Use quick tests to check the sound-spelling patterns needed to read English vocabulary have been mastered and guide your curriculum planning if decoding instruction appears warranted:

    e.g. UK Phonics Screening check: https://www.gov.uk/government/publications/phonics-screening-check-2023-materials

- Some resources if your school does not have a phonics scope and sequence, words are made up of sounds, what the sounds are and how they map onto written words

    1) https://www.readingrockets.org/sites/default/files/2023-10/Keys%20to%20Literacy%20Systematic-Phonics-Scope-and-Sequence.pdf

    2) https://www.edb.gov.hk/attachment/en/curriculum-development/kla/eng-edu/references-resources/Phonics%20Pri%202017/Teaching%20Phonics%20at%20Primary%20Level_2017.pdf

What we can do: Teach Sight Words

- Teach sight words: The most frequent 100-300 words of English make up about 50-70% of any given text. Late EAL readers may not have them yet.
- Direct instruction. Get them mastered quickly.
- Once learned, most words on the page are known and attention can be given to building richer vocabulary.

- Most widely used resources by teachers internationally are Dolch (1936) and Fry (1957).
- Our CPB Sight Words available online

[https://tinyurl.com/3zfvu4za].

[https://ila.onlinelibrary.wiley.com/doi/full/10.1002/trtr.2309

The CPB SIGHT WORDS (the first 100)

Rank	*Word*	*Rank*	*Word*	*Rank*	*Word*	*Rank*	*Word*
1	the	26	at	51	little	76	their
2	and	27	are	52	time	77	could
3	a	28	one	53	from	78	about
4	to	29	said	54	had	79	back
5	I	30	what	55	now	80	who
6	you	31	this	56	will	81	or
7	in	32	when	57	I'm	82	make
8	of	33	we	58	go	83	into
9	it	34	me	59	were	84	look
10	he	35	have	60	too	85	very
11	is	36	as	61	them	86	would
12	was	37	do	62	him	87	right
13	for	38	like	63	some	88	here
14	on	39	out	64	big	89	love
15	that	40	can	65	get	90	way
16	with	41	her	66	if	91	night
17	but	42	not	67	good	92	did
18	his	43	then	68	don't	93	new
19	all	44	your	69	down	94	come
20	they	45	no	70	by	95	our
21	my	46	there	71	how	96	two
22	so	47	day	72	know	97	want
23	be	48	just	73	an	98	made
24	she	49	it's	74	oh	99	over
25	up	50	see	75	more	100	around

Green, C., Keogh, K., & Prout, J. (2024). The CPB Sight Words: A New Research-Based High-Frequency Wordlist for Early Reading Instruction. *The Reading Teacher*.

What we can do: Teach Morphological Awareness

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- Morphological awareness is a child's ability to attend to meaningful parts of words: roots, affixes (Duke et al., 2021).
- Robust relationships with word reading, spelling and comprehension (Levesque et al., 2021).
- Amongst other benefits, a word learning strategy: child: childish: childhood: childlike: Book: bookish: books etc.
- Disciplinary Literacy (Greek and Latin morphemes): Photosynthesis [Photo (light)] photography, photograph etc.
- As with vocabulary instruction generally, inc. phonics, teach more productive (i.e., frequent) morphemes first

"Table 3.2:
Frequently Occurring Prefixes and Suffixes"

(Marzano, 2020)

- Online resource (systematic sequence) : https://education.nsw.gov.au/content/dam/main-education/en/home/teaching-and-learning/curriculum/literacy-and-numeracy/professional-learning/myplfile/morphemes-suggested-sequence.pdf

Structured Word Inquiry: A framework

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- Structured Word Inquiry (SWI) ask children to develop a ‘scientific’ mindset toward words and think about word parts, structure, origin, and history, and learn how they “tell the story of what words mean, how words are connected, and how they are spelled” (Bowers & Kirby, 2010.)

- Example lessons may look this (see https://www.wordworkskingston.com/WordWorks/Structured_Word_Inquiry.html)
- Example Student Activity: https://www.youtube.com/watch?v=CsfiyHdlrtM&t=101s

- Students begin by asking, **“What does the word mean?”**
- Brainstorm ways to define and interpret a given word.
- Students discuss composition of the word. **"How is the word built? What is its structure?"** Identifying root, prefix and/or suffix.
- Students explore the word's history and etymology. They ask, “**What is the word’s origin?”**
- Make connections to related words, pronunciation, etc. **“Can words with similar structure/root explain the word? Does pronunciation affect spelling?“**
- Students visually represent their findings, e.g. word matrix

Activities for Teaching Morphological Awareness

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Can you create an activity based on one recommended teaching practice below that might help promote vocabulary for a particular topic or subject area? (explore the examples from the *University of Michigan* https://tinyurl.com/mvm2c96n)

1. **Find the Roots:** After you teach concept of roots to students, e.g. "A root word is the 'main' word in a longer word“; choose 5-10 words to help them practice identifying the root words. Words may have a theme (e.g. STEM etc.)

2. **Fix the Affixes:** Explicitly teach that affixes at the beginning of words are called "prefixes" because "pre-" means before, and a "suffix" comes at the end. Ask your students to "fix" 10-20 “broken” words, e.g. happy- full > happiness.

3. **Word Sort:** Ask students to sort 20 words according to affixes and guess the meaning of the affix.

4. **Building Blocks:** Make flash cards/provide a list of affixes and ask students to make as many real words as they can.

5. **"Big Words":** Provide or ask your students to find 10 "Big Words“ (perhaps from an instructional text). Have them highlight the root, remove affixes and break the word into syllables. Ask them to infer the meaning and pronunciation of the word based on these word parts. *Metamorphosis:* Root: Morph (change), Affix: meta (whole/big picture) = Possible meaning: change of the whole thing= Possible pronunciation: meta/morph/a/sis

6. **SWI/POSSUM**: Choose a base and develop your Word Matrix tower: https://cdn.shopify.com/s/files/1/0860/7278/7260/files/RiL_Word_Matrices.pdf?v=1710461849

What we can do: Teach Oral Language

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- Teach oral language: including phonemic and phonological awareness; dialogic talk
- Activities such as: Blend sounds to create words, identify rhymes, syllables, swap sounds in words etc.
- Peer talk across subjects: Less teacher-directed talk. Increased interaction with peers has better scaffolding and better outcomes (Mercer, 2019). Teacher talk is important, however (!) (Wasik, 2016)
- Read alouds (Noble et al., 2019). This builds OL vocabulary and exposes children to more complex vocabulary than talk (Sun and Yin, 2020).
- Dialogic talk around written texts enhances breadth and depth of vocabulary knowledge, functioning as an effective bridge between OL and print literacy (inc. reading, spelling, comprehension) (Piasta et al., 2012).
- OL plays an important role in facilitating the acquisition of “book words”, for example, through conversation about words and because fluent readers apply prosody (the stress and intonation of their OL) to what they read which is needed for comprehension and fluency

What we can do: Teach Oral Language Across the Curriculum

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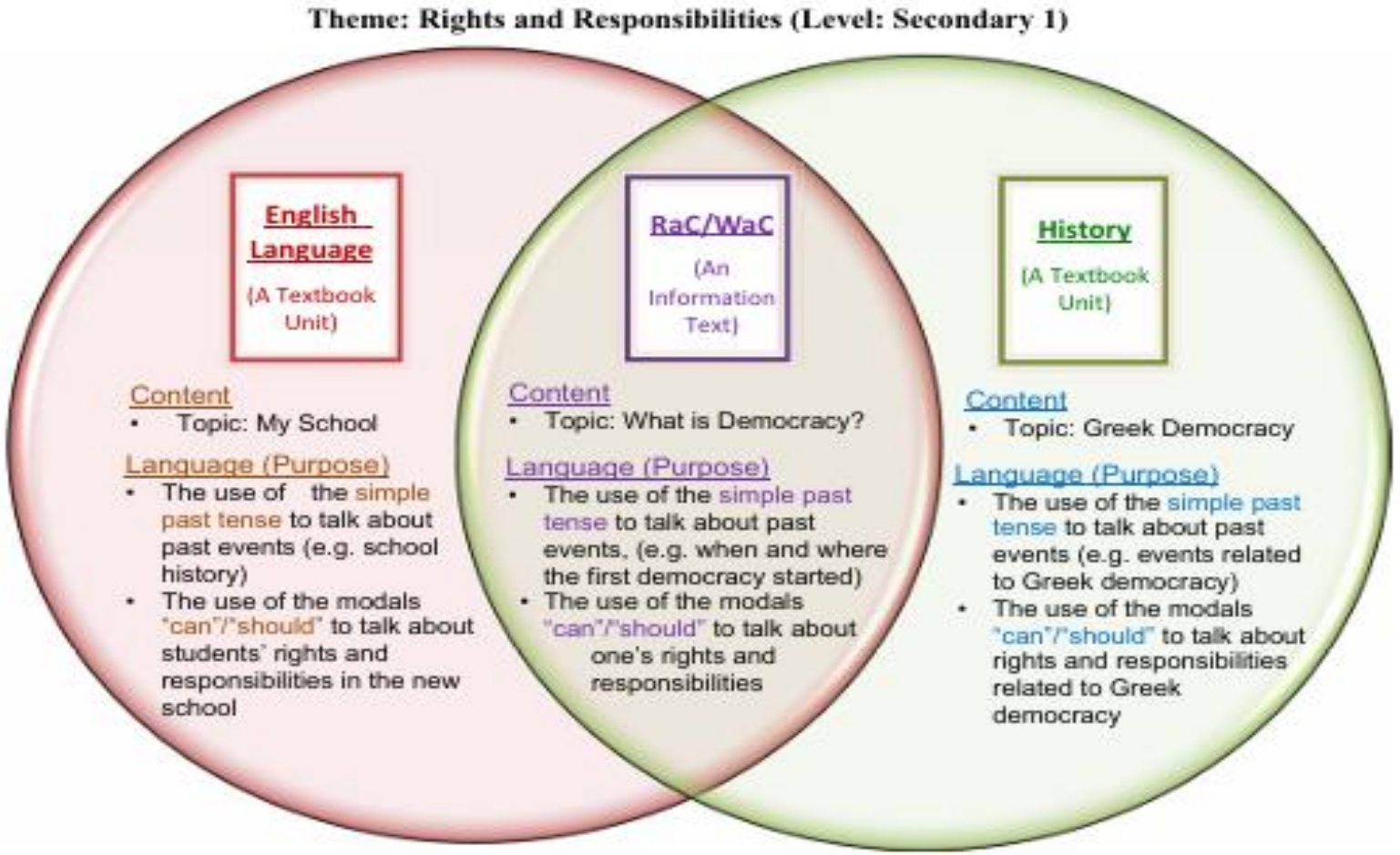

EDB Resource (pp. 31-35) Microsoft Word - RWaC Package_Parts_1-4_20191230clean

What we can do: Teach Oral Language Across the Curriculum

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- Disciplinary literacy refers to the language-related skills and knowledge required by students across the curriculum (Shanahan & Shanahan, 2012). During the middle/secondary years, subject areas emerge as specializations with specialist teachers (Jones, 2023)
- Disciplinary texts become more complex, increasingly including academic language, nominalization etc.
- Pedagogies: "purposeful talk" and "interthinking" shown to enhance learning across subjects (Mercer, 2019; Murphy et al., 2022). E.g. conversational routines can reduce the cognitive load on students by having them orally work through complex ideas collaboratively.
- Example (39:00): https://www.youtube.com/watch?v=xGmNJUeso6g
- Fisher and Frey's (2018): in all disciplines, "students simply must talk in class" (p. 69). They advocate 50% of instructional time in all disciplines should involve students talking.

What we can do: Teach in Context, for Comprehension

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- Explicit direct instruction to build vocab not particularly effective (Cervetti et al., 2023)
- But, approx. 10 words a week (400 a year probably the upper end of what is possible with DI)
- Even then, most wont be retained. Will fail to provide the 5000-9000 words needed for general reading/listening comprehension.
- Decontextualized vocabulary learning even less beneficial
- Authentic texts. Need to teach them to comprehend text, and text comprehension leads to vocabulary development (cf. explicit instruction)
- Why?

  a) Comprehension improves background knowledge;

  b) Vocabulary occurs in texts surrounded by words that give it meaning, and repeated exposure to a word in context will therefore allow it to be incidentally learned.

AI can help develop texts with vocab targets in comprehensible input

https://textproject.org/vocabulary-learning-and-ai/

What we can do: Teach in Context, for Comprehension

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- 'Three Tiers' method involves teachers evaluating words in a text intended for class use as falling into 3 categories (Beck et al., 2013):
- Tier 1 words are highly frequent in speech and not worth teaching;
- Tier 2 words are encountered across a range of texts, have utility for academic literacy, and would impair reading comprehension if unknown;
- Tier 3 words are discipline-specific and can be taught in subject areas.
- A small pool of Tier 2 vocabulary is be the focus of direct instruction in each text (Dyson et al. 2018).
- In subject areas, also choose the Tier 3 words needed for concepts/comprehension

What we can do: Activity identifying vocabulary demands of texts

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- 'Three Tiers' activity:

1) List the 'tier 2' vocabulary you would choose to target from this possible lower sec text. Further, which oral language vocabulary might you leverage when explaining the vocabulary?

"Johnny Harrington was a kind master who treated his servants fairly. He was also a successful wool merchant, and his business required that he travel often. In his absence, his servants would tend to the fields and cattle and maintain the upkeep of his mansion. They performed their duties happily, for they felt fortunate to have such a benevolent and trusting master." (Beck, McKeown & Kucan, 2013)

What we can do: Activity identifying vocabulary demands of texts

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Tier 2	***Oral Language Vocab to leverage***
Merchant	salesperson or clerk
required	have to
tend	take care of
maintain	keep going
performed	did
fortunate	lucky
benevolent	kind

(Beck, McKeown & Kucan, 2013),

‘Three Tiers’ activity:

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1) List the ‘tier 2’ vocabulary you would choose to target from this text? Further, which Tier 3 vocabulary would you collaborate on with subject area teachers across the curriculum?

An extract of 2024 HKDSE English Language Reading Passage booklet

What we can do: Align Vocabulary, Text and Students

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- Link between vocabulary frequency and comprehension: 90% and above knowledge of the words on the page
- Most written texts reach that coverage with the most frequent 9000 word families (n.b. there are hundreds of thousand so words in English). So, a good target vocabulary size by the end of EL instruction.
- Begin with high freq. sight words for lower proficiencies (if interested, Green et al. 2024): the first 300 words of English cover about 70% of the words on any page! Reduce cognitive load by having these become automatic sight words.
- For your Tier 2 words, align your selected words with frequency, e.g. the Wordzones (Hiebert, 2020), AWL (Coxhead, 2001), SVL (Green & Lambert, 2018): you want to choose words that both aid comprehension of your text but that are also going to move them along that frequency development curve
- Comprehension facilitated by background knowledge, so build/align with student interest/background knowledge
- AI activities can include individualized text generation (CATER, 2024)

Vocabulary Pedagogy: Across the Disciplinary Areas

- What vocabulary to teach?

- Words frequently encountered in academic literacy (Nation, 2019; Hiebert, 2020)
  = Tier 2 words (Beck et al., 2013)
- Disciplinary concepts. = Tier 3 words (Beck et al., 2013)

- General Academic words: The AWL (Coxhead, 2000) 570 corpus derived word families from academic texts
  Field-specific: The SVL (Green & Lambert, 2018) contains vocabulary with higher frequency and dispersion in secondary school disciplinary textbooks: Biology, Social Studies, Math, Health, Physics etc.

- Hiebert (2020) identifies a common core vocabulary in elementary school based on the most frequent 2451 word families (expanding to 5,586 word forms) in school textbooks. Covers approximately 90% of school texts (Hiebert, 2020, p. 3).

- Too many 'off-list' words (i.e., low frequency) = not a useful text to choose, and not useful vocabulary

What we can do: Increase Input Volume

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- As noted, in-context direct instruction is not what will build students vocabulary the most. The idea is to support learning over time from comprehensible input/CI (Krashen, 2004)
- Words are surrounded by words that give them meaning, e.g. 'He was a boring pedagogue who taught the students in dry lecturing style. He was not a popular teacher'.
- You must have volume of input. A child must encounter words many times.
- Exact number unknown: Snow and Matthews (2016) suggest 15 to 20 exposures. United States Department of Education suggests teachers plan for 17 encounters over an extended period of time. Graves et al. (2019) reviews the research for poor readers, suggesting up to 55 repetitions.

Vocabulary Pedagogy: Meaningful Groupings

- Semantic Clusters: Marzano (2004; 2020) proposes that organizing words into (444) semantic clusters for teaching allows students to connect known words with unknown words
  - E.g. student may know words lake, river, ocean, and can link this semantic cluster to new words inlet, estuary etc.

- Heibert (2011) proposes 13 'megaclusters': e.g., 'Emotions & Attitudes'; 'Communication'; 'Traits of Characters'; 'Characters'; 'Social Relationships'; 'Action & Motion'; 'Human Body'; etc.

- Resources: https://textproject.org/

"The USAS 21 major categories (adapted from Rayson et al., 2004)"

Hands-on Activities

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Using AI and frequency-based vocabulary lists for developing vocabulary across the curriculum

- In the past, one of the challenges has been selecting an instructional text that has alignment between learners and target vocabulary, and that is also at the right level of comprehensible input.
- In the era of AI, we can now quickly and efficiently develop text, taking the pressure of teachers to search for texts on our bookshelves and be restricted by material already developed by others. Hardcopy material can be difficult to differentiate. This should not replace the use of authentic texts.
- Using either Co-pilot or ChatGPT, we were going to try to align our vocabulary instruction, text selection and learners. Choose a frequency-based list suitable to your instructional context: generate a 150–200-word text that contains your words. Sketch out an activity that accompanies your text to teach the words. The words you choose might be tier 1 (high frequency sight words), tier 2 (vocabulary needed across the curriculum), or tier 3 (disciplinary vocabulary). In designing your prompts that ask the AI to generate your instructional text, think about the genre of your text (informational, narrative), the number of repetitions, your hypothetical learner(s). You might also want to explore how you can manipulate the text to expose the students to semantically related words, morphologically complex words etc.

Here are some frequency-based resources with the vocabulary students typically will need:

- Academic Wordlist (Coxhead, 2000): https://www.wgtn.ac.nz/lals/resources/academicwordlist
- Heibert's (2020) WordZones: https://textproject.org/teachers/vocabulary-instruction/core-vocabulary-word-zones/
- Secondary Vocabulary Lists (Green & Lambert, 2018): https://www.eapfoundation.com/vocab/other/svl/
- Sight Words (Green et al., 2024): https://ila.onlinelibrary.wiley.com/doi/full/10.1002/trtr.2309

Hands-on Activities and Resources

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Choosing words and texts: Online resources for developing vocabulary across the curriculum

One of the leading online vocabulary resources is TextProject (https://textproject.org/), developed by Professor Elfrieda Hiebert, a leading international expert on vocabulary. Professor Hiebert has provided teachers with a research-based pool of resources aligned with eth science of reading that can support robust vocabulary instruction at any level.

"TextProject provides free resources for the four kinds of vocabulary words that contribute to reading comprehension: core, academic, content-area, and literary."

The resources include vocabulary frequency lists, vocabulary grouped by semantic relationships, vocabulary aligned with texts, decodable readers, content area vocabulary resources and more beside.

The pages for this activity you might explore are:

1. Vocabulary Instruction Resources: https://textproject.org/teachers/vocabulary-instruction/
2. Stories of Words Texts: https://textproject.org/teachers/free-texts/stories-of-words/
3. Word maps: https://textproject.org/teachers/vocabulary-instruction/core-vocabulary-project/
4. Decodable Readers: https://textproject.org/teachers/free-texts/decodablereads/
5. Content Area Vocabulary: https://textproject.org/teachers/vocabulary-instruction/content-area-word-pictures/
6. Synonym sets: https://textproject.org/teachers/vocabulary-instruction/s4/

Learning Tasks: In small groups, select and discuss some resource(s) from the TextProject. Outline activities that leverage the resources in an engaging way that considers your learners level, context and the vocabulary they need.

Conclusion

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- Vocabulary is key to print-based literacy.
- Reading and writing failure will occur if vocabulary is not given pedagogical attention
- Decontextualized direct instruction (e.g. a vocab list) or a curriculum with only limited textbook-based input will have limited, probably no, impact on the child's success or failure with EL long term.
- Research suggests outcomes are best when: we provide input volume, comprehensible input, repeated exposure
- And we: teach decoding skills, morphology, high frequency words, oral language
- And we: select instructional targets for comprehension and frequency, using explicit vocabulary teaching to support comprehension, which in turn will support a child's ability to learn from written texts

Reference List

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Beck, I. L., McKeown, M. G., & Kucan, L. (2013). *Bringing words to life: Robust vocabulary instruction*. Guilford Press

Beck, I. L., McKeown, M. G., & Sandora, C. A. (2020). *Robust Comprehension Instruction with Questioning the Author*. Guilford Publications.

Bowers, J. S. (2020). Reconsidering the evidence that systematic phonics is more effective than alternative methods of reading instruction. *Educational Psychology Review*, *32*(3), 681-705.

Buckingham, J., Wheldall, R., & Wheldall, K. (2019). Systematic and explicit phonics instruction: A scientific, evidence-based approach to teaching the alphabetic principle. *The alphabetic principle and beyond*, 49-67.

Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological science in the public interest*, *19*(1), 5-51.

Coxhead, A. (2017). *Vocabulary and English for specific purposes research: Quantitative and qualitative perspectives*. Routledge.

Green, C., & Lambert, J. (2018). Advancing disciplinary literacy through English for academic purposes: Discipline-specific wordlists, collocations and word families for eight secondary subjects. *Journal of English for Academic Purposes*, *35*, 105-115.

Cervetti, G., & Hiebert, E. H. (2015). Knowledge, literacy, and the Common Core. *Language Arts*, *92*(4), 256-269.

Green, C., & Keogh, K. (2024). Vocabulary exposure to children is enhanced by using both informational and narrative picture books for read-alouds: A comparative modelling study using data science methods. *Journal of Research in Reading*, *47*(4), 497-516.

Hiebert, E. H. (2020). The core vocabulary: The foundation of proficient comprehension. *The Reading Teacher*, *73*(6), 757-768.

Green, C., & Sun, H. (2024). Picturebooks Increase the Frequency and Diversity of Emotion Vocabulary in Children's Language Environments: Modeling Potential Benefits to Emotional Literacy, with Pedagogical Resources. *Early Education and Development*, 1-19.

Goldenberg, C. (2020). Reading wars, reading science, and English learners. *Reading Research Quarterly*, *55*, S131-S144.

Seidenberg, M. S., & MacDonald, M. C. (2018). The impact of language experience on language and reading: A statistical learning approach. *Topics in Language Disorders*, *38*(1), 66-83.

Serafini, F. (2024). The complex relationship of words and images in picturebooks. *Journal of Visual literacy*, *43*(3), 233-249.

Shanahan, T. (2020). Limiting Children to Books They Can Already Read: Why It Reduces Their Opportunity to Learn. *American Educator*, *44*(2), 13.

Snow, P. C. (2021). SOLAR: The science of language and reading. *Child Language Teaching and Therapy*, *37*(3), 222-233.

Solity, J. E. (2020). Instructional psychology and teaching reading: Ending the reading wars. *The Educational and Developmental Psychologist*, *37*(2), 123-132.