

Vocabulary Thresholds

that Support Post-Secondary Reading and Writing Success

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Languages Canada 9th Annual Conference

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Friday March 4, 2016

 Follow @scottroydouglas



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Education, Okanagan Campus

Thank you!

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March 2 – 5, 2016

Fairmont Empress Hotel, Victoria BC



9^e CONGRÈS ANNUEL

Langues Canada, chef de file
d'une éducation linguistique
de qualité au Canada

2 – 5 mars 2016

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Today's Question

What lexical thresholds support entry-level post-secondary reading and writing success?

Counting Vocabulary	Lexical Frequency Principle	The First 2,000	Stages of Language Acquisition
---------------------	-----------------------------	-----------------	--------------------------------

Reading Thresholds	Writing Thresholds
--------------------	--------------------

... she had ... **an apt and varied vocabulary**, she
was never at a loss for ... the vivid phrase.

W. Somerset Maugham (1930)
Cakes and Ale

...vocabulary knowledge clearly **underpins all language proficiency** and is the foundation upon which any acquisition of syntax, pragmatics, and other aspects of language crucially depends.”

(Horst, 2013, p. 172)

What is a word family?

Word Families

The inflected and transparently related derived forms of a word

Example of a word family

educate

educating

educates

educated

educative

miseducated

educator

educators

uneducated

education

educationist

educationists

educational

educationally

educationalist

educationalists

Caveat

Non-Native English Speakers

Native English Speakers

Developing English Language Users

Competent English Language Users

Grade-level English Language Users

Target-level English Language Users

Knowing a word

Breadth vs. Depth

Passive (receptive) vs. Active (productive)

-reading

-writing

Pop Quiz!



Everyone get out a smart phone, laptop, or tablet and go to:

kahoot.it

How many words...

How many word families does the average five year old grade-level English speaker know?

5,000 word families

(Nation and Waring, 1997; Hart and Risley, 2003)

How many words...

How many word families do average grade-level children and adolescents acquire for each year they are in school?

1,000 word families

(Nation and Waring, 1997; Hart and Risley, 2003)

How many words...

In terms of size, what is happening to the word families of average grade-level children and adolescents learn every year?

They increase in size

(Anlin, 1993)

How many words...

How many word families does the average university bound 18 year old grade-level student know?

18,000 Word Families

(Nation, 2001)

How many words...

How many word families do grade-level undergraduates learn at university?

+/- 5,000 word families

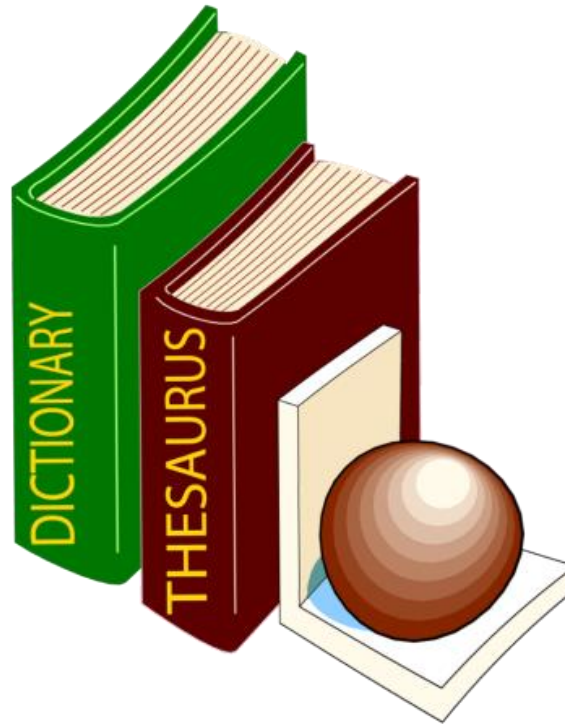
(Zechmeister et al, 1995)

How Many Words...

How many word families does the typical adult native English speaker know?

20,000 (Nation, 2001) **to** **22,000** (Zechmeister et al., 1995)

Exploring Lexical Thresholds



With the frequency principle

Lexical frequency principle

- Certain words occur more frequently than others
- Students will encounter them more often
 - Sister vs. Sibling
- Invest time in learning vocabulary according to frequency
- Bigger return on investment for higher frequency words

A first threshold...



... 2,000 High Frequency Word Families

The first 2,000 word families

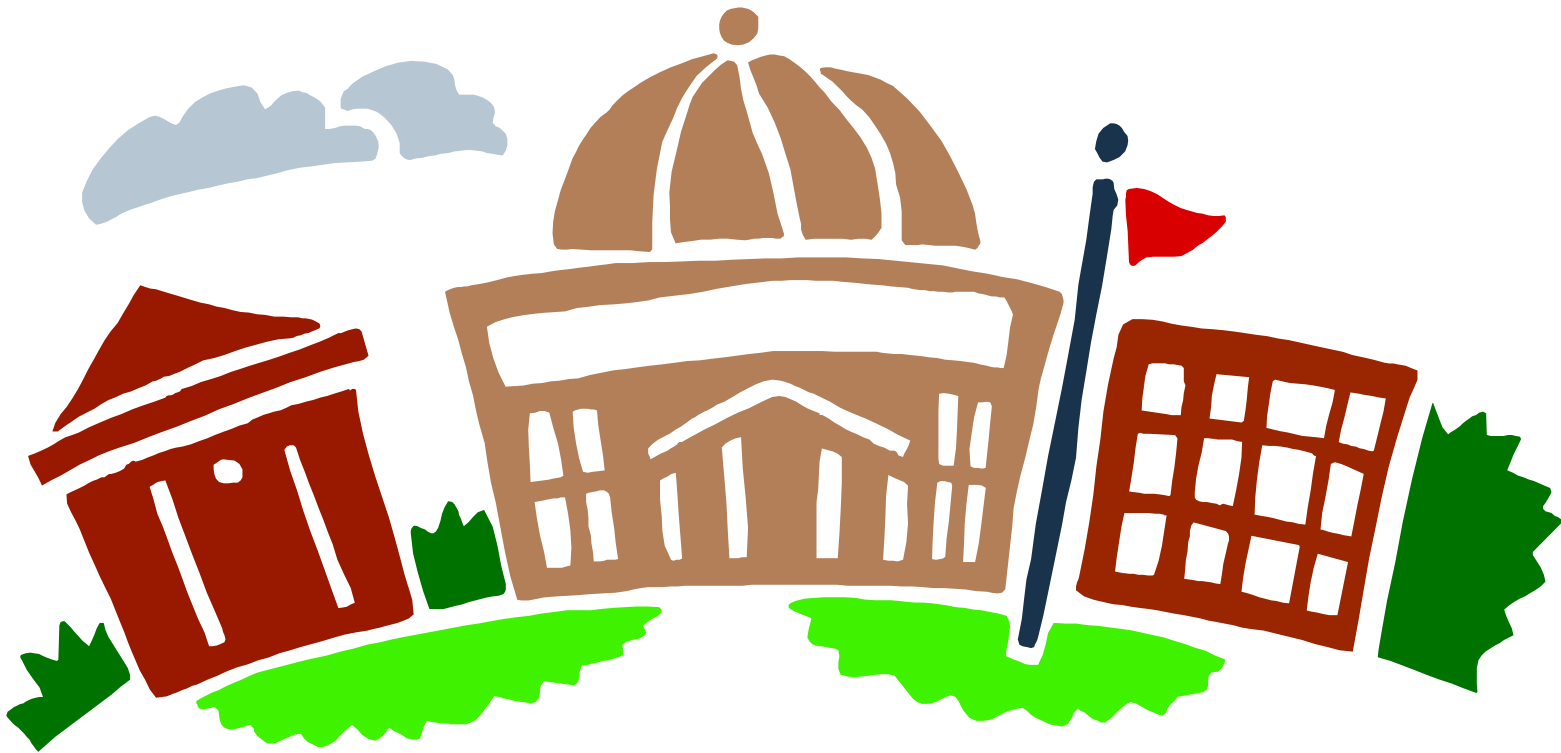
- Key threshold for learning an additional language
- Core vocabulary of a language
- Feasible learning goal with big benefits
- 80% to 85% (with proper nouns) coverage (more in oral)
- Lack of 2K creates considerable barriers

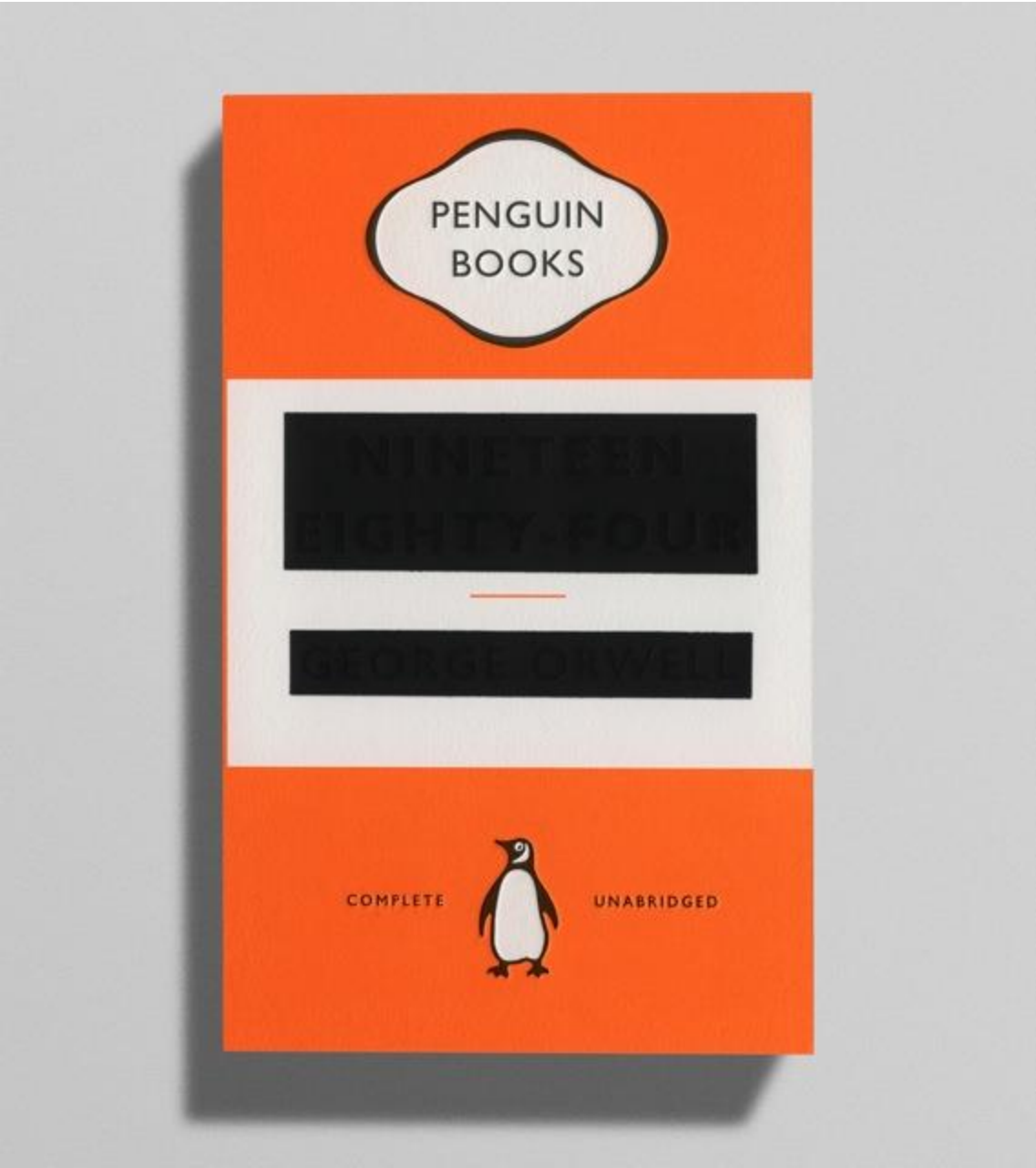
(Horst, 2013)

An excellent start ...

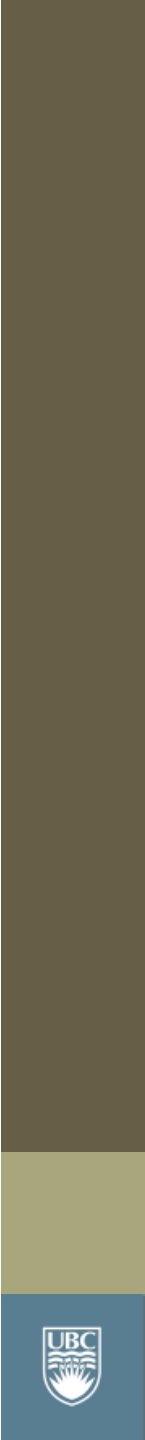
- 2K unlock much of the vocabulary needed for communicative language proficiency
- Lexical thresholds beyond the first 2K

Rie's Story





Source: <http://also.kottke.org/misc/images/penguin-1984.jpg>



Were there always these [redacted] of [redacted] ^{通景} of [redacted] ^{腐敗} nineteenth-century houses, their sides [redacted] ^{支柱} up ^{交元} with [redacted] ^壁 of [redacted] ^{木材}, their windows patched with [redacted] ^{厚紙} and their roofs with [redacted] ^{瓦片} iron, their [redacted] ^{破片} garden walls [redacted] ^{殖民地} in all directions? And the bombed sites where the [redacted] ^{給画} dust [redacted] ^{汚い} in the air and the [redacted] ^{破片} over the [redacted] of [redacted]; and the places where the bombs had cleared a larger path and there had sprung up [redacted] ^{殖民地} of wooden [redacted] ^{破片} like chicken houses? But it was no use, he could not remember: nothing remained of his childhood except a series of bright-lit [redacted] ^{給画}, occurring against no background and mostly [redacted] ^{破片}.



Rie's story

- Japanese university student might know 2,000 words after 800-1,200 hours of instruction (Laufer, 2000 in Horst, 2013)
- Likely not the 2,000 most frequent word families (Horst, 2013)
- 2,000 most frequent word families \approx 81% of *1984* excerpt
 - Frustration
 - Unable to make meaning
 - Conscious and belaboured reading

Rie's story: "What should I do?"

Felt that my advice rang hollow:

- Avoid translating word for word
- Use this flow chart when encountering new vocabulary
- Guess the meaning from context
- Skip unimportant words (adjectives & adverbs)
- Read for gist
- Try to guess what is coming next
- Connect to your own experiences
- Use a monolingual English dictionary
- Come back to unknown words later

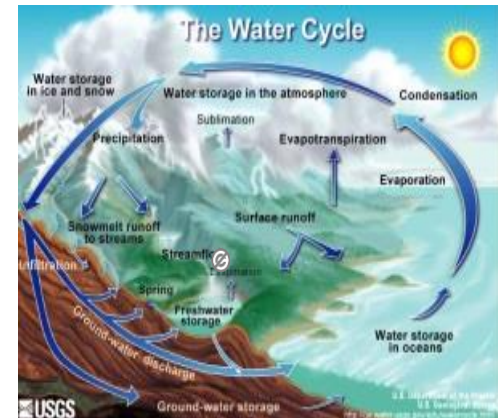
Started thinking ...

Stages of language acquisition

Put in order of Lexical challenge

4 500 Word Essay Topic: Should the government promote increased tourism in national parks?

3 Write a report outlining how water travels through the water cycle based on this diagram. (250 words)



2 Write a 1500 word composition on what you did last summer.

1 Write an essay describing this room.

Cognitively Undemanding

Basic Interpersonal Communication Skills

1. Here and Now
2,000 Words

2. Lived Experience
3,000 Words

Context
Embedded

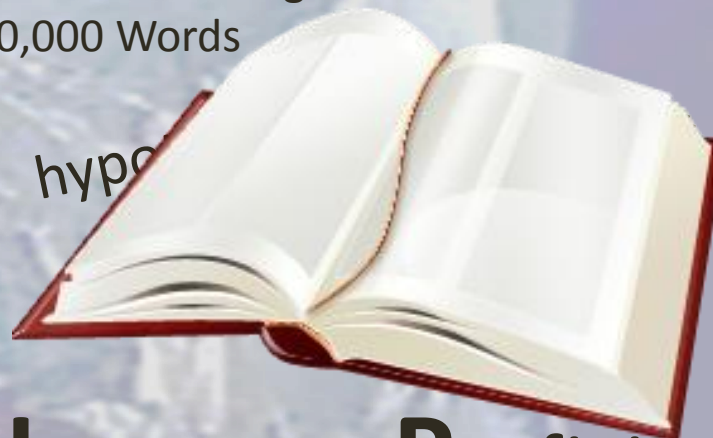
Context
Reduced

LEXICAL BAR

(Corson, 1985; 1997)

3. Scaffolded Thinking
8,000 Words

4. Educated Imagination
20,000 Words



Cognitive Academic Language Proficiency

Cognitively Demanding

It takes time:

How long do you think it takes to gain conversational language proficiency?

- **About two years** (Cummins, 1981)

How long do you think it takes to gain grade-level academic language proficiency?

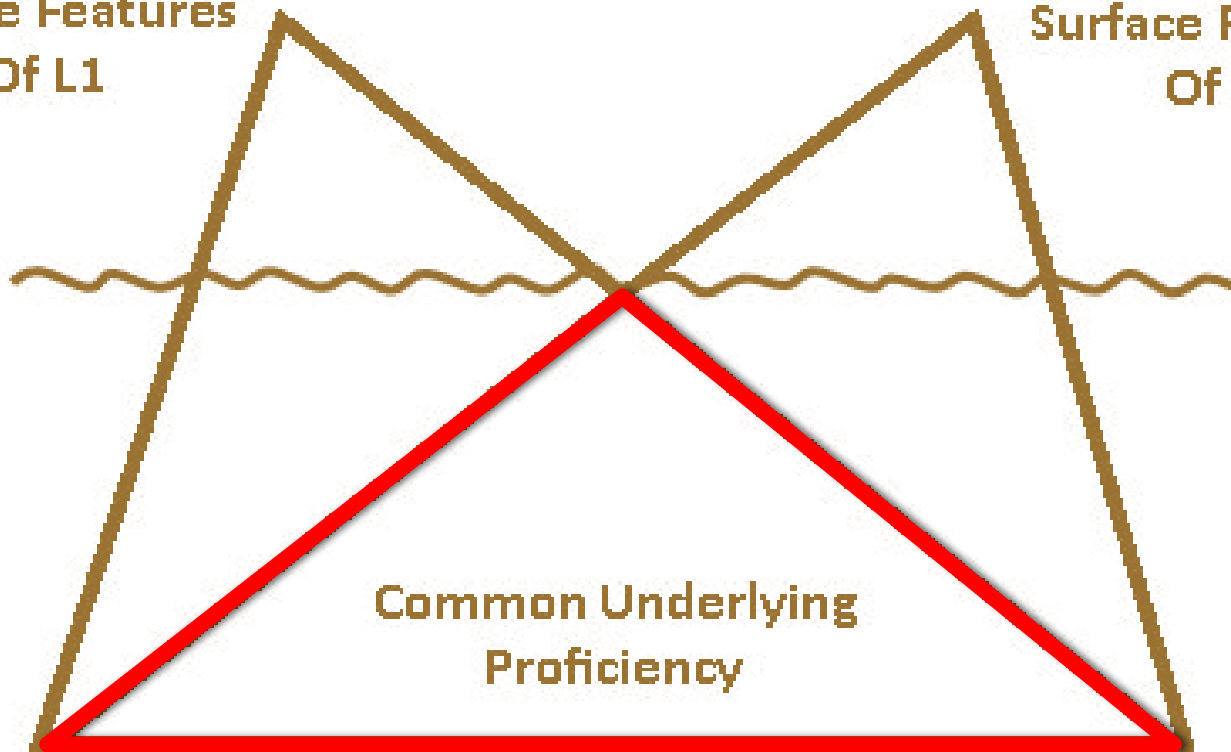
- **About five** (Cummins, 1981) **to seven** (Hakuta, Goto Butler, & Witt, 2000) **to eight or ten years** (Collier, 1987; Thomas & Collier, 1997)

Common Underlying Proficiency

Basic Interpersonal Communication Skills

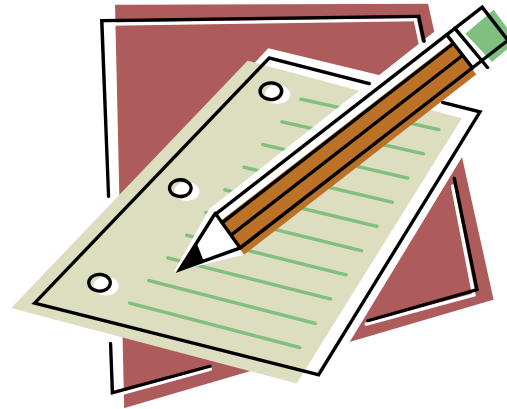
Surface Features
Of L1

Surface Features
Of L2



Cognitive Academic Language Proficiency

Exploring Lexical Thresholds



With the frequency principle

Compleat Lexical Tutor v.8
For data-driven language learning on the Web

Willkommen/bienvenue/welcome - ¡yHola! - to the

SAVERS: Hypertext 1, 2, Cloze VP, N-Word, ID-word

Summer 2015: TTS fully restored - 17 AUG

100% free, no ads or registration "Best from Canada since Trivial Pursuit!" - Scott Thornbury

VP-1-WD BNC+COCA search... MOBILE APPS Conc, VP1,...

LEARNERS RESEARCHERS TEACHERS

Tests
List Learn
Group Lex v.8.2
RA-Reading resource assisted
Corpus Grammar Data-Driven Correction
Concord Writer

Concordance
** 15 SEPT: Conc APP proto **
Vocabprofile
Range Text Range v.3 July 2015
N-Gram
RT Builder
Vocab Stats
Research Base

Text Tools
Familiarizer
Frequency
Text Lex Compare
RaNdOmICITy
KeyWords
Morphology

CONC/INFER coming Autumn 2015
Work out defs from conc lines
To be known as DEFCON2
Cloze
Teach+Test modes
Monitor Dashboard
Hypertext
Focus on (Word) Forms
I.-D. xszxWORDSv8ft
*All New/ TTS-DICTATOR

UQAM Université du Québec à Montréal

Tom@Cobb

How to cite

To the free dissemination of knowledge on the WWW

www.lextutor.ca
(Cobb, 2016)



Lexical Frequency Profiling

The screenshot shows the 'Web VP Classic' interface for English. The browser address bar shows 'www.lextutor.ca/vp/eng/'. The page title is 'Web VP Classic v.4 CHANGES IN USER LIST HANDLING - 24 JUNE 2013'. Below the title, there are navigation links: 'Home > VocabProfilers > English'. The main content area is titled 'Web VP Classic' and includes instructions for 'Input method A' (typing or pasting text) and 'Input method B' (uploading files). The 'Input method A' section has a 'Title' field set to 'Untitled', a 'MAIN TEXT' area with instructions and a 'TEXT SET-UP' section, and a 'USER LIST (OPTIONAL)' field. The 'Input method B' section has a '1. Choose File' button, a '1a. Choose File' button, and a '2. Submit_file' button. The page also includes a 'Demos' section with links to 'Isogram', 'Lit', 'Science', 'News', 'Speech', 'Rex M.', and 'List AWL'. The footer contains the URL 'www.lextutor.ca' and the year '(Cobb, 2016)'. The UBC logo is visible in the bottom right corner.

VOCABPROFILE ENGLISH x

www.lextutor.ca/vp/eng/

Home > VocabProfilers > English

Web VP Classic v.4 CHANGES IN USER LIST HANDLING - 24 JUNE 2013 ** [One-word VP](#)

Input method A Type or paste smaller text (<2000 words) below and click *Submit_window* to see its Frequency Profile.

Title: | [FREQ](#) | [VP-CLOZE](#) | [RESEARCH](#) | [TYPICAL PROFILES](#) | [FRENCH](#) | AWL texts > [APA](#) | [StatsCan](#)

MAIN TEXT

INSTRUCTIONS Type or paste your text here and click SUBMIT_window. VocabProfile will tell you how many words the text contains from the following four frequency levels: (1) the list of the most frequent 1000 word families, (2) the second 1000, (3) the Academic Word List, and (4) words that do not appear on the other lists. For a demo, enter this text, or one of the sample texts below.

TEXT SET-UP

General: Include an empty space after every comma or full stop.
Research: Deal with spelling errors and proper nouns.

USER LIST (OPTIONAL)

OPTIONS

post_AWL
 overlap

[Demo](#)

Demos: [Isogram](#) | Lit [\(1\)](#) [\(2\)](#) | Science [\(1\)](#) [\(2\)](#) | News [\(1\)](#) [\(2\)](#) | Speech [\(1\)](#) [\(2\)](#) | [Rex M.](#) | List [AWL](#)

Non-Lexical Proper Nouns: Recategorize these words as 1k. [Type, paste, or dbl-click textarea items].

AND/OR* all Capped non-initials

Input method B To upload larger text files, plus *OPTIONAL* technical or other user list

1. No file chosen « TEXT file for VP analysis OPTIONS:

1a. No file chosen « Optional user or tech list - called » Options post_AWL, or overlap with 2k/AWL

2.

Original VP by Heatley & Nation, VUW New Zealand & B. Laufer, U Haifa, Israel; AWL by A. Coxhead VUW; WebVP adapted by T. Cobb, UQAM Canada. [How to reference](#)

www.lextutor.ca (Cobb, 2016)

BNC-COCA 1-25k Output

TEXT FOR FILE: Untitled (2,704 chars)

Sentence Capped Offlist Words => 1k: (4 types): canada december maple olga end_of_list

Notes: In the output text, punctuation is eliminated; all figures (1, 20, etc) are replaced by the word *number*; contractions are replaced by constituent words (*won't* => *will not*); type-token ratio is calculated using the 1k sub-analysis content + function words may sum to less than total (depending on user treatment of proper nouns as well as program decision to class numbers as 1k although not contained in 1k list); single letter words are not counted.

Freq. Level	Families (%)	Types (%)	Tokens (%)	Cumul. token %
K-1 Words :	128 (70.33)	145 (72.14)	399 (84.89)	84.89
K-2 Words :	31 (17.03)	34 (16.92)	36 (7.66)	92.55
K-3 Words :	16 (8.79)	16 (7.96)	23 (4.89)	97.44
K-4 Words :	5 (2.75)	6 (2.99)	7 (1.49)	98.93
K-5 Words :	1 (0.55)	1 (0.50)	4 (0.85)	99.78
K-6 Words :	1 (0.55)	1 (0.50)	1 (0.21)	99.99
K-7 Words :				
K-8 Words :				
K-9 Words :				
K-10 Words :				
K-11 Words :				
K-12 Words :				
K-13 Words :				
K-14 Words :				
K-15 Words :				
K-16 Words :				
K-17 Words :				

RELATED RATIOS & INDICES

Pertaining to whole text

Words in text (tokens):	470
Different words (types):	201
Type-token ratio:	0.43
Tokens per type:	2.34

Pertaining to onlist only

Tokens:	470
Types:	201
Families:	182
Tokens per family:	2.58
Types per family:	1.10

the five **species** of pacific **salmon** that live in british columbia waters have fed and **fascinated humans** for thousands of years and have been **keystones** in the **ecology** of both **coastal** waters and hundreds of **streams** throughout much of the **province** their lives are part of great **cycle** the **migration** of **fry** or **smolts** from **freshwater streams** to the **ocean** the grand travels of **silvery adults** through the north pacific the **arduous migration** **upstream** to their **birthplace** the **battles** and **lovmaking** of **gaudily** coloured **distorted** bodies on the **spawning** grounds and the **inevitable swift decay** and **death** of the **battered** fish **among** the eggs of the **generation** to follow all **aspects** of this **cycle** have **stirred** the **human** imagination

although pacific **salmon** all share the same basic **cycle** different **species** spend different **lengths** of time in **fresh** water as **juveniles** and in the **ocean** as **adult** fish they **spawn** in different kinds of **streams** and at different times of the year they travel to different parts of the **ocean** and so on

scientists still are not sure exactly how **salmon** find their **birthplace** but they certainly use their **noses** fish with **plugged noses** cannot find their way back unique **stream odours** probably become **imprinted** on **juvenile salmon** as they travel **downstream** and they follow these as they travel back up the **stream** **several** years later as **adults** if this sounds **amazing** just **recall** how specific **smells** from your childhood can take you **instantly** back in your mind at least to your school **yard** or family kitchen

in addition **salmon** may be helped by the fact that they travel **upstream** in the company of their brothers sisters and other **fellow spawners** they may be able to recognize members of their own **stock** by specific **smells released** by the fish and when many fish are trying to find the same place it is far less likely that any will go **astray** than if they tried on their own

although most **salmon** find their way back home small percentage do **stray** into **unfamiliar streams** either on their own or in the company of **salmon** that **belong** in those **streams** straying may or may not be **advantageous** to individuals but small amount of it certainly **aids** in the **survival** of the **species** strays introduce **genetic variation** into **breeding stocks** and without them

throughout [1] time [1] times [1] to [8] travel [4] travels [1] tried [1] trying [1] unique [1] up [1]
use [1] water [1] waters [2] way [2] when [2] will [1] with [1] without [1] would [1] year [1] years [2]
you [1] your [3]

BNC-2,000 types: [fams 31 : types 34 : tokens 39] extract

adult [1] adults [2] advantageous [1] aids [1] amazing [1] among [1] aspects [1] battles [1]
belong [1] coastal [1] cycle [3] death [1] disasters [1] fellow [1] fresh [1] generation [1] human [1]
humans [1] ice [1] lengths [1] mountains [1] noses [2] plugged [1] recall [1] released [1] rivers [1]
several [1] smells [2] stock [1] stocks [1] survival [1] unfamiliar [1] variation [1] yard [1]

BNC-3,000 types: [fams 8 : types 9 : tokens 16] extract

breeding [1] fascinated [1] fry [1] instantly [1] silvery [1] species [3] stirred [1] stream [2] streams [5]

BNC-4,000 types: [fams 9 : types 9 : tokens 17] extract

battered [1] decay [1] distorted [1] inevitable [1] ocean [3] province [1] salmon [7] stray [1] swift [1]

BNC-5,000 types: [fams 1 : types 1 : tokens 2] extract

migration [2]

BNC-6,000 types: [fams 4 : types 5 : tokens 5] extract

eruptions [1] genetic [1] juvenile [1] juveniles [1] volcanic [1]

BNC-7,000 types: [fams 1 : types 1 : tokens 1] extract

astray [1]

BNC-8,000 types: [fams 1 : types 1 : tokens 1] extract

ecology [1]

BNC-9,000 types: [fams 3 : types 3 : tokens 3] extract

arduous [1] imprinted [1] odours [1]

BNC-10,000 types: [fams 5 : types 6 : tokens 7] extract

birthplace [2] downstream [1] freshwater [1] keystones [1] spawn [1] spawning [1]

Exploring Reading Thresholds



Post-Secondary Studies

With the frequency principle

Vocabulary, Reading, Academic Success

Strong relationship between vocabulary knowledge and reading comprehension for all levels

(Stanovich, 1986; 2000, Verhoeven, 2000; Nassaji, 2003; Roessingh, 2008)

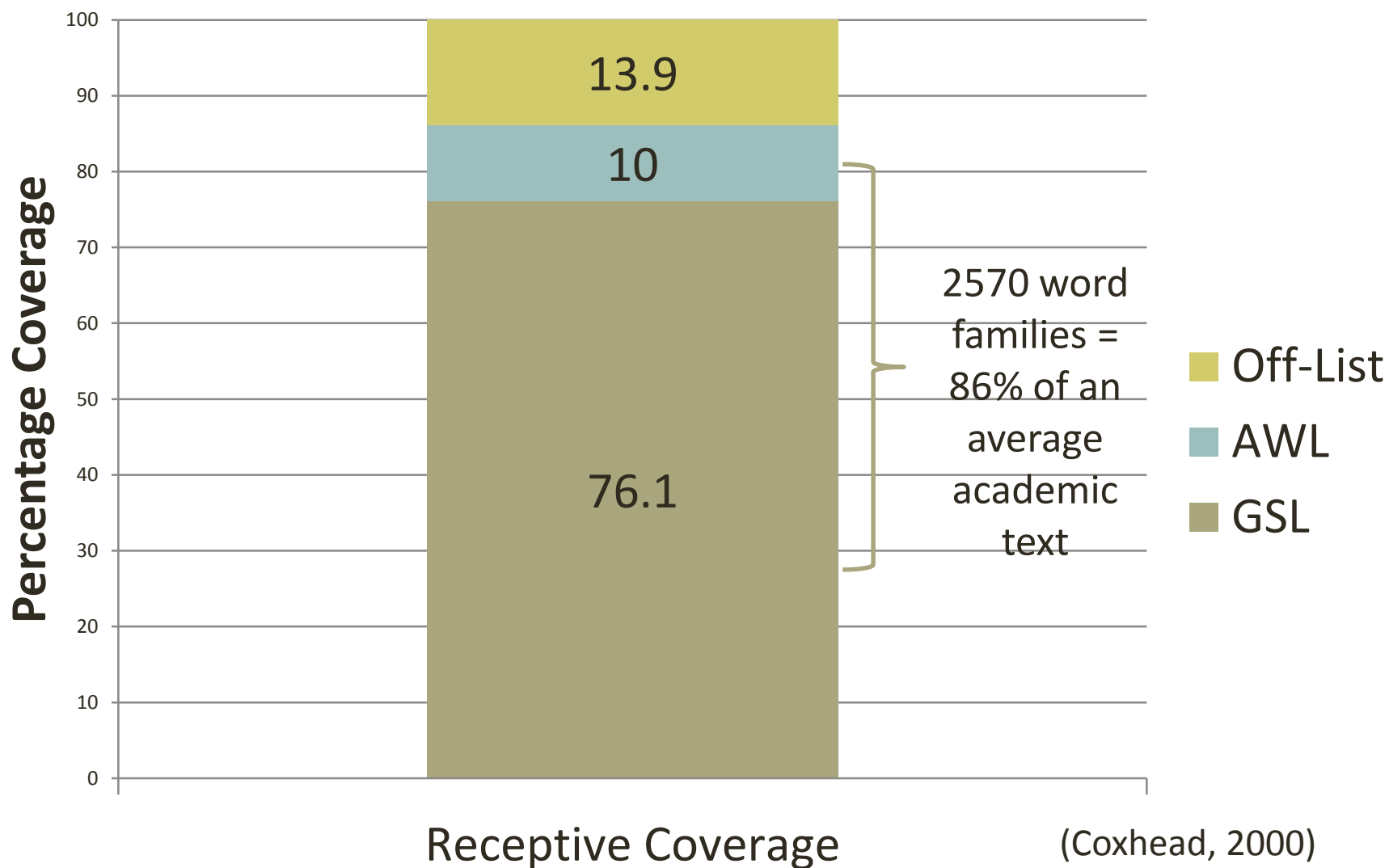
Receptive vocabulary knowledge needed for reading comprehension. Reading comprehension needed for academic success

(Nation, 2001; Coxhead & Nation, 2001; Cobb & Horst, 2001; Corson, 1997)

Considered reading demands

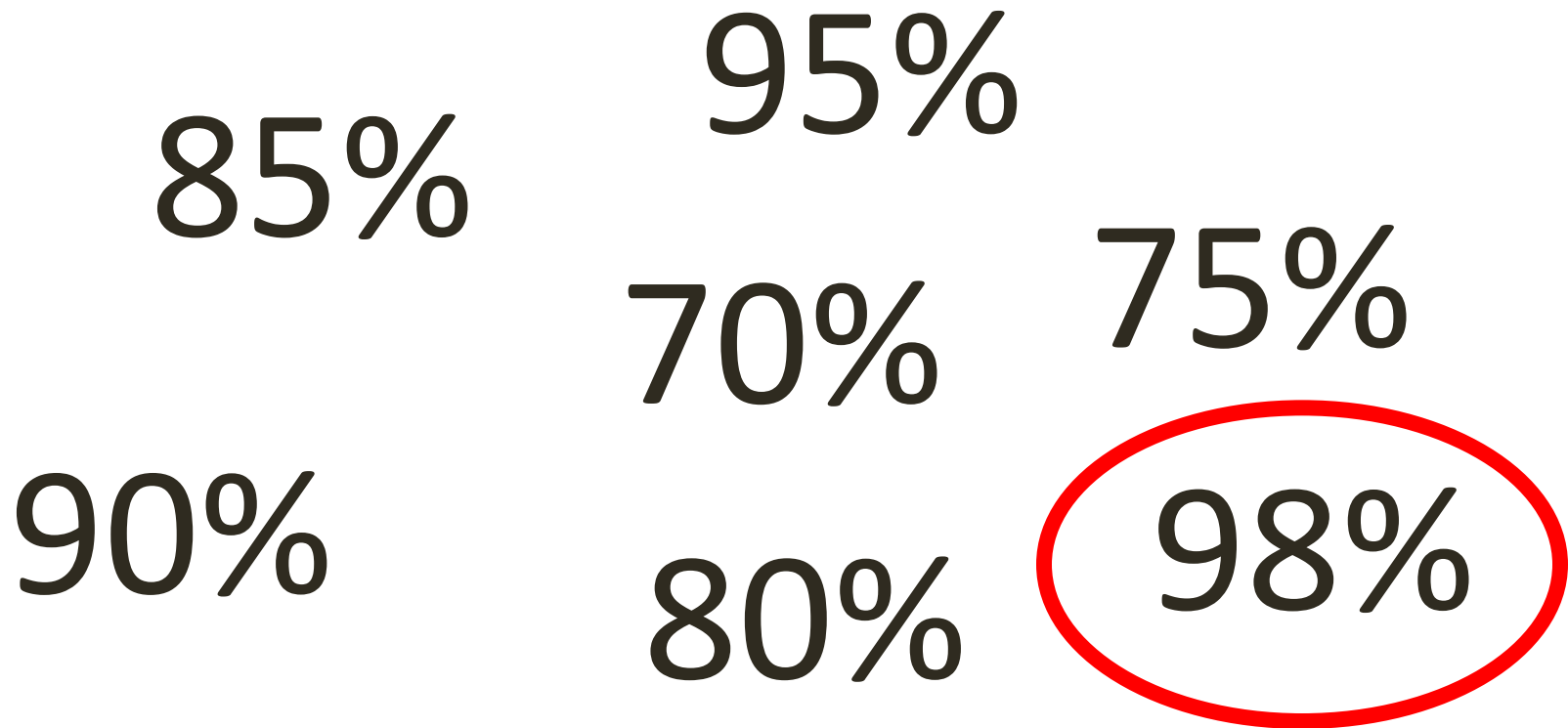
- Textbooks
- Online textbooks
- Academic articles
- Book chapters
- Laboratory manuals
- Online learning management systems
- E-mails
- Course catalogues
- Websites
- Newspapers
- Magazines

GSL/AWL Receptive Coverage



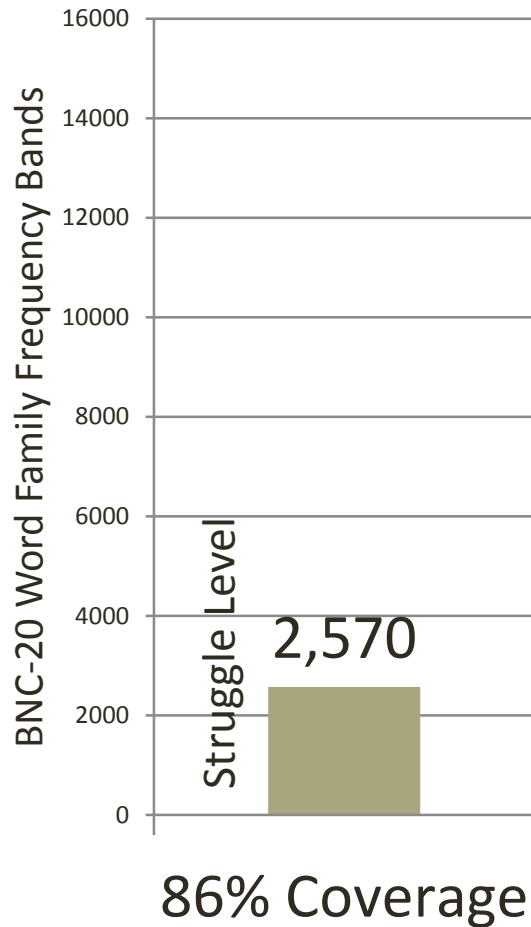
What percentage of running words ...

... is needed to understand a reading passage?

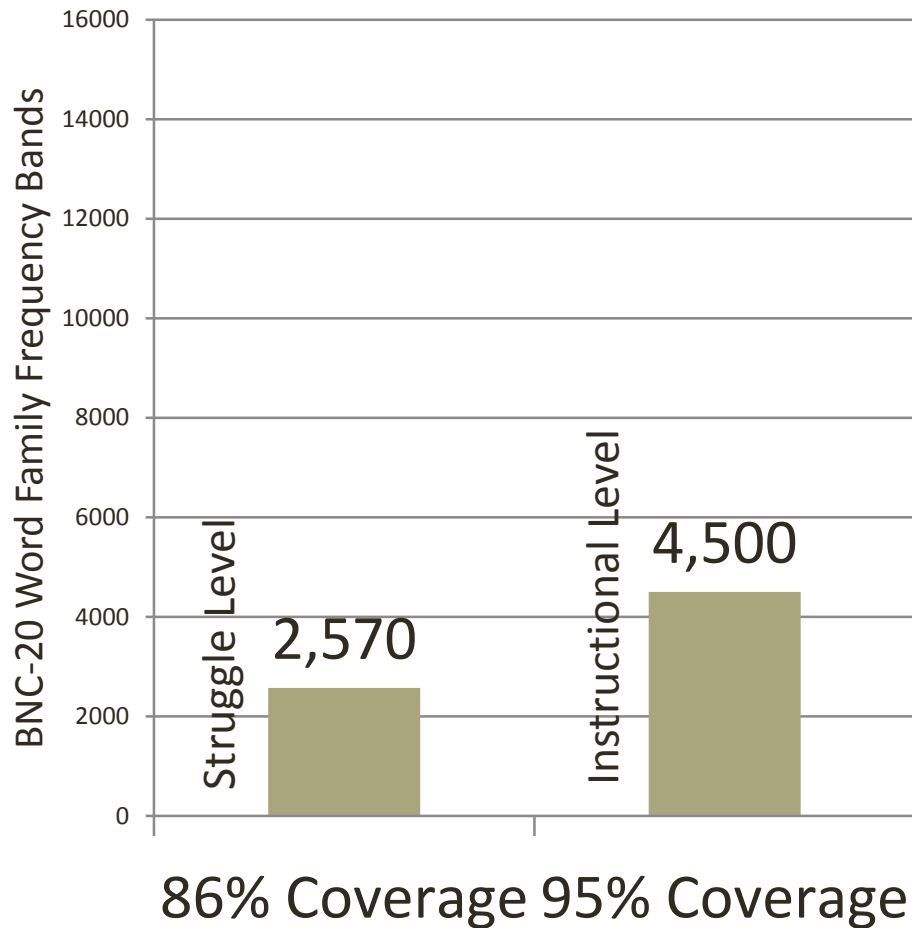


(Hu & Nation, 2000; Nation, 2001)

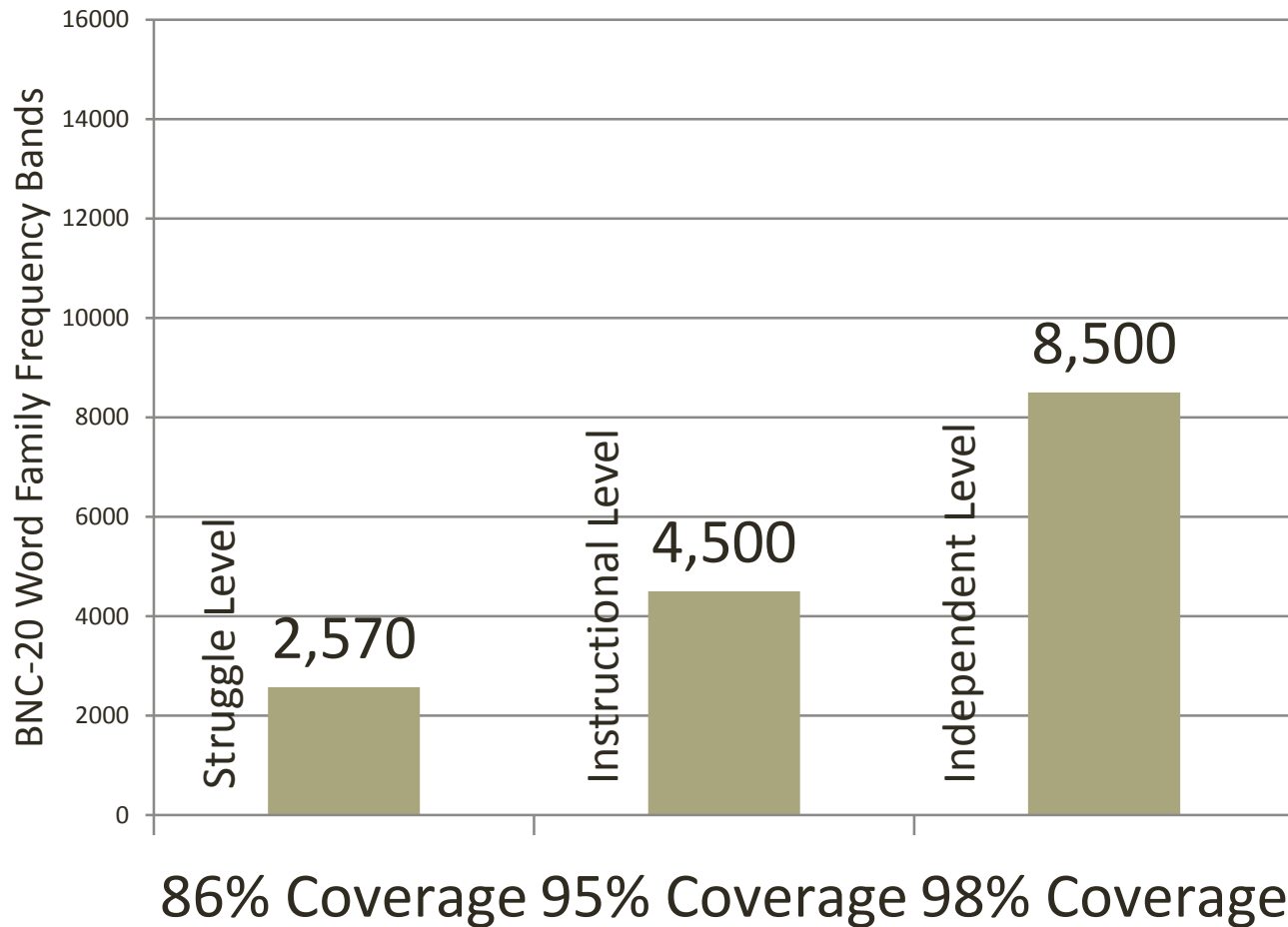
Receptive Vocabulary Thresholds



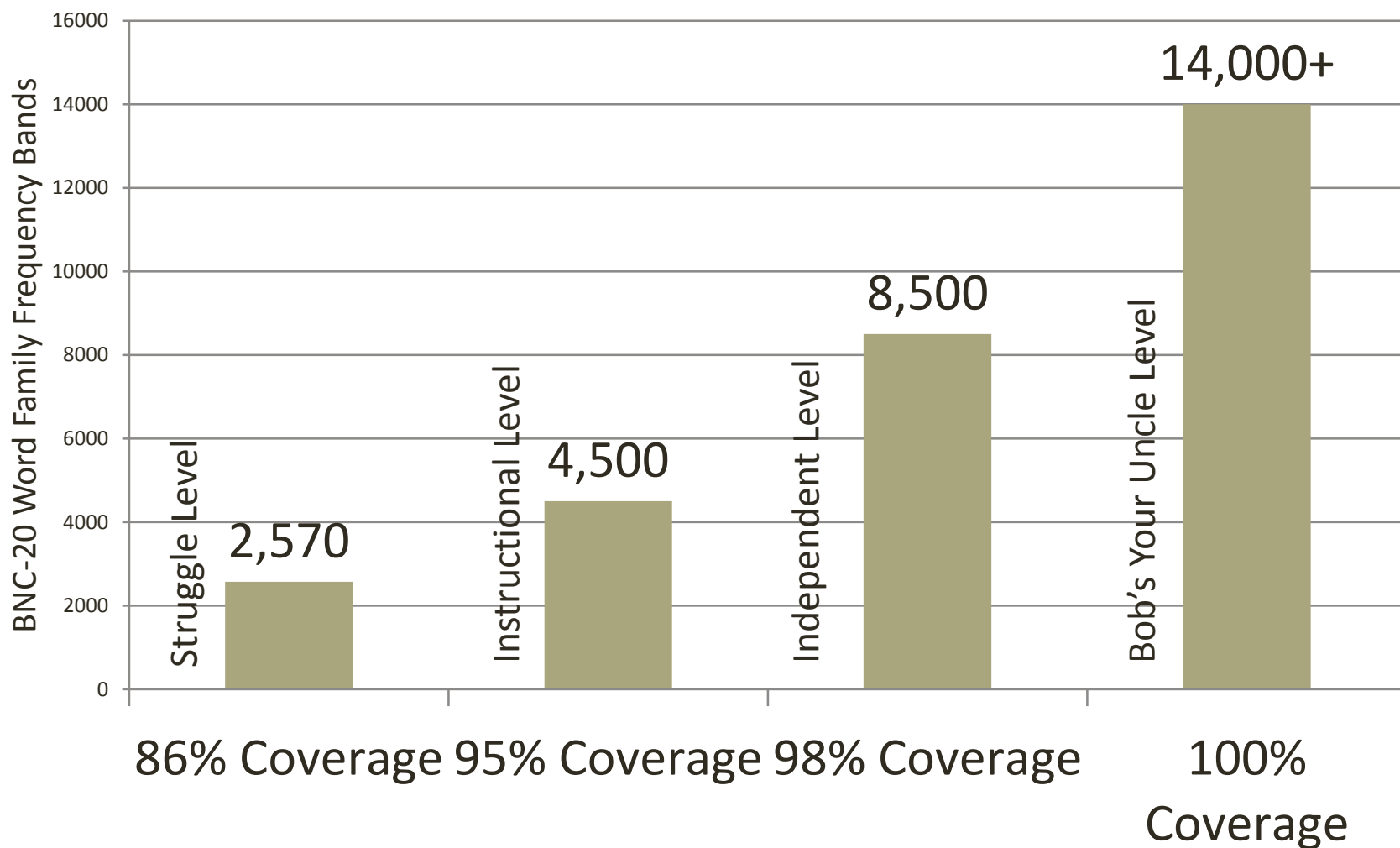
Receptive Vocabulary Thresholds

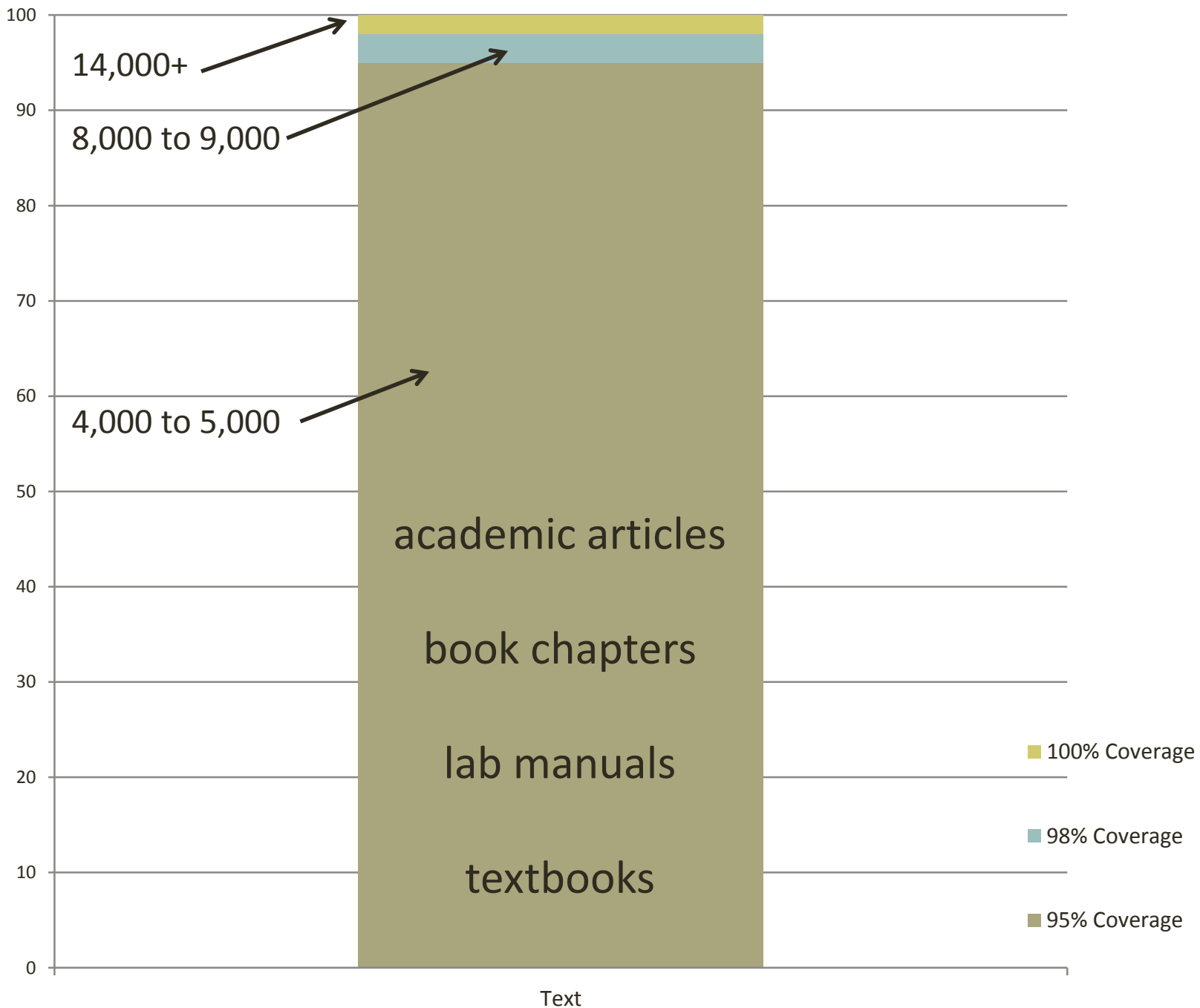


Receptive Vocabulary Thresholds



Receptive Vocabulary Thresholds





Receptive Vocabulary Thresholds: Reading

2,000 Word Families

Encounter an unfamiliar word \approx 1 in 4 times (76%)

2,570 Word Families

Encounter an unfamiliar word \approx 1 in 7 times (86%)

4,000 – 5,000 Word Families

Encounter an unfamiliar word \approx 1 in 20 times (95%)

8,000 – 9,000 Word Families

Encounter an unfamiliar word \approx 1 in 50 times (98%)

1 in 4: Lost Level (2 K)

One two three [REDACTED] five six seven [REDACTED] nine ten
eleven [REDACTED] thirteen fourteen fifteen [REDACTED]
seventeen eighteen nineteen [REDACTED] twenty-one
twenty-two twenty-three [REDACTED] twenty-five
twenty-six twenty-seven [REDACTED] twenty-nine
thirty thirty-one [REDACTED] thirty-three thirty-four
thirty-five [REDACTED] thirty-seven thirty-eight
thirty-nine [REDACTED] forty-one forty-two forty-three
[REDACTED] forty-five forty-six forty-seven
[REDACTED] forty-nine fifty fifty-one [REDACTED]
fifty-three fifty-four fifty-five [REDACTED] fifty-seven
fifty-eight fifty-nine [REDACTED]

1 in 7: Struggle Level (2.57 K)

One two three four five six [redacted] eight nine ten
eleven twelve thirteen [redacted] fifteen sixteen
seventeen eighteen nineteen twenty [redacted]
twenty-two twenty-three twenty-four twenty-five
twenty-six twenty-seven [redacted] twenty-nine
thirty thirty-one thirty-two thirty-three thirty-four
[redacted] thirty-six thirty-seven thirty-eight
thirty-nine forty forty-one [redacted] forty-three
forty-four forty-five forty-six forty-seven
forty-eight [redacted] fifty fifty-one fifty-two
fifty-three fifty-four fifty-five [redacted] fifty-seven
fifty-eight fifty-nine sixty

1 in 20: Instructional Level (4.5 K)

One two three four five six seven eight nine ten
eleven twelve thirteen fourteen fifteen sixteen
seventeen eighteen nineteen twenty-one
twenty-two twenty-three twenty-four twenty-five
twenty-six twenty-seven twenty-eight twenty-nine
thirty thirty-one thirty-two thirty-three thirty-four
thirty-five thirty-six thirty-seven thirty-eight
thirty-nine forty-one forty-two forty-three
forty-four forty-five forty-six forty-seven
forty-eight forty-nine fifty fifty-one fifty-two
fifty-three fifty-four fifty-five fifty-six fifty-seven
fifty-eight fifty-nine

1 in 50: Independent Level (8.5 K)

One two three four five six seven eight nine ten
eleven twelve thirteen fourteen fifteen sixteen
seventeen eighteen nineteen twenty twenty-one
twenty-two twenty-three twenty-four twenty-five
twenty-six twenty-seven twenty-eight twenty-nine
thirty thirty-one thirty-two thirty-three thirty-four
thirty-five thirty-six thirty-seven thirty-eight
thirty-nine forty forty-one forty-two forty-three
forty-four forty-five forty-six forty-seven
forty-eight forty-nine fifty-one fifty-two
fifty-three fifty-four fifty-five fifty-six fifty-seven
fifty-eight fifty-nine sixty

Environmental Change and Challenge, 4th Ed.

(Dearden & Mitchell, 2012)

- Essay Question:
 - What is the best kind of development for protecting the environment while also promoting economic growth?
- Textbook excerpt
 - Does it contribute to answering the question?
 - Is the argument valid? Why or why not?
 - You only have automatic recall for 2,000 word families.

Environmental Change and Challenge, 4th Ed.

(Dearden & Mitchell, 2012)

Sustainable development is often contrasted with short-termism today. As a result, in some countries and regions, interest has shifted to the concept of sustainable livelihoods, viewed as more realistic and focused. The idea of sustainable livelihoods emphasizes the conditions necessary to ensure that basic human needs (e.g., food, medicine) are satisfied. However, the concept has been criticized by those who view it as too narrow. Critics argue that other living conditions or inequalities of terms systems may be addressed or designed to meet human needs.

What is the best kind of development?

Environmental Change and Challenge, 4th Ed.

(Dearden & Mitchell, 2012)

Sustainable development is often greeted with skepticism today. As a result, in some countries and regions, interest has shifted to the concept of sustainable livelihoods, viewed as more realistic and focused. The idea of sustainable livelihoods emphasizes the conditions necessary to ensure that basic human needs (e.g., food, shelter) are satisfied. However, the concept has been criticized by those who view it as too anthropocentric. Critics argue that other living creatures or inanimate components of ecosystems may be sacrificed or degraded to meet human needs.

Implication: the more the better

The more words a reader knows, the better those words facilitate comprehension and free up cognitive space for critical engagement with the topic

- The more words students have at their disposal, the better their engagement with a text:
 - Finding, assessing, and choosing sources
 - Reading
 - Taking notes
 - Creating connections
 - Making inferences
 - Evaluating arguments

Key Points: Novice Academic Reading

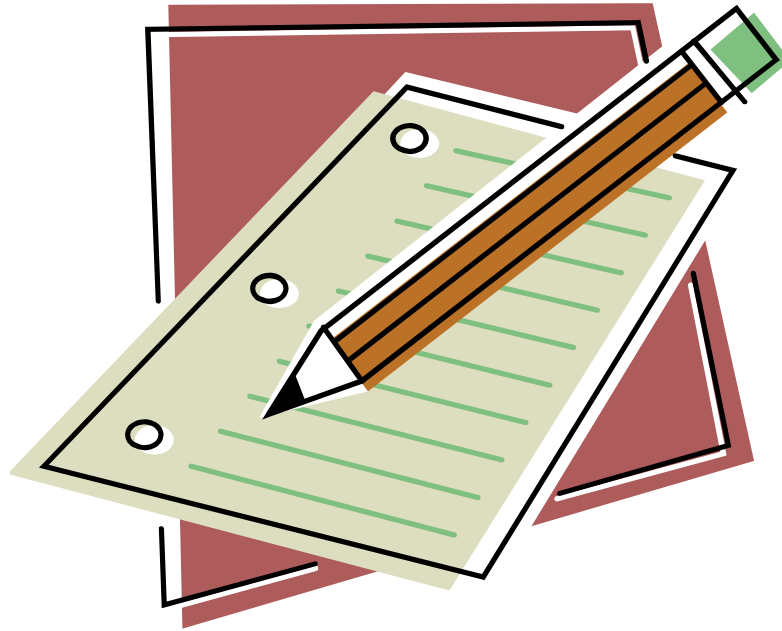
Good instructional level for content areas:

- **4,000 to 5,000** automatized receptive word families

Good independent level for content areas:

- **8,000 to 9,000** automatized receptive word families

Exploring Writing Thresholds



Post-Secondary Studies

With the frequency principle

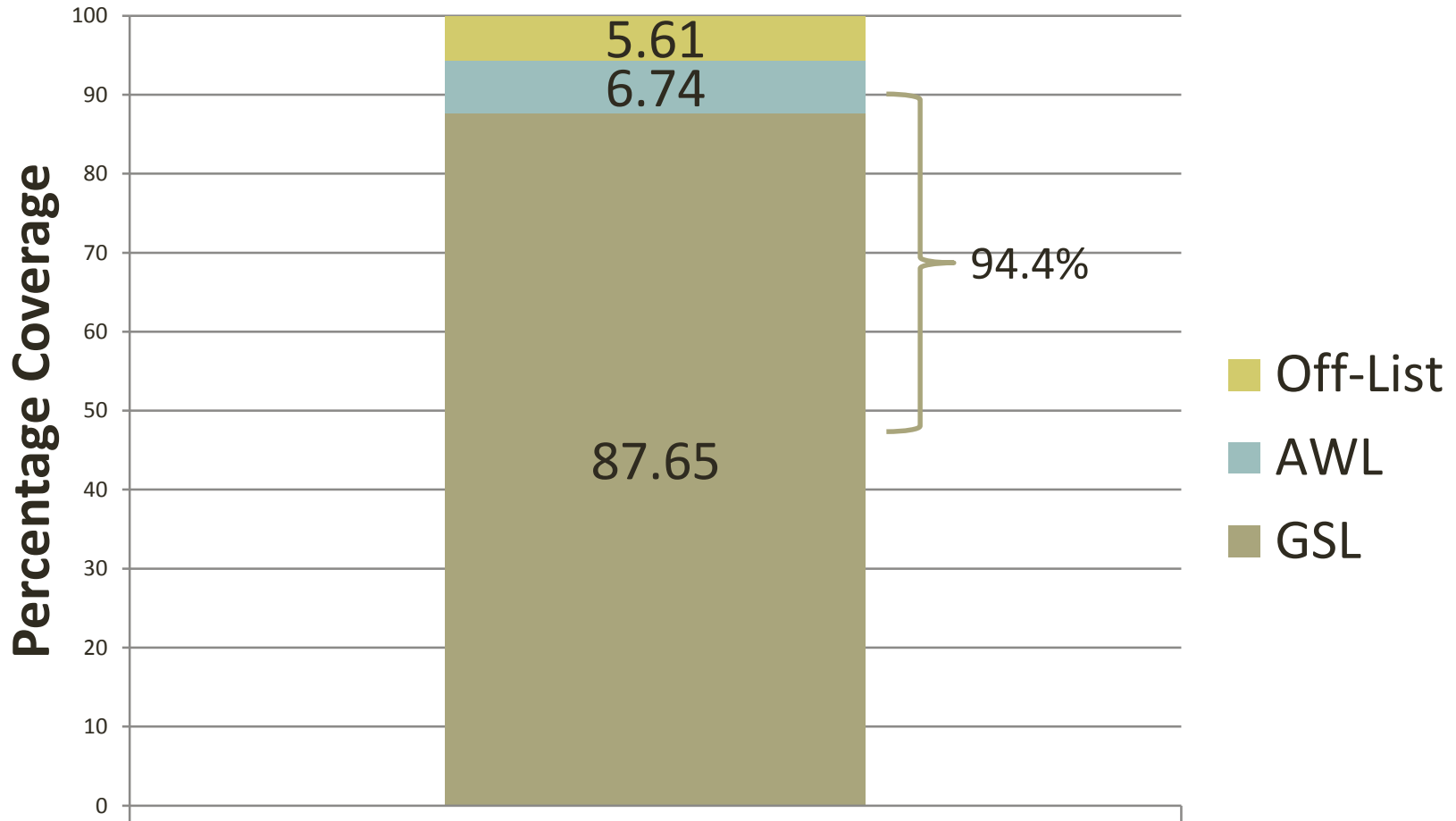
Vocabulary, Writing, Academic Success

- Skilled use of vocabulary leads to improved generation, development, and presentation of ideas.
(Raimes, 1983; Raimes, 1985; Grabe, 1985; Engber, 1995; McNamara, Crossley, & McCarthy, 2010; Smith, 2003)
- Vocabulary directly associated with the quality of a written text (Brynildssen, 2000)
- Low rated writing typically accompanied by simple vocabulary (Cobb, 2003; Hinkel, 2003)
- Students demonstrate their knowledge of matter studied through their skilled use of vocabulary in writing. Academic success is dependent on writing and the ability to use vocabulary effectively. (Nation, 2008)

Considered writing demands

- research papers synthesizing info from multiple sources
- Traditional essays
- Laboratory, business, and technical reports
- Reflective Journals
- Annotated Bibliographies
- Chapter summaries
- Website development
- Presentation scripts
- Case studies
- Brochures
- Posters

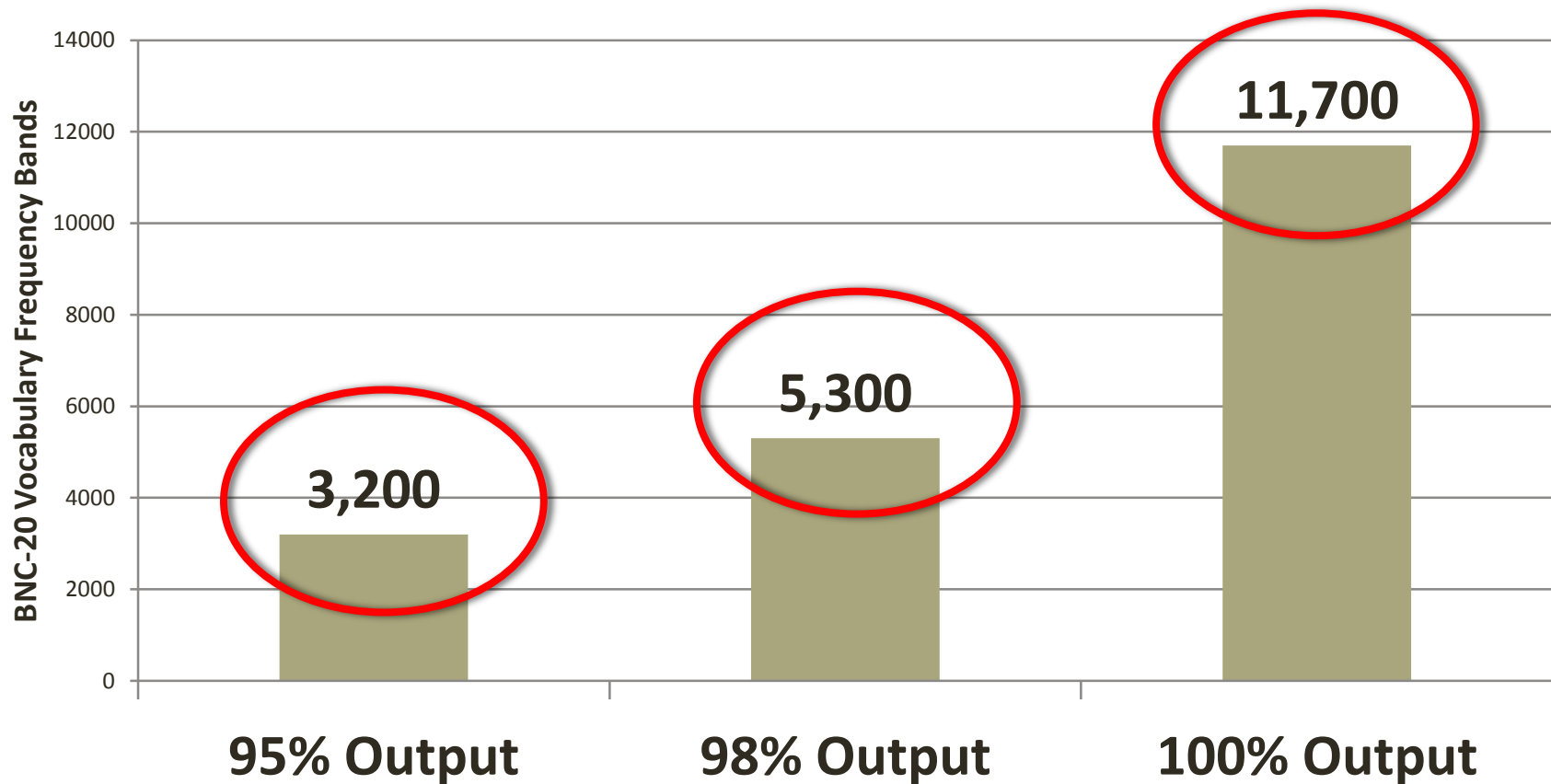
GSL/AWL Productive Output



Productive Output

(Douglas, 2013)

Satisfactory Productive Output Thresholds: Lexical Stretch



(Douglas, 2013)

Productive Vocabulary Thresholds: Writing

2,000 Word Families

Stop \approx 1 in 8 times to search for a word (88%)

2,570 Word Families

Stop \approx 1 in 17 times to search for a word (94%)

3,200 Word Families

Stop \approx 1 in 20 times to search for a word (95%)

5,300 Word Families

Stop \approx 1 in 50 times to search for a word (98%)

Product of Inquiry

Student Inquiry Question:

- What is a major challenge facing cities today?

Writing Sample (w/ only 2K)

Major Challenge Facing Cities Today

As a city quickly grows outwards, country roads become city streets and roads between cities become busy with a big increase in cars. For as the ever growing city makes new neighbourhoods, there are more people making trips to the city's centre. This puts a lot of use on the existing road system. The street 22X, in the southern end of Calgary, is an excellent example of the use new neighbourhoods place on aging roads. Originally built as a highway south of Calgary, development quickly stretched past the old highway and there are now two new neighbourhoods south of it. However, in the old days there were very few cars in that part of the city so that only a two way road was made. With all the people now using 22X, it slows down. On several of the occasions that I have driven it, I found the cars to hardly move for a while. Now that is not the only road busy with cars; the between city connection of Elbow Drive and Glenmore Trail is a bad dream at rush hour. Clearly, fast growth puts heavy use on the road systems of a city. Finding the means to deal with increased cars is a big problem for the management of a busy city.

Writing Sample (original w/ 2K+ highlighted)

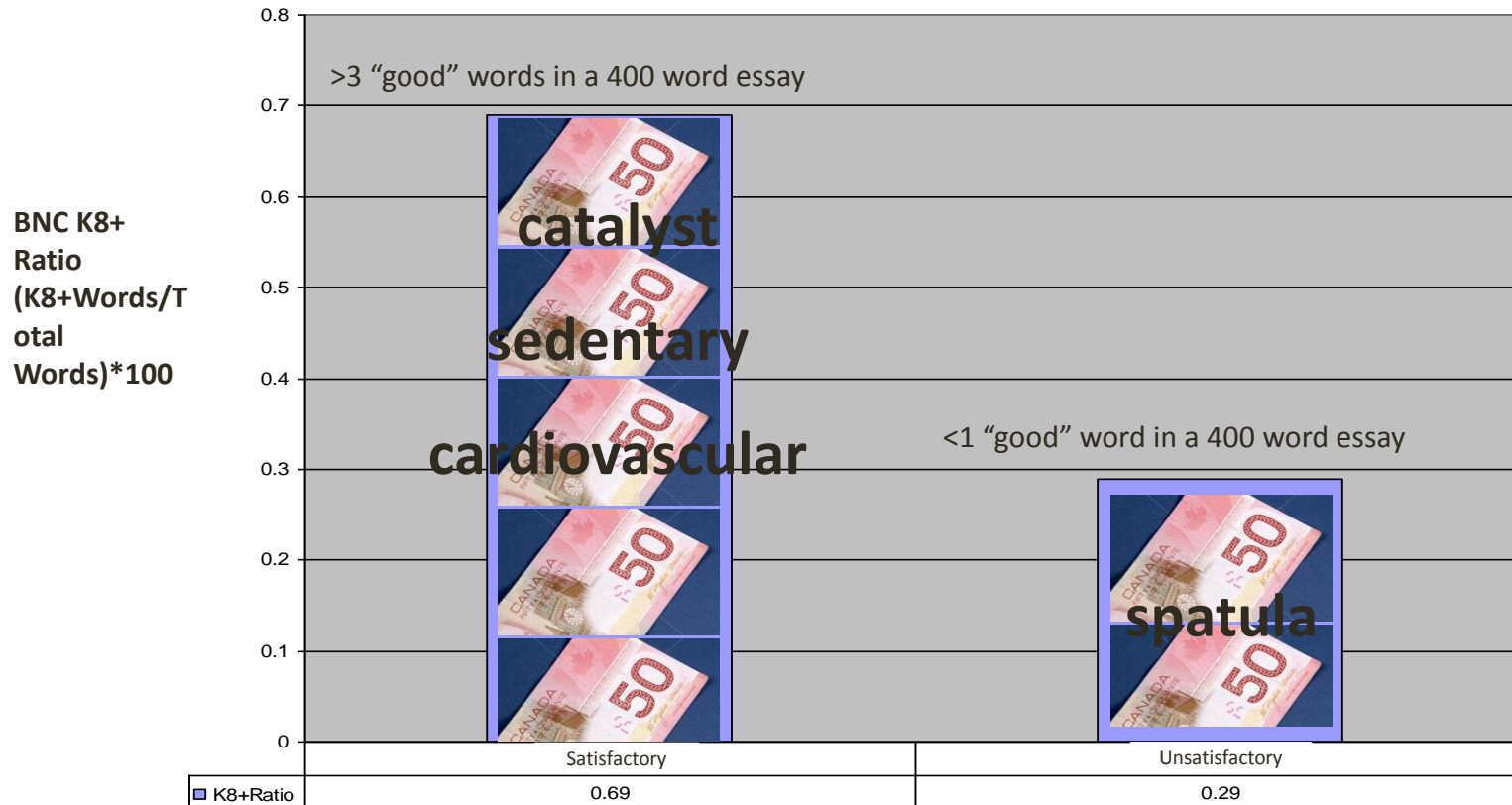
Major Challenge Facing Cities Today

As a city rapidly expands outwards, country roads become urban streets and intercity roads become overwhelmed by the tremendous increase in traffic. For as the ever growing metropolis creates new communities, there are more people making their commute to the city's centre. This puts a strain on the existing road system. The roadway 22X, located at the southern end of Calgary, is an excellent example of the tension new communities place on aging roads. Originally built as a highway south of Calgary, development quickly stretched past the old highway and there are now two new communities south of it. However, historically there has been very little traffic in that area so that only a two lane road was constructed. With all the people now using 22X, it grinds down to a crawl. On several of the occasions that I have driven it, I found the traffic to scarcely move for periods. Now that is not only the road swamped by automobiles; the intercity intersections of Elbow Drive and Glenmore Trail is a nightmare at rush hour. Clearly, rapid growth puts heavy strains on the roadway systems of a city. Finding the means to deal with increased traffic constitutes a major challenge to the management of a bustling metropolis.

BNC-20 (Cobb, 2016) Analysis: 98% Coverage = 5K; Total Coverage = 11K



What makes good writing?



Implication

- The more words a student knows, the better those words facilitate expression and free up cognitive space for critical engagement with the topic
- The more words students have at their disposal, the better their engagement with inquiry-based learning
 - Produce learning products
 - Demonstrate awareness of register and genre
 - Communicate ideas with precision
 - Share new knowledge
 - Self-evaluate learning
 - Revise and edit work

Key Points: Novice Academic Writing

Good instructional level for content areas:

- **3,000 to 4,000** automatized productive word families

Good independent level for content areas:

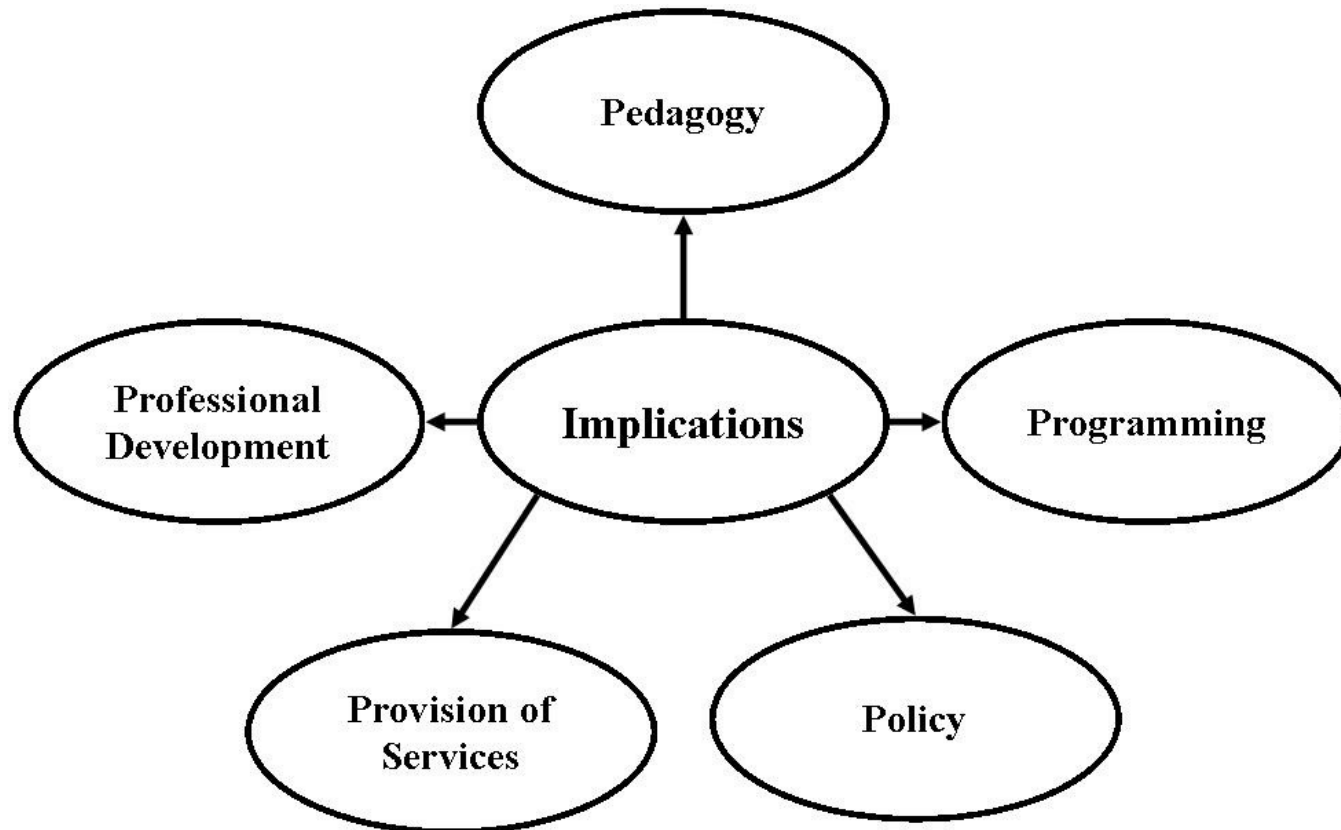
- **5,000 to 6,000** automatized productive word families

(Douglas, 2013)

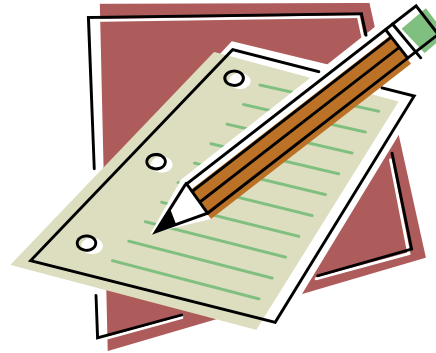


Implications for teaching and learning

How do the proposed lexical thresholds for novice academic reading and writing connect to your own educational context?



Bringing it together



Bringing it together

Word Families	Reading	Writing
1,000		
2,000	76% ¹	88% ⁴
2,570	86% ¹	94% ⁴
3,000		95% ⁴
4,000		
4,000-5,000	95% ²	
5,000		98% ⁴
6,000-7,000		
8,000-9,000	98% ^{2 3}	
11,000		
12,000		100% ⁴
14,000	100% ^{est}	

Vocabulary is one thread of many...

Vocabulary is an underlying variable of language proficiency

- Other things may be at play:
 - Syntax
 - Context
 - Background knowledge
 - Culture
 - Individual learner characteristics
 - Multi-word units
 - Imagery

Implications

- Not just for reading class anymore
- Lexical scope and sequence across receptive and productive skill domains
- Realistic vocabulary goals and practical guidelines for reaching 95% to 98% coverage
- Focus automatization below the thresholds to release cognitive space to engage with textual demands.

Implications

- Total output of proficient users neither necessary nor realistic
- Avoid receptive desires for productive tasks
- Inform assessment and evaluation
- Inform materials development with suitable lexical targets and a systematic focus

Today's Question

What lexical thresholds do learners pass on their way to becoming proficient English language users?

Counting Vocabulary	Lexical Frequency Principle	The First 2,000	Stages of Language Acquisition
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Reading Thresholds	Writing Thresholds
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Questions? Comments?

- Check with your neighbours to see if they have any comments or questions about today's presentation.

Questions? Comments?

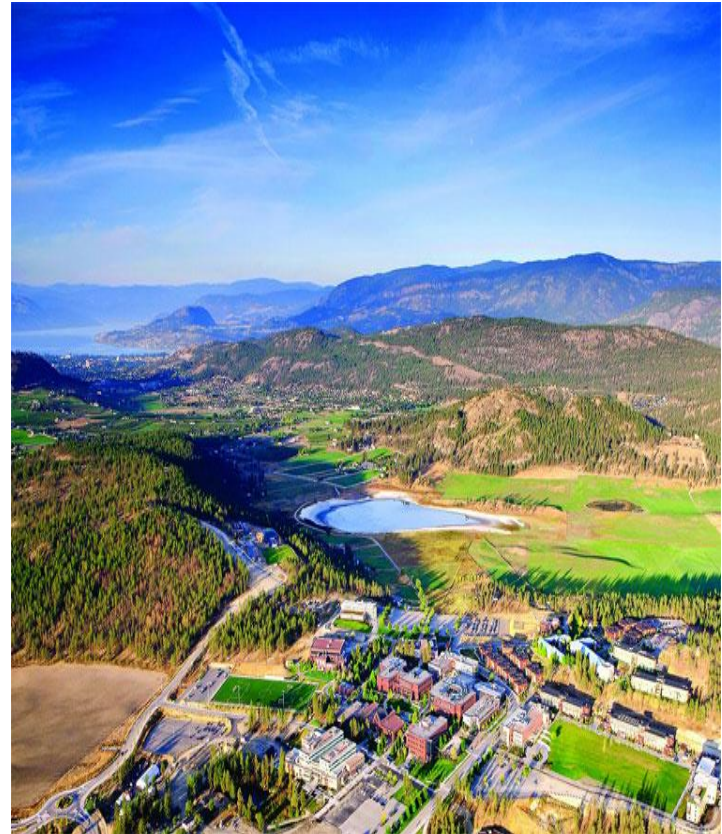
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