From Fiction to Fact:

Academic Vocabulary Training for Young English Language Learners

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RITELL Conference 2015
Breakout Session

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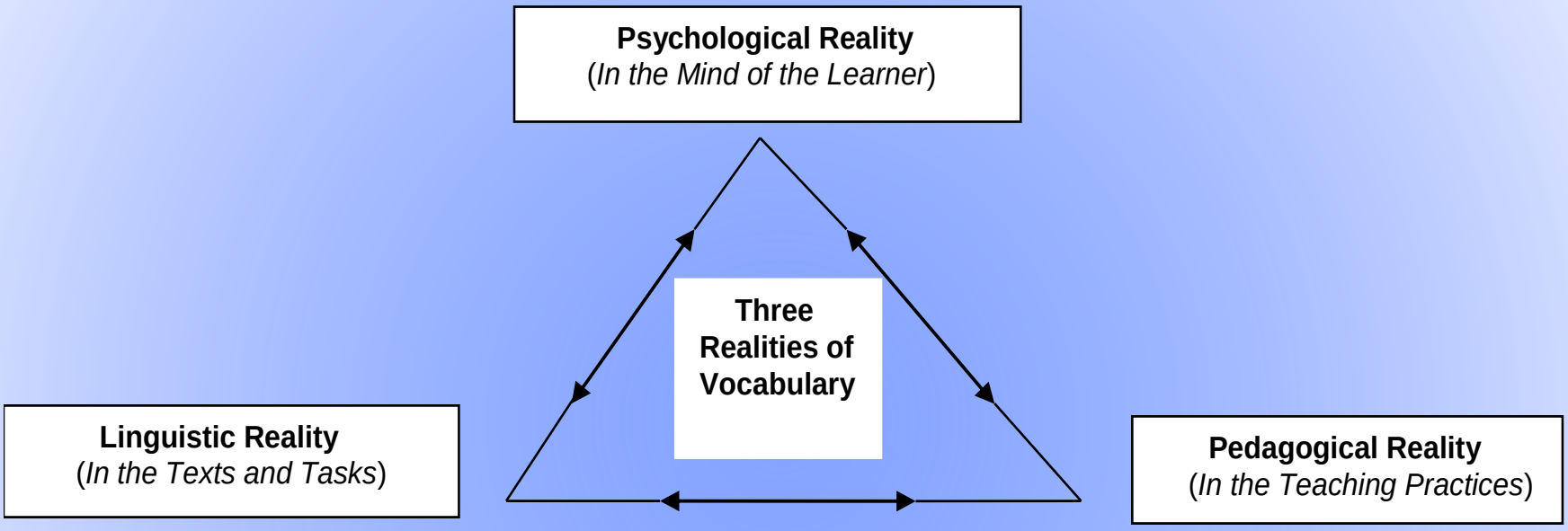


Source: Gardner, D. (2013). Exploring vocabulary: Language in action. London: Routledge

From WIDA Standards Framework

"Making explicit the forms and conventions associated with academic registers contributes to students' language proficiency . . . and content area performance"[emphasis added].

Sample Fiction Text
From *A Wrinkle in Time*

Everybody was asleep. Everybody except Meg. Even Charles Wallace, the "dumb baby brother," who had an uncanny way of knowing when she was awake and unhappy, and who would come so many nights tiptoeing up the attic stairs to her even Charles Wallace was asleep.

How could they sleep? All day on the radio there had been hurricane warnings. How could they leave her up in the attic in the rickety brass bed, knowing that the roof might be blown right off the house and she tossed out into the wild night sky to land who knows where? Her shivering grew uncontrollable.

You asked to have the attic bedroom, she told herself savagely. Mother let you have it because you are the oldest.

Sample Science Text

Source: CK-12 Foundation

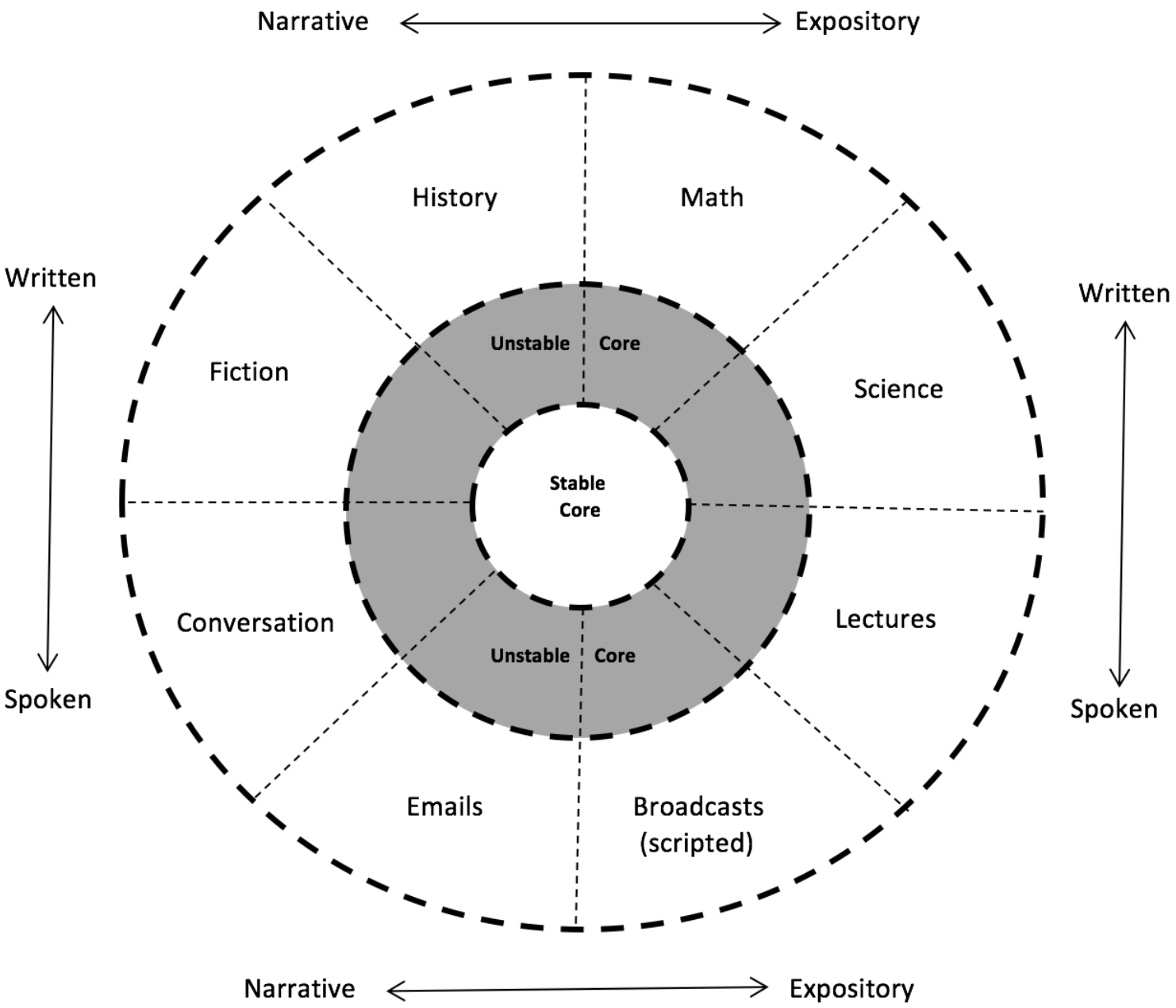
The early earth had no oceans and was frequently hit with meteorites and asteroids. There were also frequent volcanic eruptions. Volcanic eruptions released water vapor that eventually cooled to form the oceans. The atmosphere slowly became more oxygen rich as solar radiation split water molecules and cyanobacteria began the process of photosynthesis. Eventually the atmosphere became like it is today and rich in oxygen. The first complex organisms on earth first developed about 2 billion years ago.

Examples of *Mummy* in Narrative and Expository Texts

Narrative Contexts	Expository Contexts
The Mummy, the Will, and the Crypt (Bellairs, 1983)	**Mummies & Their Mysteries** (Wilcox, 1993)
1. "The young man paused and grinned unpleasantly. 'Do you know what a **mummy** looks like after it's been unwrapped? Just a dried brown husk that used to be a human being, with holes for eyes?'" [emphasis added]	**7**. "A **mummy** is the body of a human or animal in which some of the soft tissues (skin, muscles, or organs) did not decay after death. This makes a **mummy** different from a skeleton or a fossil." [emphases added]
2. "The other was stretched out, and his hand was layed flat on the floor. It was brown and withered, like the hand of a **mummy**." [emphasis added]	**8**. "Drying isn't the only way to turn a body into a **mummy**. Taking away all air from around the body will stop decay, since bacteria and fungi need air as well as water to live." [emphasis added]
3. "A figure with hollow **mummy** eyes and a withered **mummy** face and clawlike **mummy** hands. Moving with an awful, tottering, unsteady gait, it came toward him." [emphases added]	**9**. "When the word **mummy** was first used in the English language in the early 1400s, it did not mean a body as it does now. Instead, it was the name of a medicine. **Mummy** comes from mumiyah, an Arabic word for bitumen, a sticky oil now used to make roads." [emphasis added]

Adapted from Gardner (2013, p. 99)

Register-specific Vocabulary in the English Lexicon



Register (Discipline) Case Study

Register	Book Title	Author / Pub Year
Fiction Books	*The Westing Game*	Raskin, 1978
American History	*A History of US: Liberty for All (Book 5)*	Hakim, 1994
Mathematics	*CK-12 Middle School Math - Grade 6*	Brockett, et al., 2010
Life Science	*CK-12 Life Science: Honors For Middle School*	Brainard, et al., 2011

Adapted from Gardner (2013, pp. 72)

Examples of Specialized Vocabulary in Four Different Disciplines

FICTION	#	AM HISTORY	#	MATHEMATICS	#	LIFE SCIENCE	#
WESTING	361	MISSOURI	61	DECIMAL	468	ORGANISMS	393
WEXLER	156	WAGONS	41	DECIMALS	330	JPG	365
SYDELLE	135	OREGON	38	TRIANGLE	217	WIKIMEDIA	340
THEO	133	FE	35	INTEGERS	189	BACTERIA	316
OTIS	118	JACKSON	34	DENOMINATOR	176	DNA	278
PULASKI	108	MORMONS	32	TRAVIS	146	FUNGI	188
BAUMBACH	99	KANSAS	29	RECTANGLE	145	ORGANISM	157
HEIRS	90	THOREAU	29	SUBTRACT	107	TRAITS	157
DOUG	88	OHIO	28	SUBTRACTION	106	NUTRIENTS	156
DENTON	55	WHALING	27	ZERO	100	GNU-FDL	152
THEODORAKIS	52	ELLEN	26	GRID	98	MOLECULES	137
MCSOUTHERS	51	MANJIRO	25	TANIA	97	CHROMOSOMES	131
DOORMAN	47	PIONEERS	25	CONGRUENT	95	REPRODUCTION	125
PLUM	42	VIRGINIA	24	NUMERICAL	88	MAMMALS	121
BARNEY	36	LINCOLN	23	NUMERATOR	87	REPRODUCTIVE	120
HEIR	35	ABOLITIONISTS	22	UNDERLINE	87	MEMBRANE	119
NORTHRUP	35	BOWDITCH	22	PARALLELOGRAM	84	DIGESTIVE	118
MADAME	33	SALEM	22	MEDIAN	81	PATHOGENS	114
SHIN	32	EMERSON	21	DENOMINATORS	77	DIOXIDE	113
WINDKLOPPEL	31	POLK	20	ISAAC	77	CC-BY-SA	112
INTERN	28	FORT	19	PERCENTS	76	PROTISTS	105
DRESSMAKER	24	NATHANIEL	19	MARC	75	RESPIRATORY	104
CRUTCH	23	TELEGRAPH	19	INTEGER	74	PREY	95
WINDSOR	23	JEFFERSON	18	REAL-WORLD	74	ECOSYSTEM	94
SIKES	21	MELVILLE	18	HOWSTUFFWORKS	68	IMMUNE	89
DUMB	17	OBERLIN	18	HUNDREDTHS	66	CARDIOVASCULAR	88
BABA	16	PHILADELPHIA	18	PERIMETER	65	CHROMOSOME	86
BRAID	16	PONY	18	CYLINDER	59	DARWIN	85
ALICE	15	ANDREW	17	LARRY	56	PHOTOSYNTHESIS	85

Adapted from Gardner (2013, pp. 72-73)

Examples of Core Vocabulary in Four Different Disciplines

FICTION	#	AM HISTORY	#	MATHEMATICS	#	LIFE SCIENCE	#
APARTMENT	56	SLAVE	99	FRACTIONS	408	ORGANISMS	393
TOWERS	53	SLAVERY	99	MULTIPLICATION	172	COMMONS	796
MURDERER	49	INDIANS	69	SIMPLIFY	135	DOMAIN	342
BOMB	25	SLAVES	55	OPERATIONS	110	ORGANS	266
STARED	25	SPANISH	32	ESTIMATION	106	OXYGEN	207
BOMBER	24	SAILORS	26	ROUNDING	92	EVOLUTION	192
ELEVATOR	21	COMPROMISE	24	SQ	71	HUMANS	167
HURRIED	13	SETTLERS	23	VIDEOS	68	FOODS	149
LEANED	13	INDEPENDENCE	23	GRAPHS	60	CYCLE	134
STUPID	12	MEXICANS	22	REWRITE	58	GENETIC	126
NODDED	12	BLACKS	21	PM	53	PROTEIN	124
STARING	11	CLAY	20	DISCOUNT	50	PROTEINS	124
WINDY	10	FOUGHT	19	ASKS	46	BONE	124
REMARKED	10	TERRITORIES	19	MULTIPLES	44	GENE	116
SHOUTING	10	DECLARATION	17	COORDINATES	42	GOV	108
VICTIM	10	ARTISTS	16	TENTHS	40	STRUCTURES	104
ATTORNEY	10	CHURCH	16	SLICES	36	ORGAN	102
DRIVEWAY	9	RAILROADS	16	THOUSANDTHS	35	SOURCES	99
PAUSED	9	MINERS	16	SUBSTITUTE	34	SELECTION	92
BET	8	CREW	15	CORRESPONDING	32	GENES	90
CORPORATION	8	TRADERS	14	SCORE	30	SUMMARY	90
CLEARED	7	TRAINS	12	WHOLES	30	PRESSURE	87
BOMBS	7	CIVIL	12	ESTIMATING	30	OBJECTIVES	85
ENGAGEMENT	7	SOUTHERNERS	12	PINTS	27	SUPPLEMENTAL	85
PARTNERS	7	CONSTITUTION	12	SIMPLIFYING	26	CHEMICALS	83
DECORATOR	7	DEMOCRACY	12	DISTRIBUTIVE	25	THEORY	82
MT	7	SAIL	12	SUPPLEMENTARY	24	INTERNAL	81

Adapted from Gardner (2013, pp. 76)

Examples of Specialized Vocabulary in Four Different Disciplines

FICTION	AM HISTORY	MATHEMATICS	LIFE SCIENCE
2-WORD PHRASES	**2-WORD PHRASES**	**2-WORD PHRASES**	**2-WORD PHRASES**
OTIS AMBER 97	UNITED STATES 90	LOOK AT 478	SUCH AS 411
SAM WESTING 92	NEW YORK 49	FIGURE OUT 368	FOR EXAMPLE 267
FLORA BAUMBACH 72	SAN FRANCISCO 22	HOW MANY 306	PUBLIC DOMAIN 247
SYDELLE PULASKI 71	MOUNTAIN MEN 21	HOW MUCH 170	WIKI IMAGE 236
JUDGE FORD 66	THE UNION 21	THINK ABOUT 151	WIKI FILE 203
MR HOO 65	PONY EXPRESS 18	WHOLE NUMBERS 135	NERVOUS SYSTEM 154
SUNSET TOWERS 52	NEW ENGLAND 17	EQUAL TO 129	BLOOD CELLS 114
WESTING HOUSE 48	ST LOUIS 17	REAL LIFE 126	CARBON DIOXIDE 112
DENTON DEERE 45	YEARS LATER 17	MIXED NUMBERS 124	LESSON OBJECTIVES 85
GRACE WEXLER 35	SUPREME COURT 16	WHOLE NUMBER 122	LESSON SUMMARY 85
BARNEY NORTHRUP 33	ABRAHAM LINCOLN 15	MIXED NUMBER 109	REVIEW QUESTIONS 85
COFFEE SHOP 25	NEW MEXICO 15	DECIMAL POINT 104	READING SUPPLEMENTAL 83
JAKE WEXLER 25	A LOT 14	PRACTICE DIRECTIONS 95	BLOOD VESSELS 81
WESTING PAPER 25	AS WELL 14	TEACHING TIME 94	DIGESTIVE SYSTEM 69
MR MCSOUTHERS 24	ROCK ISLAND 14	ICE CREAM 91	NATURAL SELECTION 68
ALL RIGHT 23	SALT LAKE 14	TECHNOLOGY INTEGRATION 87	IMMUNE SYSTEM 67
DOUG HOO 23	MISSOURI COMPROMISE 13	MENTAL MATH 75	CARDIOVASCULAR SYSTEM 60
THANK YOU 23	ANDREW JACKSON 12	PLACE VALUE 73	LIVING THINGS 57
DELIVERY BOY 22	WAGON TRAIN 12	LESS THAN 72	AMINO ACIDS 56
GRACE WINDSOR 22	WOMEN'S RIGHTS 12	SURFACE AREA 71	RESPIRATORY SYSTEM 55
MRS WEXLER 22	NATIVE AMERICANS 11	NUMBER LINE 66	CELLULAR RESPIRATION 52
WINDSOR WEXLER 22	SANTA ANNA 11	COORDINATE GRID 65	REPRODUCTIVE SYSTEM 49
ED PLUM 20	SOUTH PASS 11	WORK ON 65	BLOOD PRESSURE 38
UNCLE SAM 17	CIVIL WAR 10	GREATER THAN 64	LIVING ORGANISMS 38
MRS WESTING 16	FREE STATES 10	LOOKING AT 59	CELL DIVISION 36
PAPER PRODUCTS 16	PACIFIC OCEAN 10	UNCLE LARRY 56	EUKARYOTIC CELLS 36
SANDY MCSOUTHERS 16	PRESIDENT POLK 10	CIRCLE GRAPH 55	LOOK AT 36
STOCK MARKET 16	SLAVE STATE 10	SIMPLEST FORM 54	THINK ABOUT 36
OF COURSE 15	MANIFEST DESTINY 9	COMMON DENOMINATOR 52	AIR POLLUTION 35

Adapted from Gardner (2013, pp. 78-79)

Sample Fiction Text
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Everybody was asleep. Everybody except Meg. Even Charles Wallace, the "dumb baby brother," who had an uncanny way of knowing when she was awake and unhappy, and who would come so many nights tiptoeing up the attic stairs to her even Charles Wallace was asleep.

How could they sleep? All day on the radio there had been hurricane warnings. How could they leave her up in the attic in the rickety brass bed, knowing that the roof might be blown right off the house and she tossed out into the wild night sky to land who knows where? Her shivering grew uncontrollable.

You asked to have the attic bedroom, she told herself savagely. Mother let you have it because you are the oldest.

Anglo-Saxon Words: 94.4% **Greek-Latin Words: 5.6%**

Academic Vocabulary List: 0%

Fictional Texts

"…deal with information about social or interpersonal relationships and everyday problem solving, content about which adults and children tend to know quite a bit…" (Cote, Goldman, & Saul, 1998, p.6)

Sample Science Text

Source: CK-12 Foundation

The early earth had no oceans and was frequently hit with meteorites and asteroids. There were also frequent volcanic eruptions. Volcanic eruptions released water vapor that eventually cooled to form the oceans. The atmosphere slowly became more oxygen rich as solar radiation split water molecules and cyanobacteria began the process of photosynthesis. Eventually the atmosphere became like it is today and rich in oxygen. The first complex organisms on earth first developed about 2 billion years ago.

Anglo-Saxon Words: 75% **Greek-Latin Words: 25%**

Academic Vocabulary List: 9.1%

Grade 3 Science Text (USOE Website 2014)

Are there sources of heat and light other than the sun?
Another way to create heat is to use mechanical moves or runs without a battery or electricity energy an object movement creates mechanical heat try rubbing your hands together do they get warm now rub them together really fast they should get warmer as you move faster this is an example of mechanical heat mechanical heat is created by anything that moves or runs without a battery or electricity think of a question you could have about mechanical heat here is an example will there be more heat if your hands are lubricated slippery when you rub them together make a prediction about the answer based on what you know now put lotion on your hands and rub them together as fast as possible was your prediction correct can you draw a conclusion about lubricated surfaces here is another investigation to test your conclusion will rubbing sandpaper on wood produce heat try rubbing sandpaper on a piece of wood as fast as you can did the wood heat up record the results based on what you now know predict what will happen if you rub the sandpaper on wood that has been lubricated with oil was your prediction correct

Anglo-Saxon Words: 70.5% Greek-Latin Words: 20.5%

Academic Vocabulary List: 8.1%

Expository Texts

… present concepts and relations that readers do not already know. They require that readers understand a greater range of logical relationships among pieces of information. (Cote, Goldman, & Saul, 1998, p.6)

Richard Anderson:

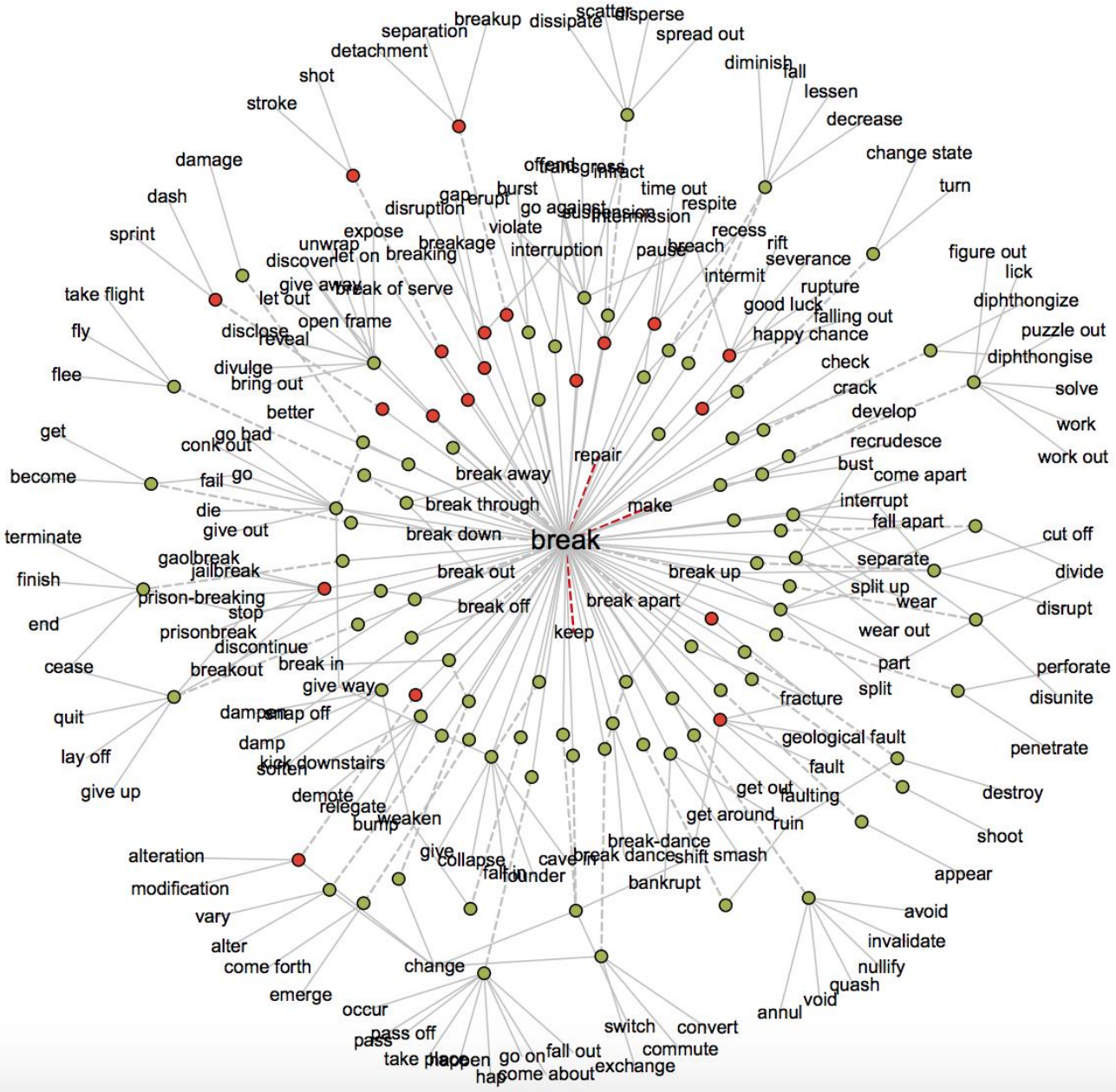
"We found small but highly reliable increments in word knowledge attributable to reading at all grades and ability levels. The overall likelihood ranged from better than 1 in 10 when children were reading easy narratives [fiction] to near zero when they were reading difficult expositions." (p. 61)

Anderson, R. C. (1996). Research foundations to support wide reading. In V. Greaney (Ed.), *Promoting reading in developing countries* (pp. 55-77). Newark, Delaware:International Reading Association.

Visual Thesaraus

http://www.visualthesaurus.com/

break


break
breakup
dissipate
scatter
disperse
separation
spread out
detachment
diminish
fall
shot
lessen
stroke
decrease
change state
damage
turn
dash
time out
respite
disruption
recess
sprint
expose
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pause
breach
rift
discover
severance
figure out
lick
take flight
intermit
rupture
diphthongize
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good luck
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fly
open frame
disclose
reveal
happy chance
puzzle out
diphthongise
flee
divulge
check
bring out
crack
solve
develop
work
better
recrudesce
get
go bad
work out
conk out
repair
bust
become
fail
go
break away
come apart
interrupt
break through
make
die
fall apart
give out
break down
terminate
cut off
gaolbreak
separate
jailbreak
break out
break up
divide
finish
split up
prison-breaking
break off
break apart
wear
disrupt
stop
end
keep
wear out
prisonbreak
discontinue
part
perforate
cease
breakout
break in
split
disunite
give way
fracture
quit
damp
geological fault
penetrate
lay off
kick downstairs
fault
give up
get out
destroy
demote
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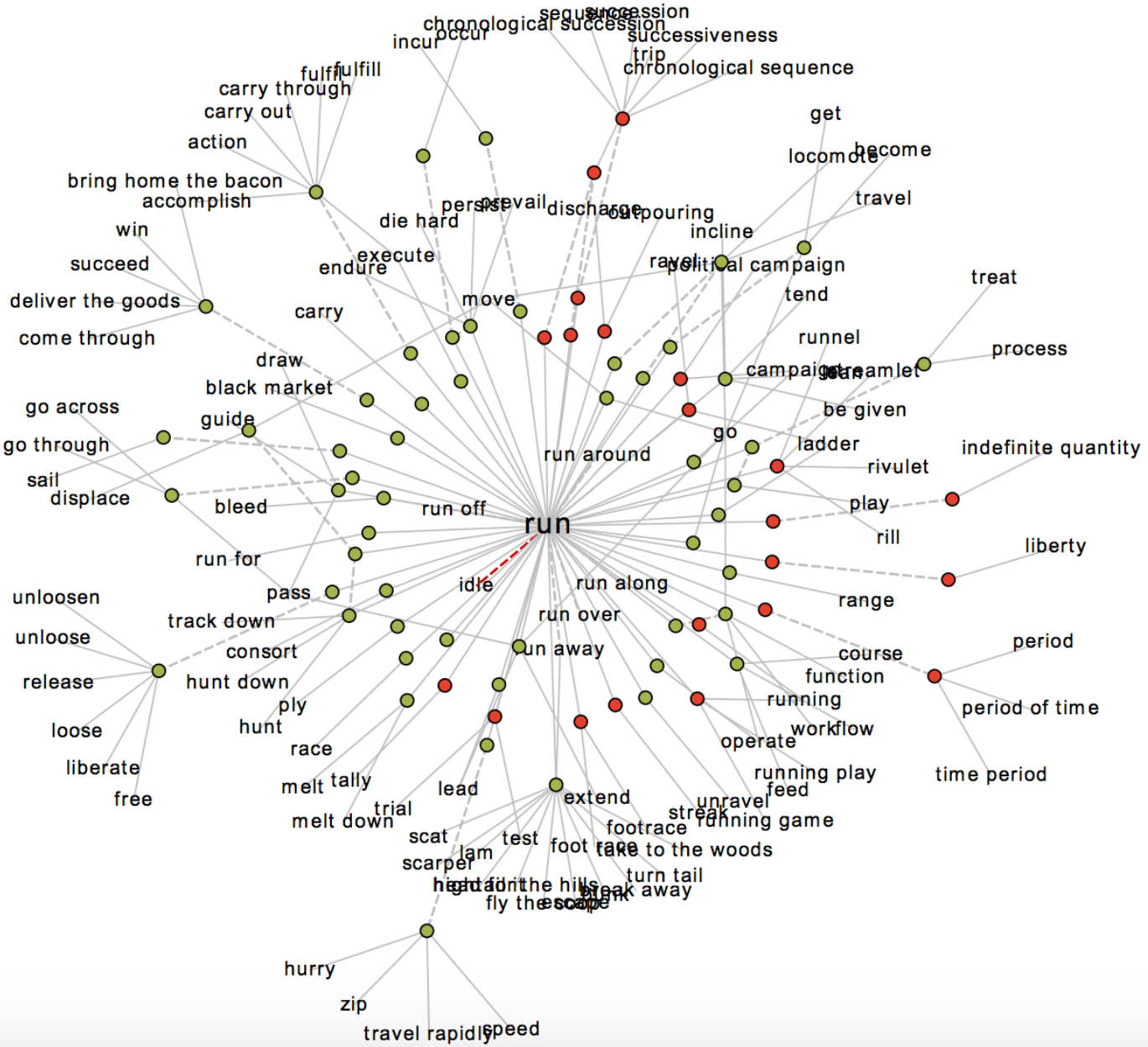
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carry through
carry out
action
bring home the bacon
accomplish
win
succeed
deliver the goods
come through
get
become
locomote
travel
persist
prevail
discharge
outpouring
die hard
endure
execute
incline
political campaign
ravel
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move
carry
draw
black market
go across
guide
go through
sail
displace
bleed
run off
run around
go
ladder
rivulet
be given
indefinite quantity
play
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liberty
run
run for
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run along
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range
pass
track down
consort
hunt down
unloosen
unloose
release
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liberate
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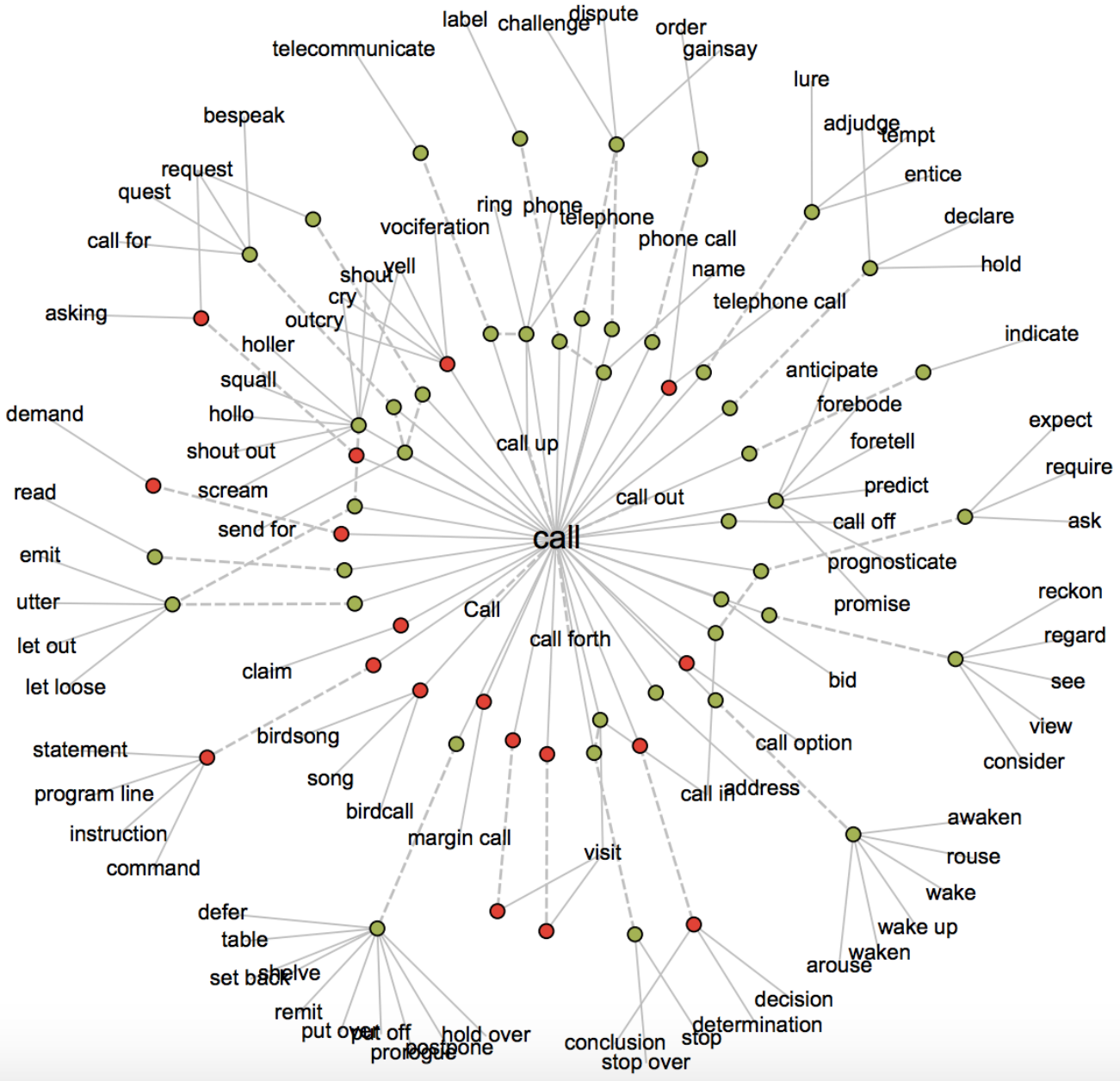
melt down
lead
extend
run away
course
function
running
workflow
operate
period
period of time
time period
running play
feed
unravel
streak
running game
footrace
foot race
take to the woods
turn tail
break away
scat
test
lam
scarper
fly the coop
escape
hurry
zip
travel rapidly
speed

call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declare
vociferation
phone call
call for
name
hold
shout
yell
cry
telephone call
asking
outcry
indicate
holler
anticipate
squall
forebode
demand
hollo
expect
foretell
call up
shout out
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Call
promise
reckon
call forth
let out
regard
claim
bid
let loose
see
view
birdsong
call option
statement
consider
song
program line
call in
address
birdcall
awaken
instruction
margin call
visit
rouse
command
wake
defer
wake up
table
waken
arouse
set back
shelve
decision
remit
determination
put over
put off
hold over
conclusion
stop
prologue
postpone
stop over

"Break" in Random Fiction Contexts (from COCA)

See Handout

1	Kate with Hobart this weekend. " # " Yeah. Amber could use a **break**, but after that, you can move Kate around as needed. " #
2	in my mouth, then pointed toward the front door with raised brows. " **Break** and enter much? " # She stepped around me and closed the door.
3	Cavanaugh Street? " Grace snorted. " The only person who's going to **break** into a house on Cavanaugh Street is Donna, and all she's going to
4	I guess it doesn't. I mean, I understand that people's bodies **break** down, and they get sick, and that sort of thing. I understand
5	, and that sort of thing. I understand that some people have minds that **break** down. But it just doesn't make any sense to me that somebody who
6	the crown of their hat for such a purpose. Not even the Hulk can **break** them. # I zip-tied his hands, his feet and then zip-tied those together
7	should I say who? " he asked shrewdly. # " Give me a **break**, Deke. " Linc took a sip of champagne and set the glass aside
8	words. I became so disturbed by the locked room that I considered ways to **break** and enter, with the clandestine help of a locksmith (though I knew it
9	on fire. Last fall, she had asked Olivia's advice on how to **break** through, and together they had mapped out a Marilyn Bryson career revitalization plan.
10	. For an agonizing moment, it would seem as if a gunfight might actually **break** out. But then the men would recognize their common ground as human beings.
11	# " Poor Teeny, " Barb said. " You can't catch a **break** -- or your breath. And you never will. Coop wants to dump you
12	help her raise their daughter. And he just hadn't found the words to **break** up with me. # Don't get me wrong -- I love children.
13	despite the continuing loyalty of the Flashman fan base, Wilson Entertainment had yet to **break** out of the American market, something that Grace understood as c
14	how long Chaindragger has been in place here. # " Let's take a **break**, get a drink, " Marcelin says as they leave the bright red rocket
15	? " # " Because you're the only one who has the guts to **break** this story. We all saw how you stood up to Rick. Everyone wanted
16	. The story had so much potential. And she would be the one to **break** it. # What Cassidy didn't realize was that this story would really break
17	break it. # What Cassidy didn't realize was that this story would really **break** her. # Chapter Two I can see why Cassidy likes this place, "
18	it to the other side of the car. I'm lucky he didn't **break** my legs, or worse. As it is, I know I'm going
19	penitentiary yards than parks, it was only logical that some pretty serious brawls would **break** out. Though he was the furthest thing from a guy who looked for tro

Vocabulary With Many *Context Dependent* Meanings

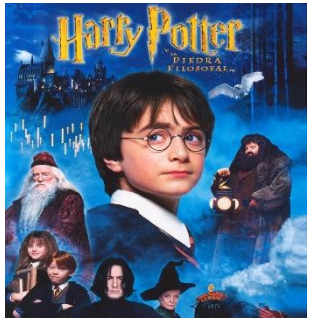
High-Frequency Anglo-Saxon Words like:

break **run** **call**

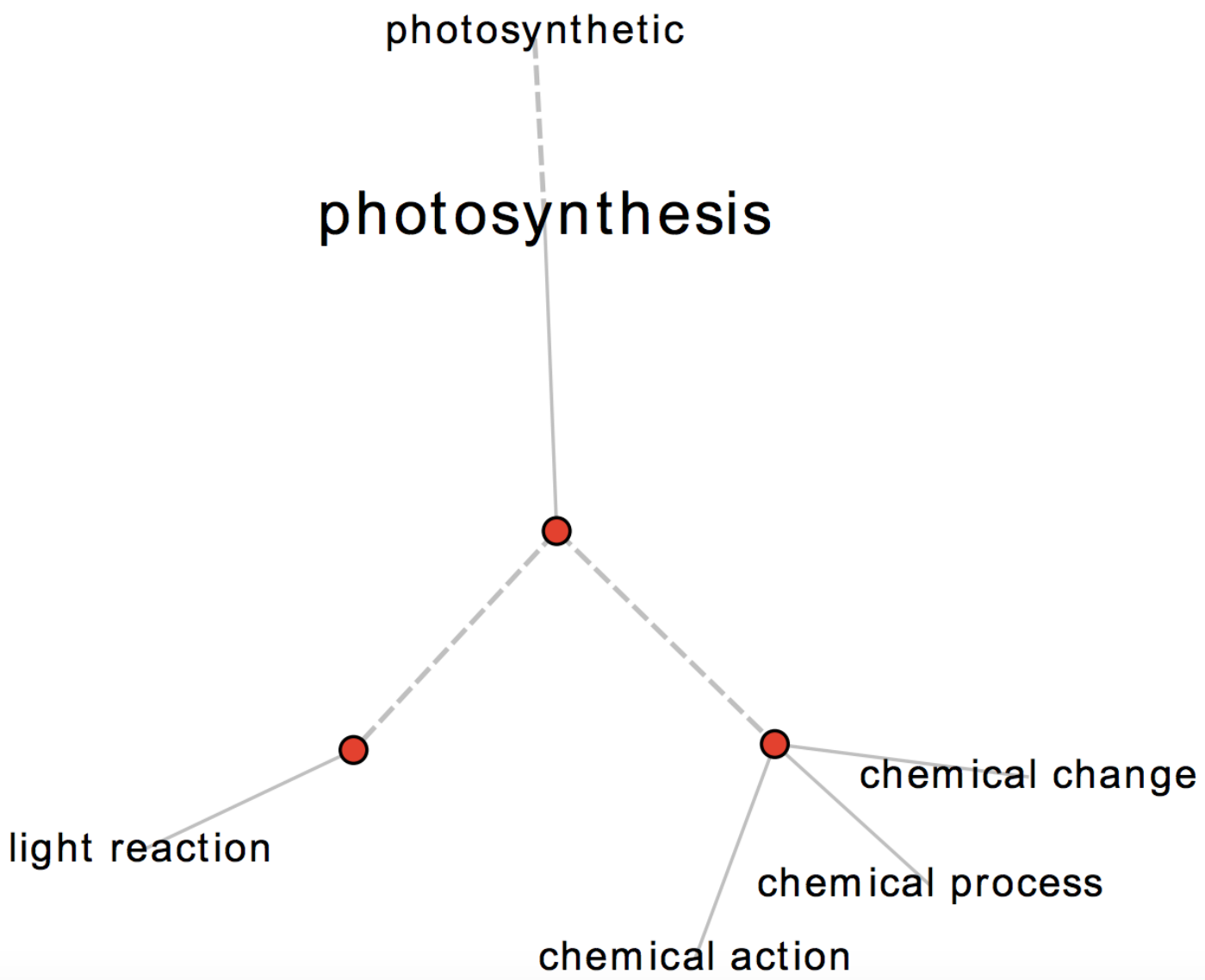
Multiple Meanings best Learned through many <u>Context Exposures</u> during:

Oral Conversation

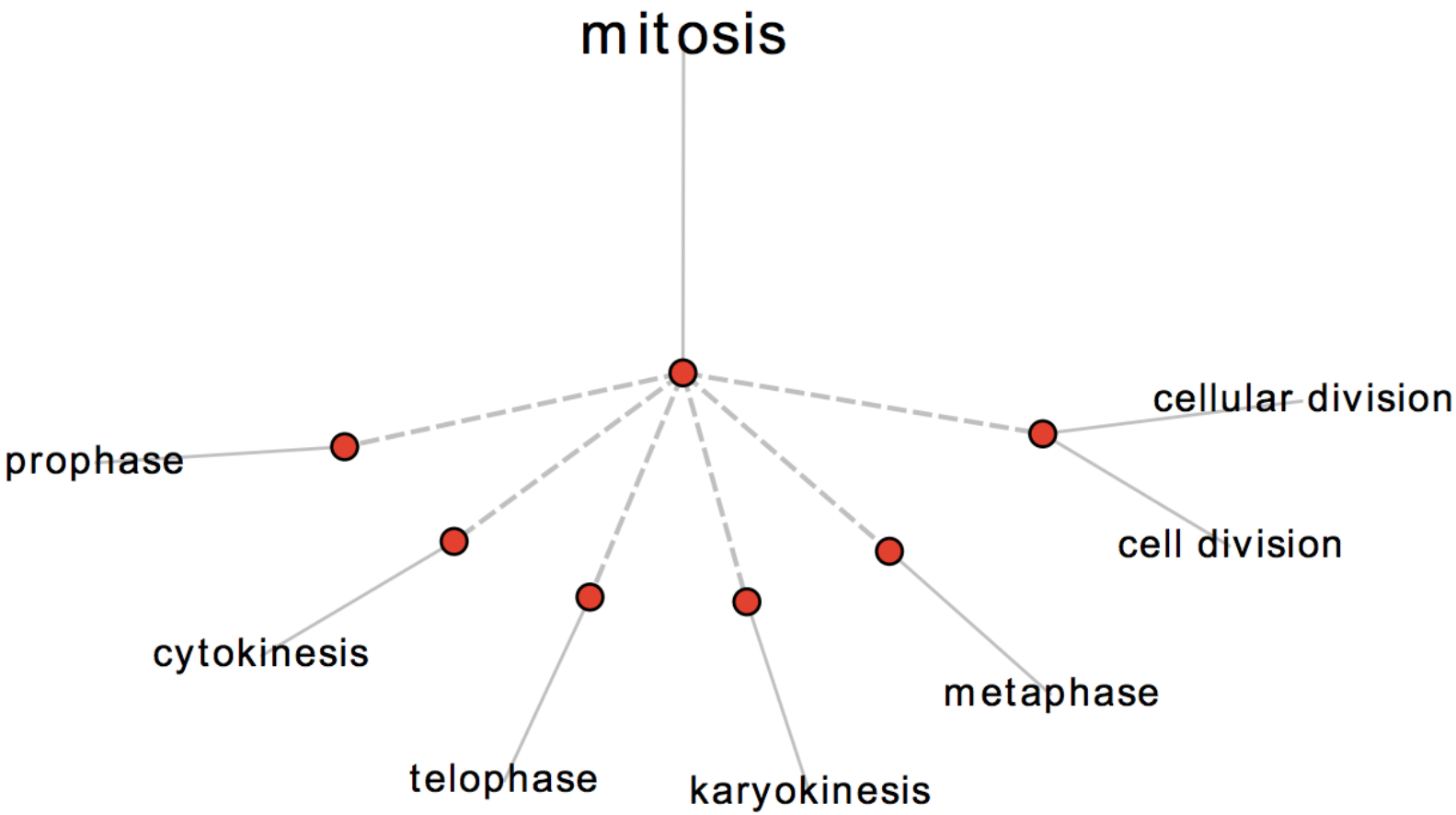
Extensive Reading of Narrative Fiction



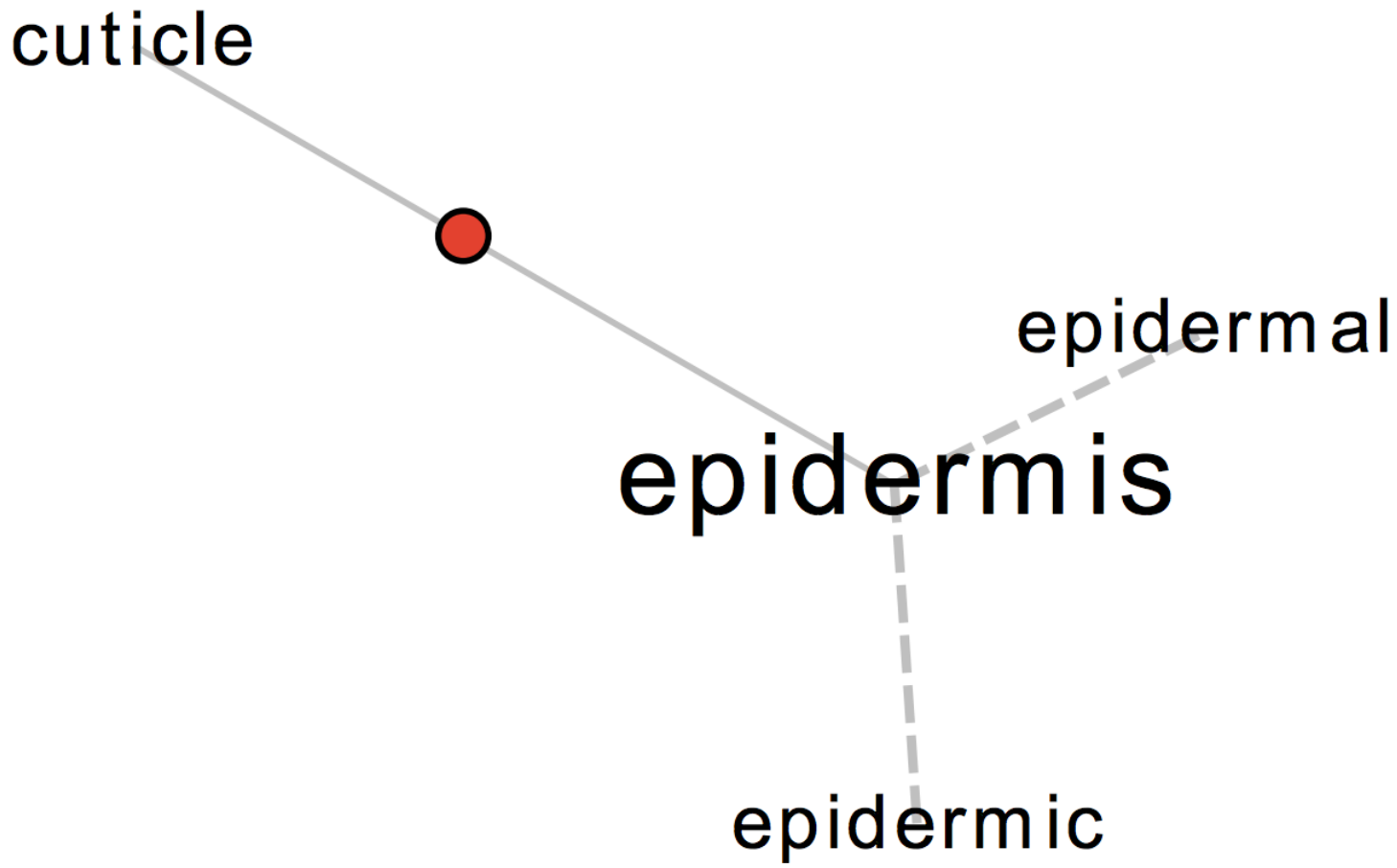
photosynthesis



mitosis


mitosis
prophase
cellular division
cell division
cytokinesis
metaphase
telophase
karyokinesis

epidermis



“Mitosis” in Typical Expository Contexts

the kinetochore is a multiproteinchromatin complex at which the forces of mitosis work to congress
and later to separate chromosomes into daughter cells

these antibodies have been localizedto kinetochores during mitosis
but also reveal prekinetochores present during interphase

Source: Gardner, D. (2013). *Exploring vocabulary: Language in action*. London: Routledge

Vocabulary With *Context Free* Meanings

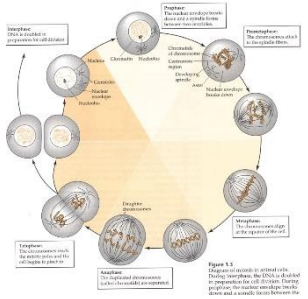
Technical Academic Words like:

photosynthesis **mitosis** **epidermis**

Meanings difficult for ELLs and struggling Native Speakers to learn through context exposures alone.

Learning must be supported by various forms of:

Direct Vocabulary Instruction



Vocabulary Centered Curriculum

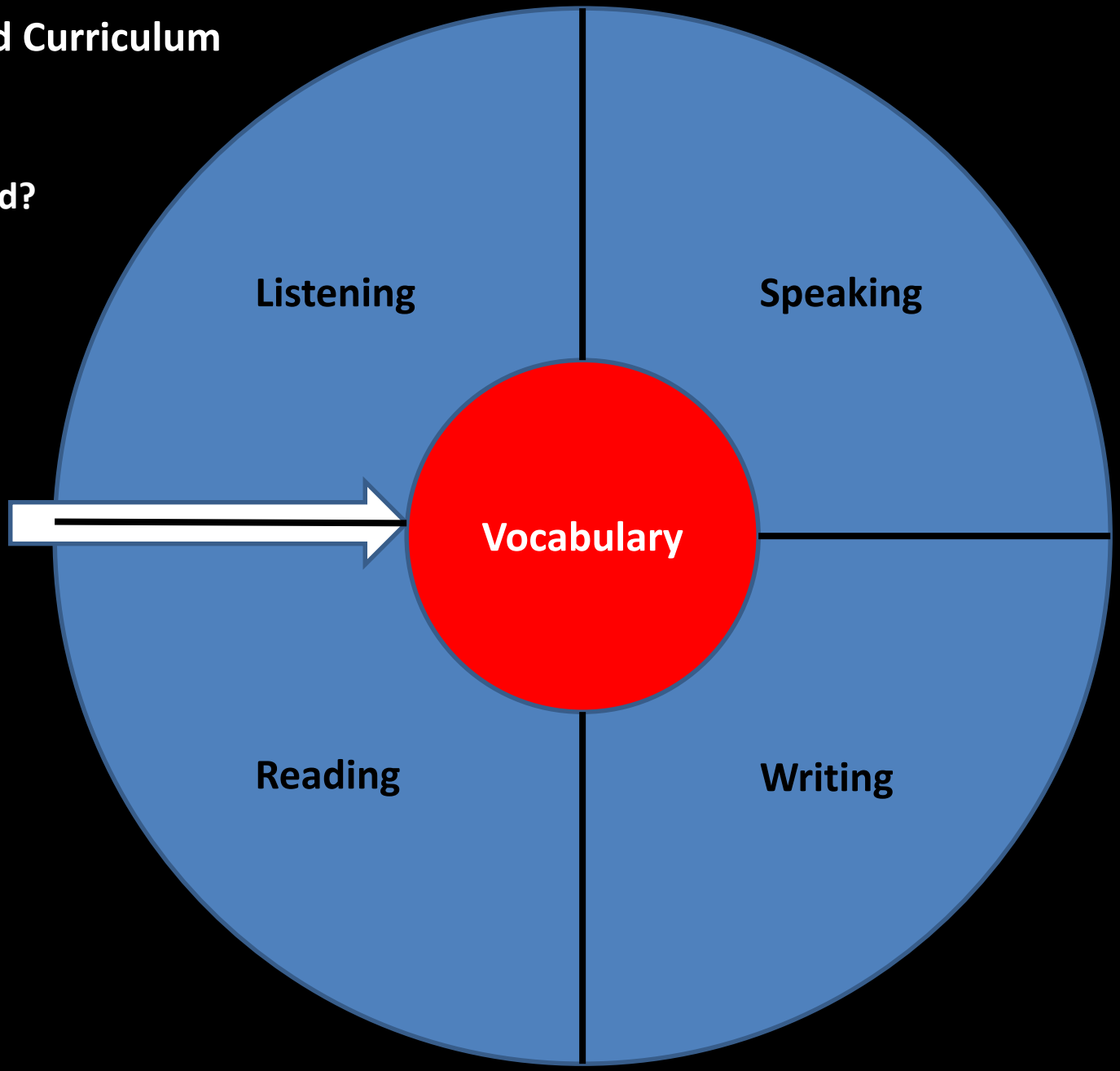
What English is Needed?

What Texts and Tasks?

What Vocabulary?
in texts and tasks?
in learners' minds?
needing instruction?

What Strategies?

What Curriculum?



Types of Contexts

Beck, McKeown, & Kucan (20020

1. **Misdirective Contexts**—or contexts that would actually lead readers to a false or wrong conclusion about an unknown word.

2. **Nondirective Contexts**—or contexts that give readers virtually no assistance in learning the meaning of an unknown word.

3. **General Contexts**—or contexts that give readers enough information about an unknown word to allow them to form only general notions (positive, negative, etc.) about the meaning of that word.

4. **Directive Contexts**—or contexts that would appear to lead readers to a clear and specific meaning of an unknown word.

See Handout

Types of Contexts

See Handout

1.	him. The in/out trays, as a result, were as much a quaint **anachronism** as the telephone. Still, he liked keeping both around for some reason.
2.	mine that her people were turning into a state-of-the-art facility that would leave that twenty-third-century **anachronism** that they had rotting there in the dust. # That was when the refinery
3.	many of us the ease of buying digital music has rendered file sharing a quaint **anachronism**, a past transgression stored away next to memories of that drug-fueled summer following sophomore
4.	has changed surprisingly little since its Depression-era build-out. Consequently, it's an industrial **anachronism**, a failure-prone, dumb, and output-only power net-work that should be more
5.	up a lot more these days. Home canning and preserving practically a culinary **anachronism** in this fast food nation is on the rise. As more Americans embrace
6.	fat, soft-terrain flotation tires. (Clearly, conventional reference in this context purest **anachronism**: Nose-wheel-based tricycle gear, as seen on jetliners, military aircraft, etc. including
7.	way if you prefer it. " " No. I won't be an **anachronism** in the world. I'm okay with genetic engineering now. " He smiled
8.	composing a draft of his translation. He was aware of the irony of the **anachronism**, using electronic transcription in a place where manuscripts had been hand-copied for centuries.
9.	for movie stars on Hollywood Boulevard. The Oracle had been their star, an **anachronism** from another era of policing, from long before the Rodney King riots and Rampart
10.	perhaps bad for America, but it was good for Billy. Although a self-declared **anachronism**, lacking the appurtenances of what might be called a regular job, Billy acted

Mummy Theme

MUMMY	166
MUMMIES	161
EGYPTIANS	77
EGYPT	56
EGYPTIAN	50
TOMBS	46
PYRAMID	46
BURIED	45
TOMB	43
PRESERVED	40

Mystery Theme

BONES	67
JOHN	66
BONE	51
EVIDENCE	51
SKULL	31
TEETH	17
CLUES	15
HAIR	14
FOOT	14
PHYSICAL	13

Westward Movement Theme

TRAIL	69
CATTLE	52
WAGON	41
WAGONS	38
FORT	35
AMERICAN	33
MISSOURI	30
INDIANS	28
TERRITORY	24
SAN	23

No Theme

FEET	32
AMERICA	16
AREAS	14
AREA	12
PACIFIC	12
HUGE	10
OCEAN	10
CALIFORNIA	8
ALASKA	8
ICE	7

Root	Meaning	Token frequency	Type frequency	Word
Graph	written, drawn	104	28	Photography
Graph				Photographers
Graph				Photographic
Graph				Photographing
Graph				Polygraph
Graph				Geographic
Graph				Geographers
Graph				Geographically
Graph				Geographies
Graph				Geographical
Graph				Chromatography
Graph				Autobiography
Graph				Autobiographical
Graph				Biography
Graph				Biographer
Graph				Pictograph
Graph				Pictographs
Graph				Radiographers
Graph				Cartographer
Graph				Telegraphs
Graph				Tomography
Graph				Xeroradiograph
Graph				Chromatograph
Graph				Graph
Graph				Graphics
Graph				Graphomaniac
Graph				Lithograph
Graph				Xeroradiographs

Adapted from Markovic (2002)

Root	Meaning	Token frequency	Type frequency	Word
Logy	study, science	73	26	Anthropologist
Logy				Archaeology
Logy				Archaeological
Logy				Pathologist
Logy				Pathologists
Logy				Toxicology
Logy				Toxicologists
Logy				Geological
Logy				Geology
Logy				Geologically
Logy				Geologist
Logy				Entomologist
Logy				Entomologists
Logy				Mythology
Logy				Serologist
Logy				Biologist
Logy				Meteorologist
Logy				Meteorologists
Logy				Osteology
Logy				Osteological
Logy				Paleontologists
Logy				Artist-anthropologist
Logy				Ecology-minded
Logy				Psychology
Logy				Technologies
Logy				Zoological

Adapted from Markovic (2002)

Root	Meaning	Token frequency	Type frequency	Word
Astro	star	64	7	Astronauts
Astro				Astronomers
Astro				Astronomer
Astro				Astronomy
Astro				Astronomical
Astro				Astrologer
Astro				Astrodone

Adapted from Markovic (2002)

See Handout

See Handout

The Nifty Thrifty Fifty

Word	Transferable Prefixes	Transferable Suffixes
antifreeze	anti	
beautiful		ful (y-i)
celebrate		ate
classify		ify
communities	com	es (y-i)
composer	com	er
continuous	con	ous
conversation	con	tion
deodorize	de	ize
different		ent
discovery	dis	y
dishonest	dis	
electricity	e	ity
employee	em	ee
encouragement	en	ment
expensive	ex	ive
forecast	fore	
forgotten		en (double t)
governor		or
happiness		ness (y-i)
hopeless		less
illegal	il	
impossible	im	ible
impression	im	sion
independence	in	ence
international	inter	al
invasion	in	sion
irresponsible	ir	ible
midnight	mid	
misunderstand	mis	
musician		ian
nonliving	non	ing (drop e)
overpower	over	
performance	per	ance
prehistoric	pre	ic
prettier		er (y-i)
rearrange	re	
replacement	re	ment
richest		est
semifinal	semi	
signature		ture
submarine	sub	
supermarkets	super	s
swimming		ing (double m)
transportation	trans	tion
underweight	under	
unfinished	un	ed
unfriendly	un	ly
unpleasant	un	ant
valuable		able (drop e)

Repurposed from Cunningham, 1998, p. 215

Practical Vocabulary Training Decisions for Teachers of ELLs in Academic Settings

1. Vocabulary training should benefit both ELLs and native English speakers in the classroom.

2. Vocabulary training should address words, word parts, and phrases with high utility = ***Big Bang for the Buck***.

   A. Frequently used Greek and Latin Roots and Affixes that appear in many words in the content areas of education. Greek and Latin Roots on Wikipedia (one of many lists available)
   http://quizlet.com/

   B. Academic Vocabulary List (AVL) http://www.wordandphrase.info/academic/

   C. Content words and phrases that actually appear several times in the texts and topics that learners are required to read now or in the near future.

   D. Words and phrases that are typically found in task instructions

3. Design a curriculum to maximize the recycling of a smaller group of content words at one time, and provide ample practice with these small groups of words

   A. Tight themes in the content areas
      - *Mummies* and *Bone Detectives* instead of *Mysteries*
      - *The Gold Rush and The Oregon Trail* instead of *Westward Movement*
      - *Bees* and *Butterflies* instead of *Insects*

   B. Base the curriculum on informational texts, with theme-related fiction used to supplement and enrich.

4. Find and use informational texts of varying difficulty levels that address the same content-area themes and contain some of the same vocabulary terms so that ELLs and struggling L1 readers can have better success at reading academic text, while staying on topic with the rest of the class.

5. Design a curriculum that allows words to be experienced in all four modalities (listening, speaking, reading, writing), preferably at or near the same time.

6. Approach vocabulary training with the aim of helping your ELLs become autonomous word learners.

7. Spend ample class time on direct word study, looking at words, word parts, and phrases from actual texts and tasks used in your classroom.

   A. Morphological Awareness Raising (Greek & Latin Roots, Prefixes, Suffixes)

   B. Context Dependent Meanings of Words with Many Meanings (*run, break*, etc.)

   C. The Phrasal Nature of many English vocabulary items:

      Idioms (*bit off more than we could chew*, etc.)

      Phrasal Verbs (*break up, break out, break down*, etc.)

      Compounds (*cell membrane, carbon dioxide*, etc.)

      Academic Bundles (*The fact that. . .; The point is . . .; As a result of . . .* , etc.)

8. If your school has pull-out ELL instruction or private tutoring options, insist that these efforts are correlated with mainstream classroom content, including the vocabulary necessary to succeed in the mainstream setting.

Online Resources

Word and Phrase Academic

Academic Vocabulary List

COCA

Wikipedia Corpus

Tutorial for Wikipedia Corpus

Lextutor

AntConc

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From Fiction to Fact:

Academic Vocabulary Training for Young English Language Learners

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