香港都會大學
教育及語文學院
Hong Kong Metropolitan University
School of Education and Languages

雙語教學研究所
Research Institute for Bilingual
Learning and Teaching

35th HKMU

Academic vocabulary learning in higher education

Implications from a multifaceted study of English language learners

Key Issues in English for Academic Purposes Seminar Series

Edsoulla Chung
Hong Kong Metropolitan University

Daniel Fung
The University of Hong Kong

1 november 2024

ACKNOWLEDGEMENT

大學教育資助委員會
University Grants Committee

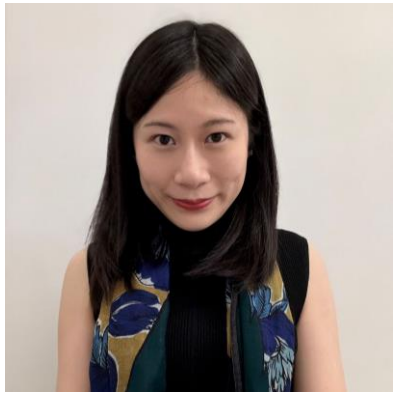
The work described in this paper was fully supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (UGC/FDS16/H19/21).

Project title

Towards a reflective approach to developing academic vocabulary: An intervention case study in the higher education context

We would like to thank all the student participants for their time and contribution to our research project.

OUR RESEARCH TEAM



EDSOULLA CHUNG

HKMU

ASSISTANT PROFESSOR

DANIEL FUNG

HKU

ASSISTANT PROFESSOR

JONATHAN NEWTON

VUW

ASSOCIATE PROFESSOR

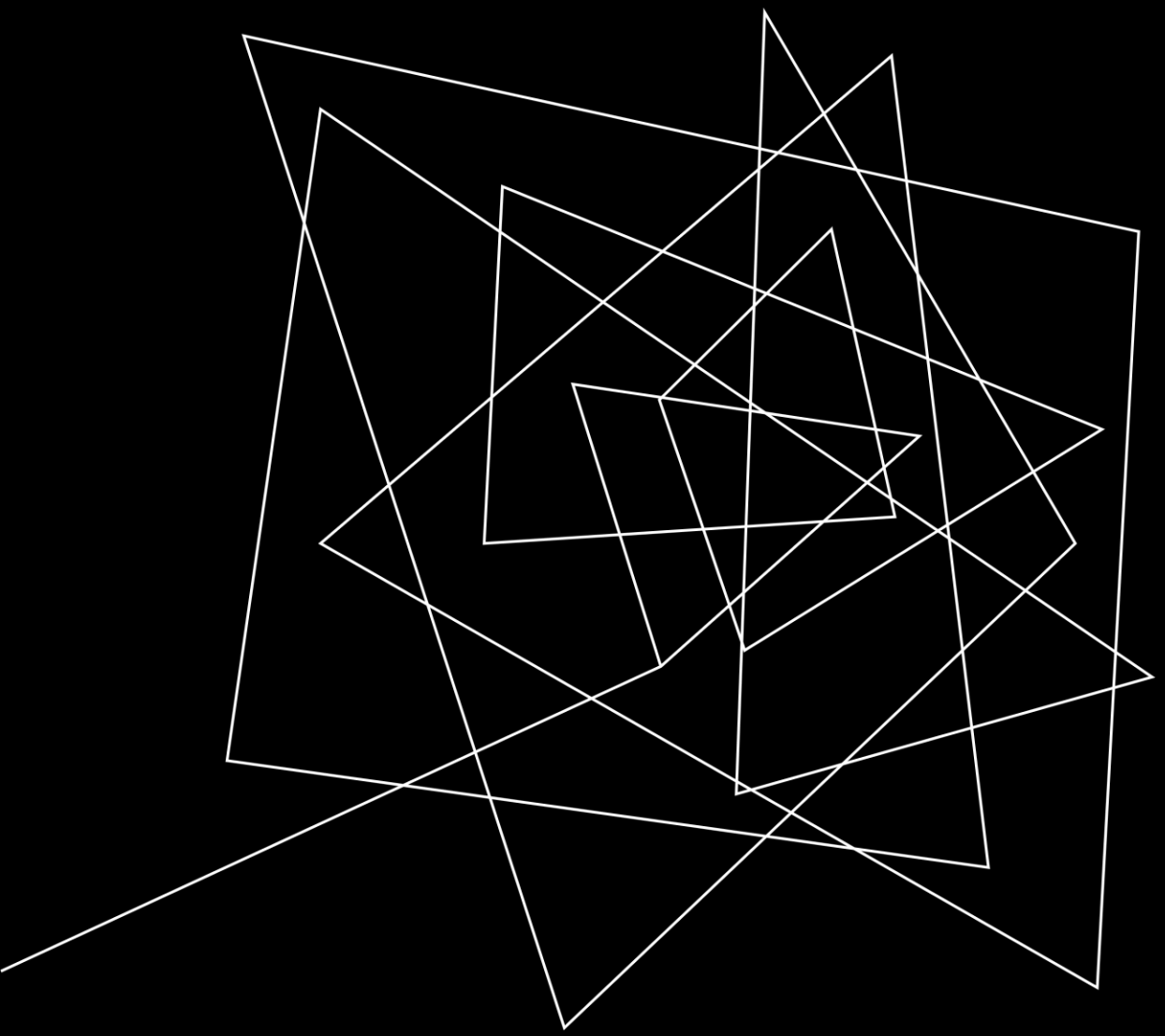
AARON WAN

HKMU

RESEARCH ASSISTANT

AN OVERVIEW OF OUR TALK

- Introduction
  - What is academic vocabulary?
  - Research on learning academic vocabulary (LAV)
  - Research gaps
- Our research
  - Key findings
  - Implications
- Concluding remarks
  - A reflective approach to LAV
  - Future lines of inquiry



AN INTRODUCTION TO

Academic vocabulary

HOW MANY ACADEMIC WORDS ARE INCLUDED IN THE WORD CLOUD?

WHAT IS ACADEMIC VOCABULARY?

- widespread in academic discourse but not frequent in general English
- fits between general and technical vocabulary
  (Coxhead, 2020)
- essential for academic success

– covers a significant portion of any academic text, where a lack of understanding can impede comprehension (Gardner & Davies, 2014)

– enhances the quality of writing
(Csomay & Prades, 2018; Lee et al., 2021; Maamuujav, 2021)

– helps effectively manage assessment tasks in various subjects
(see, e.g., Fung & Chung, 2024; Luxton et al., 2017)

– acts as a strong predictor of overall academic achievement
(Masrai & Milton, 2018)

RESEARCH ON LAV

- Research from various contexts, including Sweden, Taiwan, and Vietnam, shows that these learners typically have limited knowledge of academic words and tend to learn them at a modest rate
  (see, e.g., Dang, 2020; Webb & Chang, 2012)

- Academic vocabulary is challenging for learners of English, especially first-year undergraduates
  (Evans & Morrison, 2018)

- Students tended to value contextual learning and considered academic texts and lectures to be the key sources for academic vocabulary learning
  (Therova, 2021)

- The use of dictionaries, opportunities for practice, corrective feedback from teachers, and peer support were considered beneficial for AVL
  (Brun-Mercer & Zimmerman, 2015; Therova, 2021)

RESEARCH GAPS

- Academic vocabulary poses significant challenges for many undergraduates, yet limited research has been done into student beliefs about academic vocabulary knowledge and learning in higher education.

- Student beliefs about the role of rote learning and memorisation in LAV, as well as the perceived importance of academic word knowledge, are not well understood.

- Scant research effort has been devoted to exploring the strategies first-year undergraduates employ for LAV, particularly in terms of qualitative data that could provide deeper insights into why and how specific strategies are adopted.

- Research has not thoroughly explored how various factors, such as proficiency levels and academic disciplines, contribute to LAV.

AN OVERVIEW OF OUR RESEARCH

Who is involved?

- First-year ESL students taking an academic English course at a Hong Kong university via email
- Lucky draws were provided as incentives to encourage participation

What is our work about?

- A mixed-methods design
  - Study 1: Beliefs about LAV (N=172; Quantitative + Qualitative)
  - Study 2: Analysis of difficulties or challenges associated with LAV (N=199; Qualitative)
  - Study 3: Strategies adopted by students (N=172; Quantitative + Qualitative)

RESEARCHING LEARNER BELIEFS ABOUT LAV

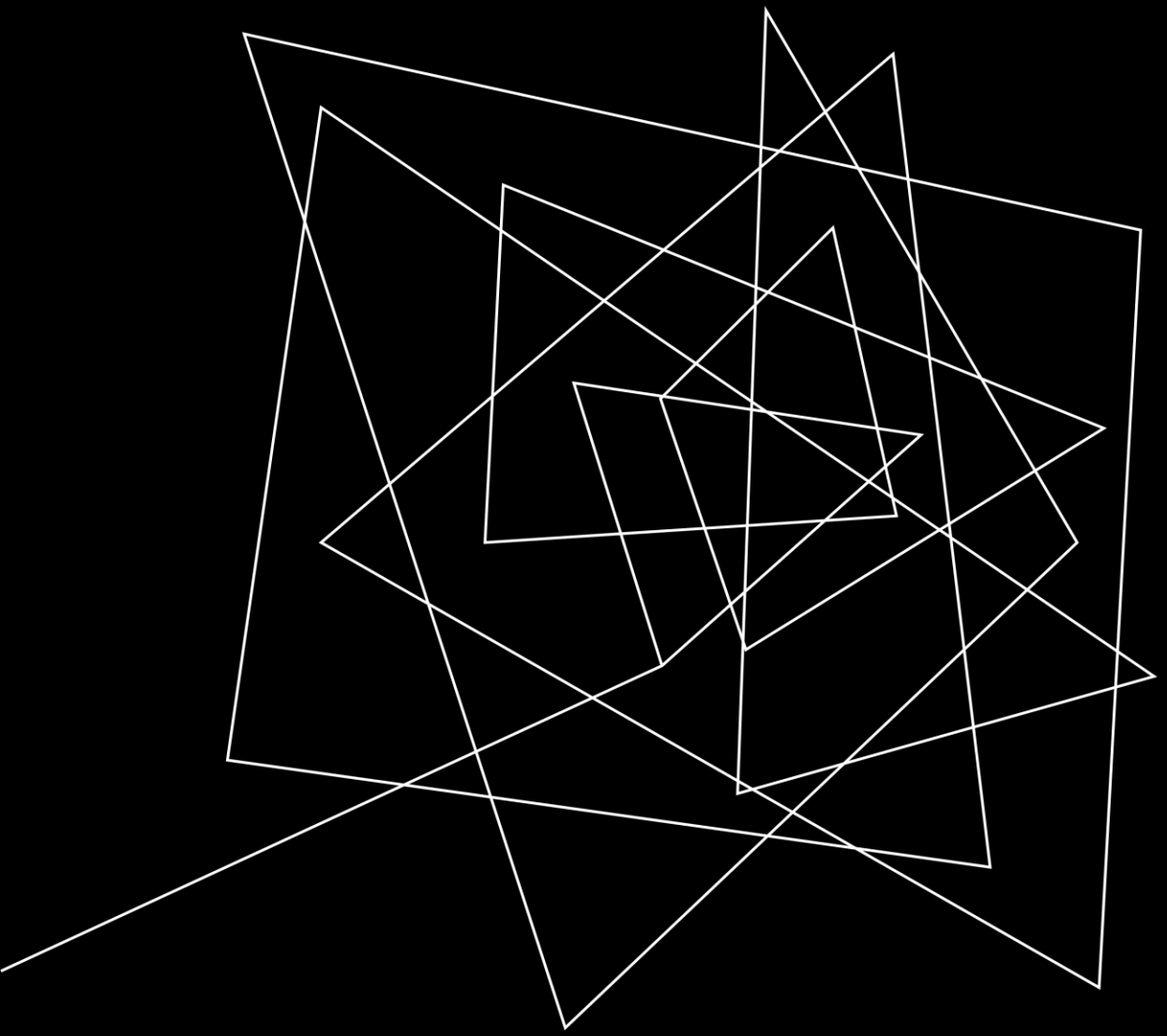
- Beliefs can be conceptualised as a set of assumptions that learners accept to be true about learning

  (Fisher, 2013)

- Researching learner beliefs is important as they determine not only the way learners learn but also their commitment and persistence in pursuing their learning goals

  (Barcelos & Kalaja, 2011)

- Understanding how learners perceive LAV and themselves as a learner enables teachers to identify and address problems that may hinder their students' progress and create a positive classroom environment for learning



What beliefs do first-year students hold about academic vocabulary knowledge and learning?

How do students with different English proficiency levels differ in their beliefs?

STUDY ONE

International Journal of Applied Linguistics

ORIGINAL ARTICLE | Open Access

Understanding academic vocabulary learning in higher education: Perspectives from first-year undergraduates in Hong Kong

Edsoulla Chung, Aaron Wan, Daniel Fung

First published: 07 June 2024 | https://doi.org/10.1111/ijal.12576

Abstract

EN ZH

The learning of academic vocabulary, which consists of words commonly found in academic discourse across disciplines, is crucial for success in higher education. However, studies have shown that English as a second language (ESL) students face significant challenges acquiring this vocabulary, particularly during their first year of university. Given the pivotal role that learners' beliefs play in language learning, understanding their beliefs regarding their academic vocabulary learning (AVL) can provide educators with insights into the teaching strategies that effectively address the difficulties learners encounter. Accordingly, this mixed-methods study examined the beliefs of 172 first-year ESL undergraduates in Hong Kong regarding their AVL. Quantitative findings indicated that although students generally recognised the importance of developing academic vocabulary, their beliefs about their competence and effective learning methods varied. The students' English proficiency level was also found to be associated with their beliefs. An analysis of open-ended responses further revealed that the students faced challenges related to the infrequent occurrence of academic vocabulary in non-academic contexts, its complex nature, as well as the difficulty of retaining newly learned words. The paper concludes by discussing pedagogical implications and directions for future research.

READ MORE ABOUT THIS HERE

KEY FINDINGS

			Less important than [1]	As important as [2]	more important than [3]
			N (%)	*N* (%)	*N* (%)
1. Building academic vocabulary is _____ developing the four language skills.	Mean =	2.17	9 (5.2%)	125 (72.7%)	38 (22.1%)
	SD =	0.50			
	N =	172			
2. Academic vocabulary is _____ grammar in academic studies.	Mean =	2.03	27 (15.7%)	112 (65.1%)	33 (19.2%)
	SD =	0.59			
	N =	172			

- Students with different proficiency levels did not differ significantly in their responses to these items ($p > 0.05$).

KEY FINDINGS

- "To pursue your academic studies, you need a good vocabulary and four language skills."
- "The importance of building academic vocabulary and the development of four language skills have a mutual relationship. For example, you can perform great in the four skills but find it difficult to express your thoughts if you do not know any vocabulary... If you only know a lot of vocabulary, they are just individual words with their own meanings."
- "A good amount of vocabulary is necessary for the development of the four language skills."
- "Without enough academic vocabulary, any advanced techniques you have learnt for the four language skills are in vain as you will still be sounding unskilled and non-academic."

KEY FINDINGS

	Mean	*SD*	*N*	Strongly Disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly agree [5]	No idea
				N (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)
3. When I claim I know an academic word (e.g., *underdeveloped*), I must be able to …									
a. know what the word sounds like.	3.99	.791	172	1 (0.6%)	7 (4.1%)	27 (15.7%)	94 (54%)	43 (25%)	0 (0%)
b. say it with correct pronunciation including stress.	3.76	.922	172	4 (2.3%)	9 (5.2%)	47 (27.3%)	76 (44.2%)	36 (20.9%)	0 (0%)
c. know what the word looks like.	3.95	.773	172	1 (0.6%)	8 (4.7%)	25 (14.5%)	101 (58.7%)	36 (20.9%)	1 (0.6%)
d. write it with correct spelling.	3.81	.999	172	7 (4.1%)	8 (4.7%)	39 (22.7%)	75 (43.6%)	43 (25%)	0 (0%)
e. recognise that it is made of different parts (i.e., *under-*, *-develop-*, and *-ed*).	3.86	.785	172	0 (0%)	7 (4.1%)	45 (26.2%)	84 (48.8%)	35 (20.3%)	1 (0.6%)
f. construct it using the right word parts in their appropriate forms.	3.67	.847	172	0 (0%)	16 (9.3%)	51 (29.7%)	78 (45.3%)	26 (15.1%)	1 (0.6%)
g. understanding its meaning(s).	4.05	.935	172	1 (0.6%)	10 (5.8%)	34 (19.8%)	60 (34.9%)	66 (38.4%)	1 (0.6%)
h. produce the word according to what it means.	3.66	.832	172	1 (0.6%)	10 (5.8%)	58 (33.7%)	70 (40.7%)	25 (14.5%)	8 (4.7%)
i. know the concept(s) behind it (e.g., *underdeveloped* can be related to a country or region, a photographic film, an organ, etc.).	3.45	.921	172	3 (1.7%)	22 (12.8%)	61 (35.5%)	65 (47.8%)	20 (11.6%)	1 (0.6%)

KEY FINDINGS

	Mean	*SD*	*N*	Strongly Disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly agree [5]	No idea
				N (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)
3. When I claim I know an academic word (e.g., *underdeveloped*), I must be able to …									
j. produce the word in different contexts to express the range of meanings of *underdeveloped*.	3.56	.822	172	1 (0.6%)	12 (7%)	68 (39.5%)	67 (39%)	21 (12.2%)	3 (1.7%)
k. know its related words (e.g., *overdeveloped*, *backward* and *challenged*).	3.54	.806	172	0 (0%)	16 (9.3%)	64 (37.2%)	73 (42.4%)	18 (10.5%)	1 (0.6%)
l. produce synonyms (e.g., *backward*) and opposites (e.g., *overdeveloped*) for *underdeveloped*.	3.40	.835	172	2 (1.2%)	20 (11.6%)	70 (40.7%)	67 (39%)	13 (7.6%)	0 (0%)
m. judge whether the word has been used correctly in the sentence in which it occurs.	3.62	.827	172	1 (0.6%)	15 (8.7%)	52 (30.2%)	83 (48.3%)	20 (11.6%)	1 (0.6%)
n. use the word correctly in an original sentence.	3.78	.860	172	2 (1.2%)	7 (4.1%)	52 (20.2%)	74 (43%)	35 (20.3%)	2 (1.2%)
o. recognise that words such as *territories* and *areas* usually occur with it.	3.62	.764	172	0 (0%)	10 (5.8%)	64 (37.2%)	76 (44.2%)	19 (11.0%)	3 (1.7%)
p. produce words that commonly occur with it (e.g., *underdeveloped region*, *economy*, etc.).	3.59	.779	172	1 (0.6%)	11 (6.4%)	63 (36.6%)	80 (46.5%)	17 (9.9%)	0 (0%)
q. know that underdeveloped is not an uncommon word and is not a negative word.	3.70	.813	172	2 (1.2%)	9 (5.2%)	50 (29.1%)	86 (50%)	23 (13.4%)	2 (1.2%)
r. decide to use or not use the word to suit the degree of formality of the situation (*Underdeveloped* is less acceptable than developing which carries a slightly positive meaning.).	3.67	.785	172	0 (0%)	10 (5.8%)	58 (33.7%)	77 (44.8%)	23 (13.4%)	4 (2.3%)

KEY FINDINGS

	Mean	*SD*	*N*	Strongly Disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly agree [5]	No idea
				N (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)
4. I am good at learning academic vocabulary.	2.94	.775	172	5 (2.9%)	39 (22.7%)	89 (51.7%)	35 (20.3%)	2 (1.2%)	2 (1.2%)
5. I know more academic vocabulary items than my peers (i.e. friends / classmates).	2.68	.912	172	12 (7%)	63 (36.6%)	57 (33.3%)	29 (16.9%)	3 (1.7%)	8 (4.7%)
6. I believe I can score well in academic vocabulary tests.	2.92	.795	172	5 (2.9%)	40 (23.3%)	90 (52.3%)	30 (17.4%)	3 (1.7%)	4 (2.3%)
7. I believe I have acquired a wide range of vocabulary items for my academic studies.	2.89	.876	172	7 (4.1%)	47 (27.3%)	77 (44.8%)	31 (18%)	6 (3.5%)	4 (2.3%)
8. I believe I have learned different vocabulary items in an in-depth manner for my academic studies.	2.92	.803	172	4 (2.3%)	48 (27.9%)	78 (45.3%)	38 (22.1%)	2 (1.2%)	2 (1.2%)
9. I am confident that I can understand academic vocabulary in different contexts of my university studies (e.g. attending lectures, reading course materials and scholarly work, etc.).	3.08	.877	172	3 (1.7%)	44 (26%)	67 (39%)	47 (27.3%)	8 (4.7%)	3 (1.7%)
10. I am confident that I can use academic vocabulary for my university studies (e.g., in academic presentations and written assignments).	3.06	.881	172	3 (1.7%)	45 (26%)	63 (37%)	51 (29.7%)	7 (4.1%)	2 (1.2%)

KEY FINDINGS

	Mean	*SD*	*N*	Strongly Disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly agree [5]	No idea
				N (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)
11. Once the English words of all my native language meanings have been remembered, English is learned.	3.19	.948	172	9 (5.2%)	27 (15.7%)	63 (36.6%)	60 (34.9%)	8 (4.7%)	5 (2.9%)
12. The best way to remember words is to memorise word lists or dictionaries.	3.02	1.06	172	13 (7.6%)	42 (24.4%)	55 (32%)	47 (27.3%)	12 (7%)	3 (1.7%)
13. The purpose of learning a word is to remember it.	3.13	1.07	172	9 (5.2%)	45 (26.2%)	49 (28.5%)	53 (30.8%)	16 (9.3%)	0 (0%)
14. A good memory is all you need to learn a foreign language well.	3.29	1.08	172	9 (5.2%)	35 (20.3%)	45 (26.2%)	62 (36%)	20 (11.6%)	1 (0.6%)
15. Repetition is the best way to remember words.	3.54	.921	172	2 (1.2%)	20 (11.6%)	55 (32%)	67 (39%)	24 (14%)	4 (2.3%)
16. You can only learn a large vocabulary by memorising a lot of words.	3.07	.915	172	5 (2.9%)	45 (26.2%)	61 (35.5%)	55 (32%)	6 (3.5%)	0 (0%)
17. The meanings of a large amount of vocabulary can be picked up through reading.	3.75	.809	172	0 (0%)	12 (7%)	46 (26.7%)	84 (48.8%)	27 (15.7%)	3 (1.7%)
18. Learners can learn vocabulary simply through reading a lot.	3.67	.885	172	0 (0%)	20 (11.6%)	43 (25%)	79 (45.9%)	27 (15.7%)	3 (1.7%)

KEY FINDINGS

	Mean	*SD*	*N*	Proficiency levels	
				Mean	ANOVA
I. Form [R]	3.93	.657	172	L = 3.89 H = 3.97	$F = .242$ $p = .623$ $\eta^2 = .001$
II. Form [P]	3.74	.780	172	L = 3.72 H = 3.76	$F = .007$ $p = .934$ $\eta^2 = .000$
III. Meaning [R]	3.68	.692	172	L = 3.62 H = 3.72	$F = .951$ $p = .331$ $\eta^2 = .006$
IV. Meaning [P]	3.53	.717	172	L = 3.48 H = 3.59	$F = .721$ $p = .397$ $\eta^2 = .004$
V. Use [R]	3.65	.666	172	L = 3.55 H = 3.73	$F = 2.85$ $p = .093$ $\eta^2 = .017$
VI. Use [P]	3.68	.686	172	L = 3.54 H = 3.81	$F = 5.546$ **$p = .020$*** $\eta^2 = .032$

R: Receptive knowledge; P: Productive knowledge

	Proficiency levels	
	ANOVA	
1. Self-efficacy	$F = 6.29$ **$p = .013$*** $\eta^2 = .042$	**L < H***
2. Rote memorisation	$F = 7.00$ **$p = .009$**** $\eta^2 = .046$	**L > H****
3. Reading	$F = 4.09$ **$p = .045$*** $\eta^2 = .028$	**L < H***

KEY FINDINGS

- Most students considered academic vocabulary as important as the four language skills and grammar for their academic studies.
- Students generally regarded addressing different aspects of word knowledge as critical for LAV. However, they prioritised aspects such as pronunciation, meaning, and spelling while attaching less importance to productive use.
- Overall, students were not positive about their lexical competence, possibly due to three key challenges of LAV, including insufficient exposure to academic words, concerns about their complexity, and difficulties in retaining such vocabulary.
- High-proficiency students attached significantly more importance to knowledge of productive word usage than low-proficiency students. They showed higher self-efficacy and valued reading. Lower-proficiency students exhibiting weaker self-efficacy beliefs in LAV and prioritised rote memorisation.

KEY FINDINGS

Effective methods for LAV

- “reading academic books and journal articles”
- “using the newly learned words in real contexts to reinforce understanding”
- “recording new and useful academic words in a vocabulary notebook”
- “copying and reading the vocabulary aloud multiple times”
- “reciting the vocabulary repeatedly”
- “listening to songs”
- “watching movies”
- “playing games”

Major challenges

- infrequent occurrence of academic vocabulary in non-academic contexts
- complex nature
- difficulty in retaining newly learned words

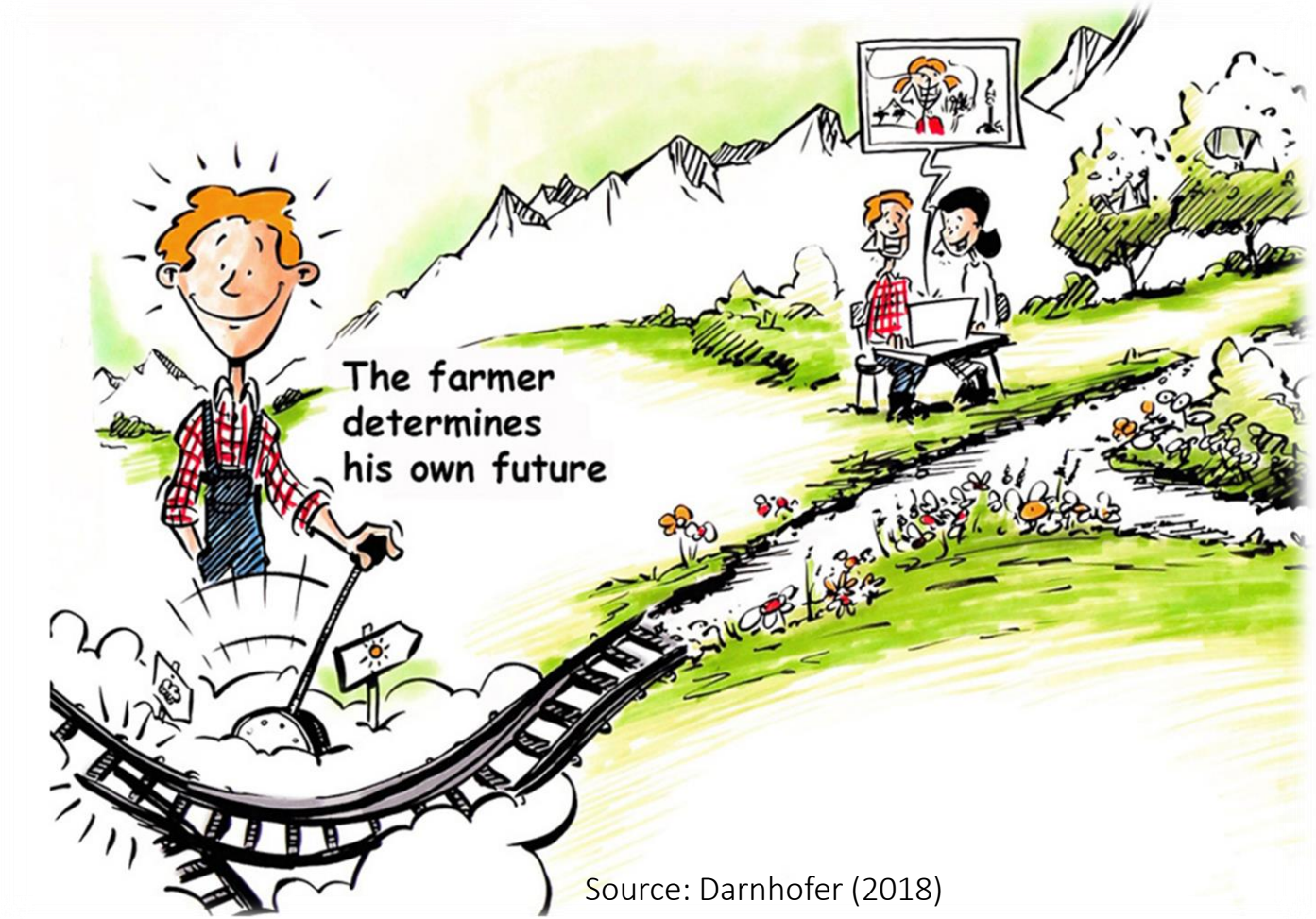
IMPLICATIONS

1. Creating space in the curriculum for developing multiple aspects of academic word knowledge

2. Catering for learner diversity through the promotion of repetition and extensive reading

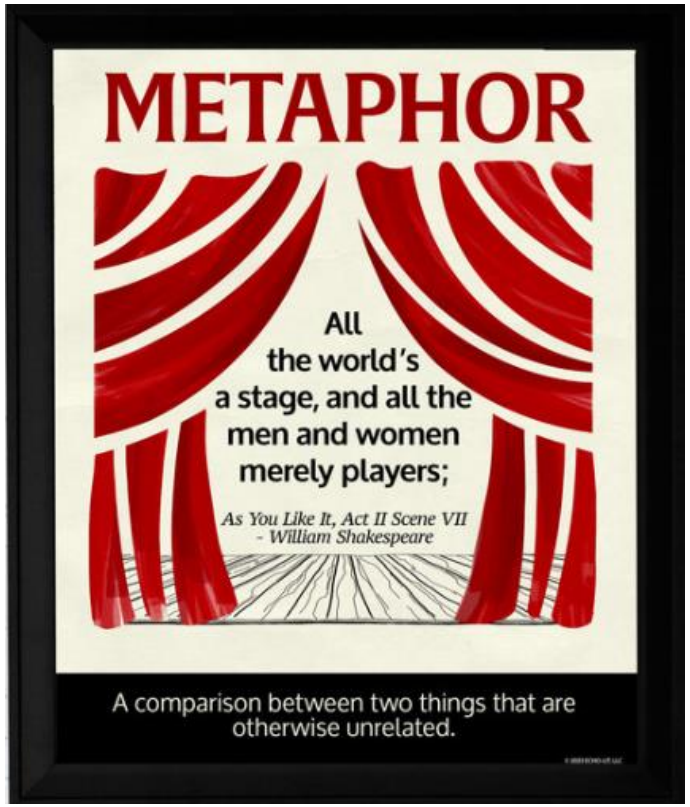
3. Introducing appropriate and innovative resources to promote academic vocabulary

4. Identifying and addressing learner needs related to LAV



Source: Darnhofer (2018)

RESEARCHING LEARNER PERSPECTIVE ON LAV USING METAPHOR

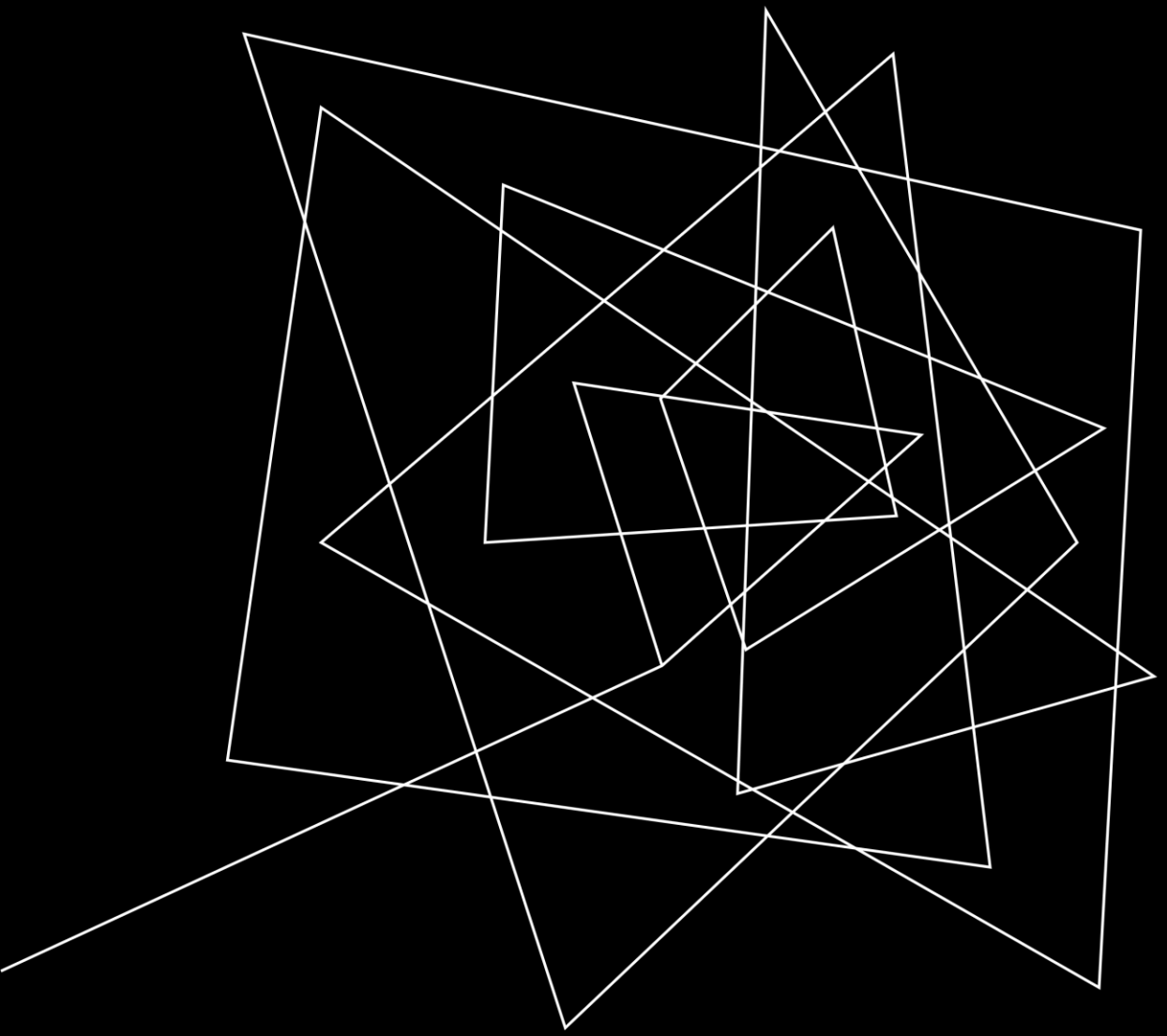


- Metaphor: Mappings between two domains where an abstract concept (the target) is linked to a concrete and familiar domain (the source) through shared attributes

  (Lakoff & Johnson, 2003)

- A potentially effective methodological tool for:
  - analysing how language learners conceptualise themselves
  - interpret their experiences
  - express previously unrecognised perspectives

  (see, e.g. Barcelos & Kalaja, 2011; Fisher, 2013)



What challenges do students perceive in LAV as reflected in the metaphors they use to describe their experience?

STUDY TWO

tesol QUARTERLY

1st revision

Under Review

Metaphors as windows into academic vocabulary learning

Authors: Edsoulla Chung[a]* and Jonathan Newton[b]

[a] *School of Education and Languages, Hong Kong Metropolitan University*
[b] *School of Linguistics and Applied Language Studies, Victoria University of Wellington*

Abstract

Although teachers have access to a great deal of scholarship on teaching academic vocabulary (AV), much less is known about the experiences and perceptions of English language learners regarding AV. To address this gap, we used an online metaphor elicitation survey and follow-up interviews to collect data from 432 undergraduates at a Hong Kong university on their experience of learning AV. For this paper, we focus on the 199 students whose metaphors related to difficulties or challenges. A thematic analysis of this data showed that about two-thirds of this subgroup perceived AV to be inherently difficult, while for the other third, the challenge primarily concerned their negative perceptions of their experience or abilities. We conclude by arguing for the value of understanding learner perspectives and proposing specific teaching strategies for addressing each of the perceived challenges.

Keywords: Academic vocabulary learning; Elicited metaphor analysis; Language learner cognition; English for academic purposes (EAP)

METHODOLOGY

- Learning academic vocabulary is like _____ because _____.

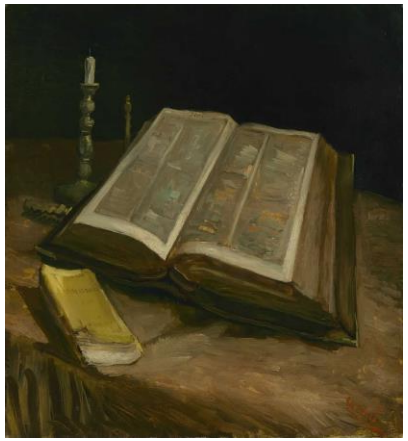
- Following Fisher (2013), we incorporated "like" into our prompt to signal that respondents should make comparisons.
- Similes can be metaphorical when comparing entities from different domains (Cameron & Low, 1999)
  - E.g. "LAV is like cooking"; conceptual incongruity is evident in the "like" construction

- The "because" clause was crucial in our analysis for deciphering metaphorical meanings
  - E.g. "LAV is like swimming because…"
  - "it makes people feel tired." → The laborious nature of LAV
  - "I am afraid of it" → LAV as an emotional challenge

NEGATIVE BELIEFS ABOUT THE NATURE OF LAV (*n*=158)

LAV is difficult and laborious.

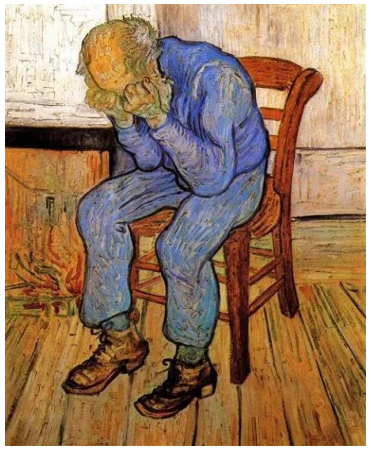


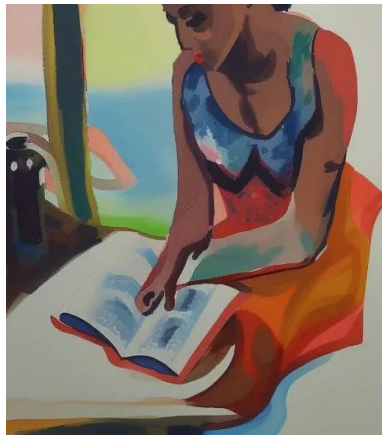
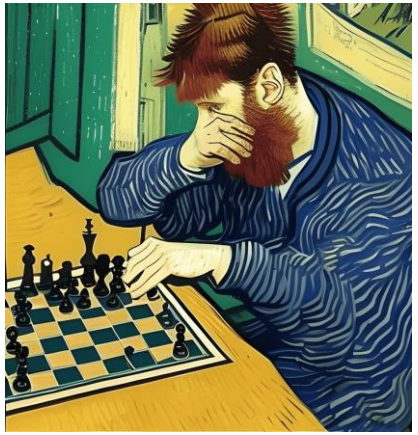



- Climbing a high mountain because it is difficult.
- Tilling the land because it is hard.
- Reading a bible because it can be very tiring.
- Walking through a desert because it is hard and exhausting.

NEGATIVE BELIEFS ABOUT THE NATURE OF LAV (*n*=158)

LAV is overwhelming and complex.



- Counting your hair because there are many academic words, and you can never learn all of them.
- Staring into the abyss because it is bottomless.
- Reading a book because one word can have multiple meanings.
- Playing chess because it has specific grammar rules and different patterns of words, making it difficult to use correctly.

NEGATIVE BELIEFS ABOUT THE NATURE OF LAV (*n*=158)

LAV is useless.

- Reading an appendix because it is optional and somewhat useless.
- Keeping a piece of rubbish because it is rarely used in everyday life.
- Adding an unnecessary layer to a cake it makes things complicated even though there are many other ways of expressing the same idea more easily.

PERSONAL STRUGGLES WITH LAV (*n*=71)

Emotional challenges



- Seeing a monster because it fills me with fear.
- Taking a cold bath in winter because I do not like it.
- Working in a factory that produces screws because it can be dull.

PERSONAL STRUGGLES WITH LAV (*n*=71)

Self-doubt


- Cooking because I am not skilled at it.
- Doing sports because it is not my strength.
- Falling into traps because I always make mistakes and am unsure if I can learn it well.

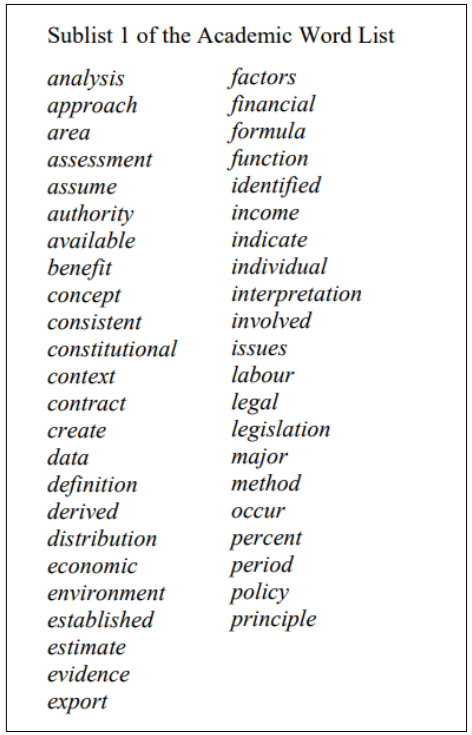
PERSONAL STRUGGLES WITH LAV (*n*=71)

Limited strategies for effective learning


- Reviewing my life because I have no idea how to do so.
- Studying computer programming because I don't know how it can be learned better.
- Trying to remember the names of hundred people in a short time because it requires cramming many items into my head.

IMPLICATIONS

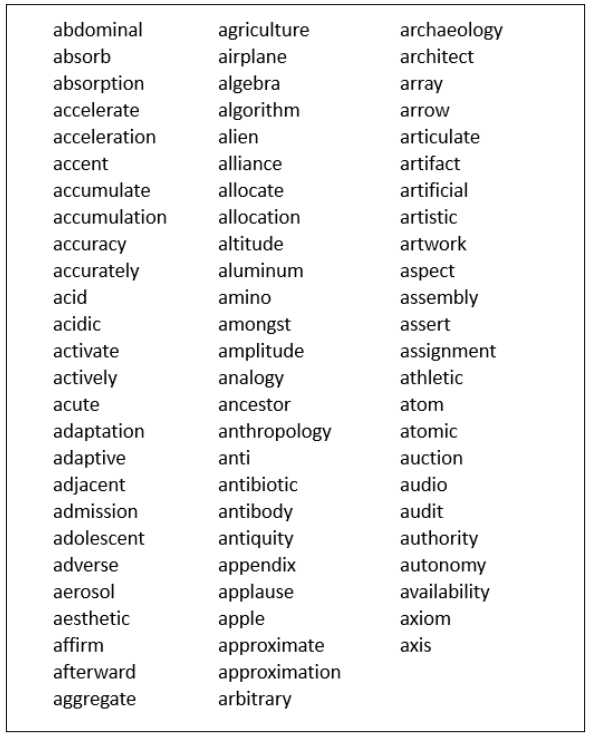
1. familiarising learners with academic vocabulary lists to help them realise that LAV is not as daunting as it appears



Sublist 1 of the Academic Word List

analysis	*factors*
approach	*financial*
area	*formula*
assessment	*function*
assume	*identified*
authority	*income*
available	*indicate*
benefit	*individual*
concept	*interpretation*
consistent	*involved*
constitutional	*issues*
context	*labour*
contract	*legal*
create	*legislation*
data	*major*
definition	*method*
derived	*occur*
distribution	*percent*
economic	*period*
environment	*policy*
established	*principle*
estimate	
evidence	
export	

AWL (Coxhead, 2000)



abdominal	agriculture	archaeology
absorb	airplane	architect
absorption	algebra	array
accelerate	algorithm	arrow
acceleration	alien	articulate
accent	alliance	artifact
accumulate	allocate	artificial
accumulation	allocation	artistic
accuracy	altitude	artwork
accurately	aluminum	aspect
acid	amino	assembly
acidic	amongst	assert
activate	amplitude	assignment
actively	analogy	athletic
acute	ancestor	atom
adaptation	anthropology	atomic
adaptive	anti	auction
adjacent	antibiotic	audio
admission	antibody	audit
adolescent	antiquity	authority
adverse	appendix	autonomy
aerosol	applause	availability
aesthetic	apple	axiom
affirm	approximate	axis
afterward	approximation	
aggregate	arbitrary	

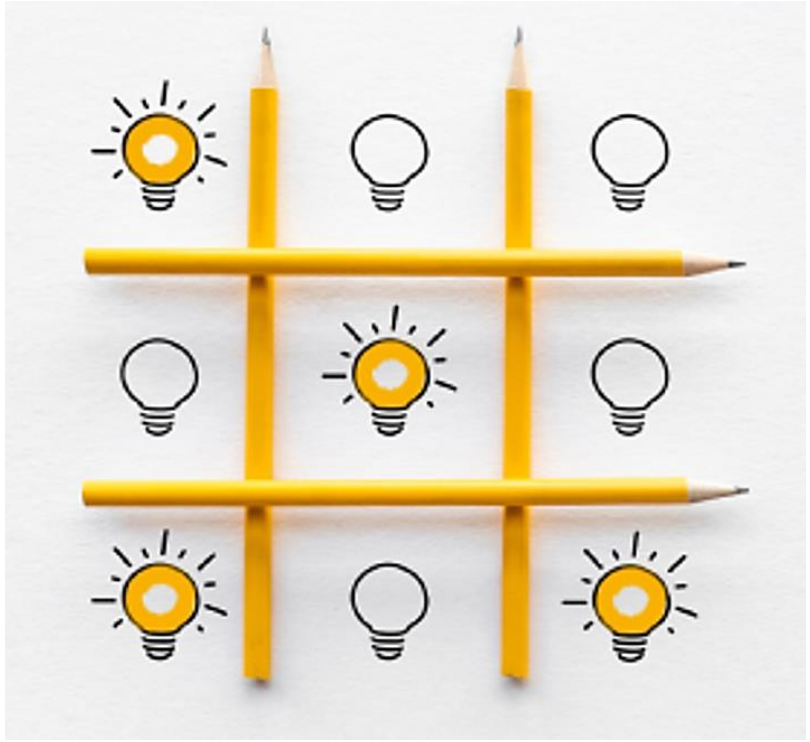
NAWL (Browne et al., 2013)

Top 500 words (lemmas) in the AVL

1. study.n	42. form.n	83. theory.n
2. group.n	43. report.v	84. product.n
3. system.n	44. rate.n	85. method.n
4. social.j	45. significant.j	86. goal.n
5. provide.v	46. figure.n	87. likely.j
6. however.r	47. factor.n	88. note.v
7. research.n	48. interest.n	89. represent.v
8. level.n	49. culture.n	90. general.j
9. result.n	50. need.n	91. article.n
10. include.v	51. base.v	92. similar.j
11. important.j	52. population.n	93. environment.n
12. process.n	53. international.j	94. language.n
13. use.n	54. technology.n	95. determine.v
14. development.n	55. individual.n	96. structure.n
15. data.n	56. type.n	97. section.n
16. information.n	57. describe.v	98. common.j
17. effect.n	58. indicate.v	99. occur.v
18. change.n	59. image.n	100. current.j
19. table.n	60. subject.n	101. available.j
20. policy.n	61. science.n	102. present.v
21. university.n	62. material.n	103. term.n
22. model.n	63. produce.v	104. reduce.v
23. experience.n	64. condition.n	105. measure.n
24. activity.n	65. identify.v	106. involve.v
25. human.j	66. knowledge.n	107. movement.n
26. history.n	67. support.n	108. specific.j
27. develop.v	68. performance.n	109. focus.v
28. suggest.v	69. project.n	110. region.n
29. economic.j	70. response.n	111. relate.v
30. low.j	71. approach.n	112. individual.j
31. relationship.n	72. support.v	113. quality.n
32. both.r	73. period.n	114. establish.v
33. value.n	74. organization.n	115. author.n
34. require.v	75. increase.v	116. seek.v
35. role.n	76. environmental.j	117. compare.v
36. difference.n	77. source.n	118. growth.n
37. analysis.n	78. nature.n	119. natural.j
38. practice.n	79. cultural.j	120. various.j
39. society.n	80. resource.n	121. standard.n
40. thus.r	81. century.n	122. example.n
41. control.n	82. strategy.n	123. management.n

AVL (Gardner and Davies, 2015)

IMPLICATIONS



2. Introducing effective techniques for using word lists and incorporating free online practice activities (Folse, 2023)

3. Helping students identify characteristics of academic words, such as their frequent Latin or Greek origins and predictable word parts (e.g., pre-, auto-, trans-, mal-), enabling them to strategically decode unfamiliar academic words through word-part analysis (Nation, 2022)

4. Encouraging students to use flashcards for long-term retention (Nakata et al., 2021)

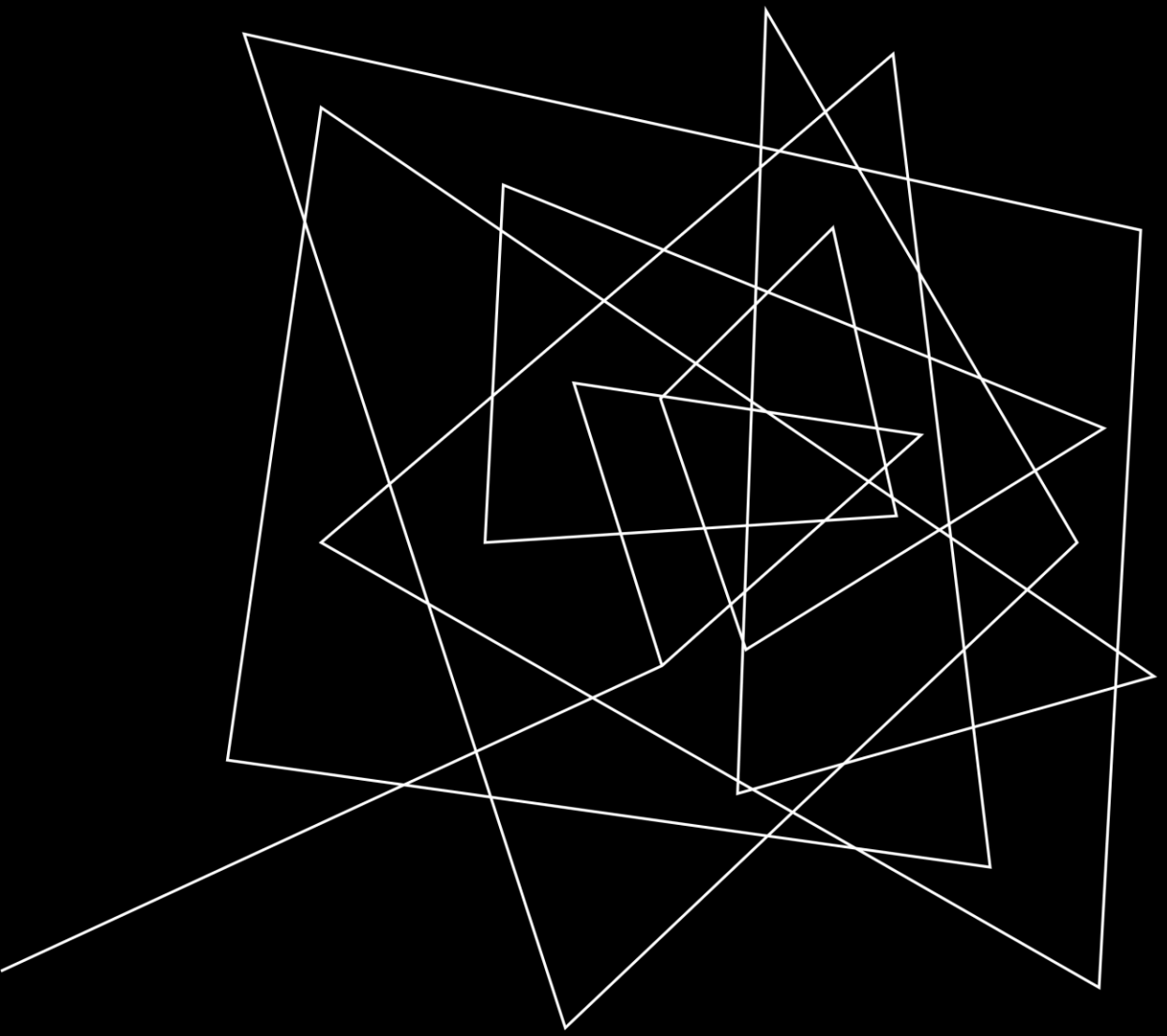
5. Understanding students' use of strategies for LAV

STRATEGIES IN LAV

- conscious and deliberate actions taken by learners to develop vocabulary (Oxford, 2017)
- help learners effectively retain, retrieve and use new vocabulary (Chou, 2022; Gu, 2018)

- Different types of vocabulary learning strategies

- Metacognitive strategies
- Goal-setting
- Social strategies
- Guessing strategies
- Dictionary strategies
- Note-taking strategies
- Rehearsal strategies
- Encoding strategies
- Activation strategies
- Affective strategies



What strategies do first-year students in Hong Kong employ for LAV?

How do students with varying levels of academic English proficiency and different disciplinary backgrounds utilise strategies for LAV?

STUDY THREE

Journal of English for Academic Purposes

1st revision

Under Review

Exploring academic vocabulary learning strategies: A mixed methods study of first-year undergraduates in Hong Kong

Authors: Edsoulla Chung[a*], Daniel Fung[b] and Aaron Wan[a]

[a] *School of Education and Languages, Hong Kong Metropolitan University*

[b] *Faculty of Education, The University of Hong Kong*

Abstract

Although academic vocabulary is crucial for success in higher education, English for Academic Purposes (EAP) courses often neglect the teaching of such vocabulary, leaving students to learn it independently. It is thus important to examine how students employ vocabulary learning strategies (VLS) to meet their academic challenges. In this mixed-methods study, we examine the VLS of first-year undergraduates (n=172) with varying proficiency levels studying different academic disciplines using a questionnaire and follow-up interviews. The findings show that students used a range of VLS to different extents. Dictionary and guessing strategies were preferred by most students, while goal setting was less common particularly among more proficient students. We also found that highly proficient students exhibited greater confidence in learning academic vocabulary incidentally. When using a dictionary, they focused on multiple aspects of word knowledge beyond definitions. Social strategies, such as seeking help from teachers and peers, however, were underutilised, especially among science students. The study emphasises the need for pedagogical interventions that address students' academic vocabulary needs, particularly through explicit instruction on VLS.

Keywords: Academic vocabulary; vocabulary learning strategies; proficiency; academic disciplines; higher education

STRATEGIES EMPLOYED FOR LAV

Categories	*Mean*	*SD*
Metacognitive strategies	**3.13**	**0.52**
Goal setting	*2.66*	*0.84*
Selective Attention	*3.19*	*0.85*
Self-initiation	*3.53*	*0.83*
Social strategies	**2.74**	**1.01**
Asking teachers	*2.61*	*1.09*
Asking peers	*2.87*	*1.13*
Guessing strategies	**3.51**	**0.80**
Using dictionaries	**3.50**	**0.64**
Taking notes	**2.99**	**0.90**
Choosing which words to note down	*3.11*	*1.00*
Choosing what information to note down	*2.88*	*0.96*
Rehearsal strategies	**2.78**	**0.70**
Use of wordlists	*2.44*	*0.92*
Oral repetition	*3.15*	*0.81*
Visual repetition	*2.75*	*0.95*
Encoding strategies	**2.88**	**0.68**
Visual encoding	*2.74*	*0.81*
Audio encoding	*2.94*	*0.95*
Use of word structure	*2.99*	*0.92*
Contextual encoding	*2.86*	*0.84*
Activation strategies	**2.99**	**0.79**
Affective strategies	**2.73**	**0.73**

- Students used less goal-setting, rehearsal, encoding, social and affective strategies.
- They used more guessing strategies and dictionaries to facilitate their LAV.

STRATEGIES EMPLOYED FOR AVL

- **Guessing strategies**: perceived as a strategy to enhance understanding and retention of an unfamiliar academic word; regarded the ability to make informed guesses as an essential skill for independent LAV.
- **Dictionary strategies**: emphasised the importance of using dictionaries, acknowledging them as "reliable" and "indispensable" resources contributing to "an extensive grasp of vocabulary"
- **Goal-setting strategies**: acknowledged the need for clear and achievable goals to guide their learning but expressed difficulties in doing so
- **Rehearsal strategies**: commonly employed oral repetition but seldom used visual repetition and wordlist strategies
- **Activation strategies**: demonstrated awareness but reported infrequent practice of using new academic words due to limited opportunities beyond graded essays or exams

STRATEGIES EMPLOYED FOR AVL

- **Notetaking strategies**: focused on selecting academic words to record and adopted varied approaches to notetaking but emphasised efficiency and comprehension
- **Encoding strategies**: considered them useful but tended not to analyse word structure due to their "lack of language awareness", preference for "acquiring academic words naturally" and "reluctance to devote time to learning the meanings of different affixes"
- **Social strategies**: considered seeking help from others "unconventional" as LAV is viewed as "a personal process" and "not commonly discussed"; approached teachers for assistance "only when alternative resources failed to provide satisfactory answers to their queries" or when they needed "additional guidance and support."
- **Affective strategies**: viewed LAV as an "obligatory task" lacking personal rewards; tended to tackle challenges independently and hesitated to share their feelings with peers due to "fear of judgment"; held the belief that their emotions and attitudes had "no influence" on their overall learning experience."

STRATEGY USE AND PROFICIENCY

Categories	Proficiency levels	
Metacognitive strategies		
Goal setting	L: 2.81 H: 2.51	F = 5.794 *p* = **.017*** η^2 = .034
Selective attention	L: 3.09 H: 3.30	F = 2.961 *p* = .087 η^2 = .017
Self-initiation	L: 3.33 H: 3.72	F = 7.764 *p* = **.006**** η^2 = .044
Social strategies		
Asking teachers	L: 2.65 H: 2.58	F = .017 *p* = .895 η^2 = .000
Asking peers	L: 2.89 H: 2.84	F = .267 *p* = .606 η^2 = .002
Guessing strategies	L: 3.35 H: 3.67	F = 4.502 *p* = **.035*** η^2 = .026
Dictionary strategies	L: 3.27 H: 3.74	F = 24.851 *p* = **.000***** η^2 = .129
Taking notes		
Choosing which words to note down	L: 3.08 H: 3.13	F = .437 *p* = .509 η^2 = .003
Choosing what information to note down	L: 2.92 H: 2.83	F = .256 *p* = .614 η^2 = .002

Categories	Proficiency levels	
Rehearsal strategies		
Use of wordlists	L: 2.57 H: 2.31	F = 3.393 *p* = .067 η^2 = .020
Oral repetition	L: 3.12 H: 3.18	F = .648 *p* = .422 η^2 = .004
Visual repetition	L: 2.88 H: 2.61	F = 2.877 *p* = .092 η^2 = .017
Encoding strategies		
Visual encoding	L: 2.74 H: 2.73	F = .005 *p* = .942 η^2 = .000
Audio encoding	L: 2.90 H: 2.98	F = .537 *p* = .465 η^2 = .002
Use of word structure	L: 2.92 H: 3.06	F = 1.057 *p* = .305 η^2 = .006
Contextual encoding	L: 2.80 H: 2.92	F = 1.620 *p* = .205 η^2 = .010
Activation strategies	L: 2.95 H: 3.02	F = .837 *p* = .362 η^2 = .005
Affective strategies	L: 2.83 H: 2.63	F = 2.815 *p* = .095 η^2 = .016

STRATEGY USE AND PROFICIENCY

High achievers

- demonstrated higher self-initiative ($F = 7.764$, $p = 0.006$, $\eta 2 = 0.044$) but showed less inclination towards goal setting ($F = 5.794$, $p = 0.017$, $\eta 2 = 0.034$) compared to low achievers.
- held academic vocabulary "in high regard" but tended not to emphasise specific goals for LAV as it "naturally became part of [their] learning process."
- showed a significantly greater use of dictionaries ($F = 24.851$, $p = 0.000$, $\eta 2 = 0.129$) and guessing strategies ($F = 4.502$, $p = 0.035$, $\eta 2 = 0.026$) when learning new academic words.
- prioritised consulting monolingual dictionaries over relying on bilingual ones due to the belief that "monolingual dictionaries minimise the risk of misinterpretation" and "provide a more comprehensive understanding of word meanings and usage."

STRATEGY USE AND ACADEMIC DISCIPLINE

Categories	Academic disciplines	
Metacognitive strategies		
Goal setting	Art: 2.77 Sci: 2.46	F = 4.223 p = **.041*** η^2 = .025
Selective attention	Art: 3.19 Sci: 3.19	F = .057 p = .812 η^2 = .000
Self-initiation	Art: 3.49 Sci: 3.60	F = .258 p = .612 η^2 = .002
Social strategies		
Asking teachers	Art: 2.78 Sci: 2.30	F = 7.491 p = **.007**** η^2 = .043
Asking peers	Art: 3.00 Sci: 2.61	F = 4.018 p = **.047*** η^2 = .023
Guessing strategies	Art: 3.54 Sci: 3.44	F = 1.030 p = .312 η^2 = .006
Dictionary strategies	Art: 3.52 Sci: 3.46	F = 1.388 p = .240 η^2 = .008
Taking notes		
Choosing which words to note down	Art: 3.22 Sci: 2.89	F = 4.659 p = **.032*** η^2 = .027
Choosing what information to note down	Art: 2.94 Sci: 2.76	F = 1.093 p = .297 η^2 = .006

Categories	Academic disciplines	
Rehearsal strategies		
Use of wordlists	Art: 2.50 Sci: 2.32	F = .942 p = .333 η^2 = .006
Oral repetition	Art: 3.23 Sci: 3.00	F = 3.643 p = .058 η^2 = .021
Visual repetition	Art: 2.83 Sci: 2.58	F = 2.025 p = .157 η^2 = .012
Encoding strategies		
Visual encoding	Art: 2.82 Sci: 2.58	F = 3.291 p = .071 η^2 = .019
Audio encoding	Art: 2.95 Sci: 2.92	F = .096 p = .757 η^2 = .001
Use of word structure	Art: 2.96 Sci: 3.05	F = .246 p = .621 η^2 = .001
Contextual encoding	Art: 2.87 Sci: 2.83	F = .229 p = .633 η^2 = .001
Activation strategies	Art: 3.02 Sci: 2.91	F = 1.061 p = .304 η^2 = .006
Affective strategies	Art: 2.79 Sci: 2.61	F = 1.659 p = .200 η^2 = .010

STRATEGY USE AND ACADEMIC DISCIPLINE

Arts and Education students

- were more likely to set goals ($F = 4.223$, $p = 0.041$, $\eta 2 = 0.025$); pay significantly more attention to choosing which academic words to note down ($F = 4.659$, $p = 0.032$, $\eta 2 = 0.027$)
- emphasised that goal-setting strategies helped them become "more involved and dedicated to the learning process," and "facilitated consistent effort" towards achieving their learning goals

Science students

- found setting goals for LAV to be "pressurising" and "unrealistic" due to the "inability to follow the study plans" associated with "low motivation to regularly learn core academic words" arising from the perception that "technical vocabulary is more important for writing laboratory reports."

STRATEGY USE AND ACADEMIC DISCIPLINE

Arts and Education students

- tended to take notes to record commonly used academic words, words related to their personal interests, and words they deemed useful in their studies
- expressed enjoyment in the notetaking process due to their "fondness for the English language" and their belief that organising and reviewing their notes allowed them to "identify patterns" and "decipher the meaning of certain affixes," helping to develop language awareness"

Science students

- expressed a "lack of high motivation to take notes when engaged in LAV at the tertiary level," finding it more efficient and cost-effective to look up unknown words each time instead of "wasting time" writing them down.

STRATEGY USE AND ACADEMIC DISCIPLINE

Arts and Education students

- tended to employ social strategies more often (asking teachers, $F = 7.491$, $p = 0.007$, $\eta 2 = 0.043$; asking peers, $F = 4.018$, $p = 0.047$, $\eta 2 = 0.023$)

- primarily adopted such strategies for LAV in specific contexts, including situations where their "lecturers promoted peer learning," "encouraged feedback exchange on language use" and "emphasised collaborative engagement during group projects"

Science students

- Influenced by "the science discipline's emphasis on individual problem-solving," science students commonly expressed the belief that it was their "responsibility to find solutions independently and learn autonomously", regarding seeking help from others as "silly," "weird," and "immature" when it came to LAV.

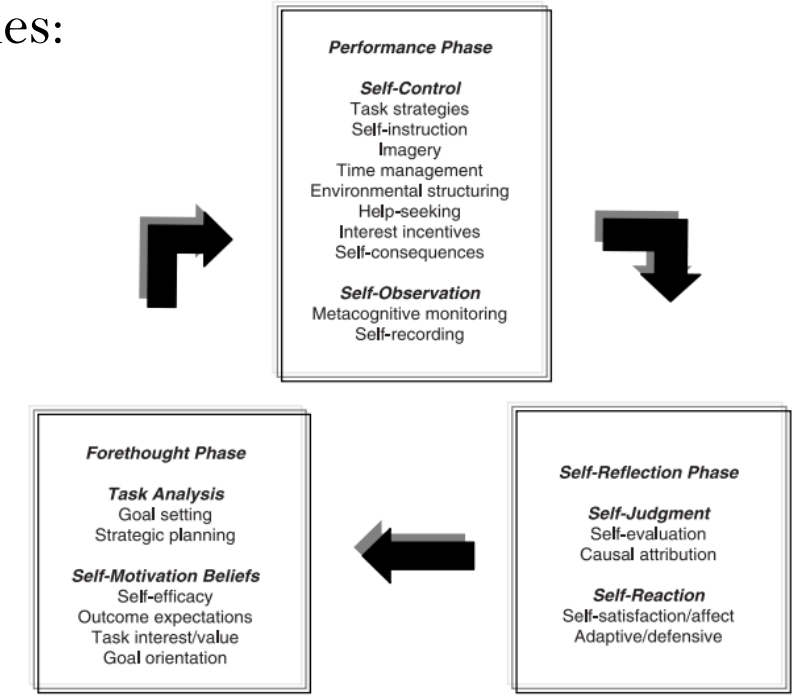
IMPLICATIONS

1. Raising students' awareness of the importance of strategies for LAV
2. Catering for individual differences among various proficiency levels and academic disciplines

3. Teaching students how to self-regulate their use of strategies:

- begin by setting goals during the forethought phase (e.g., before reading an academic text)
- use strategies for LAV while reading (e.g., guessing strategies, encoding strategies)
- reflect on the performance and identify areas for improvement

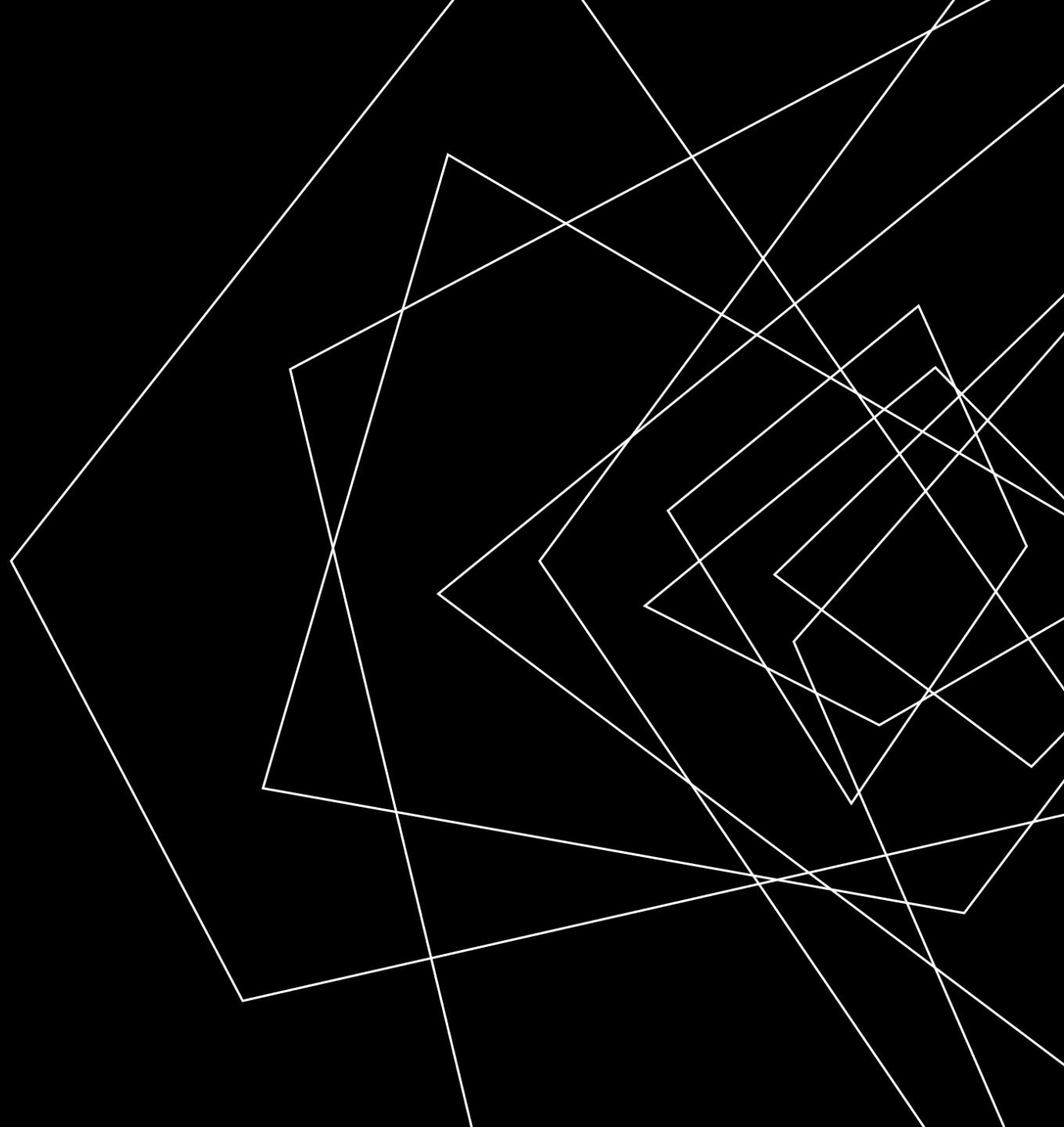
  - Some students may already be using individual strategies, but they need to focus more on planning and, particularly, on self-reflection.



Zimmerman & Moylan (2009, p. 300)

CONCLUDING REMARKS

A reflective approach to promoting LAV



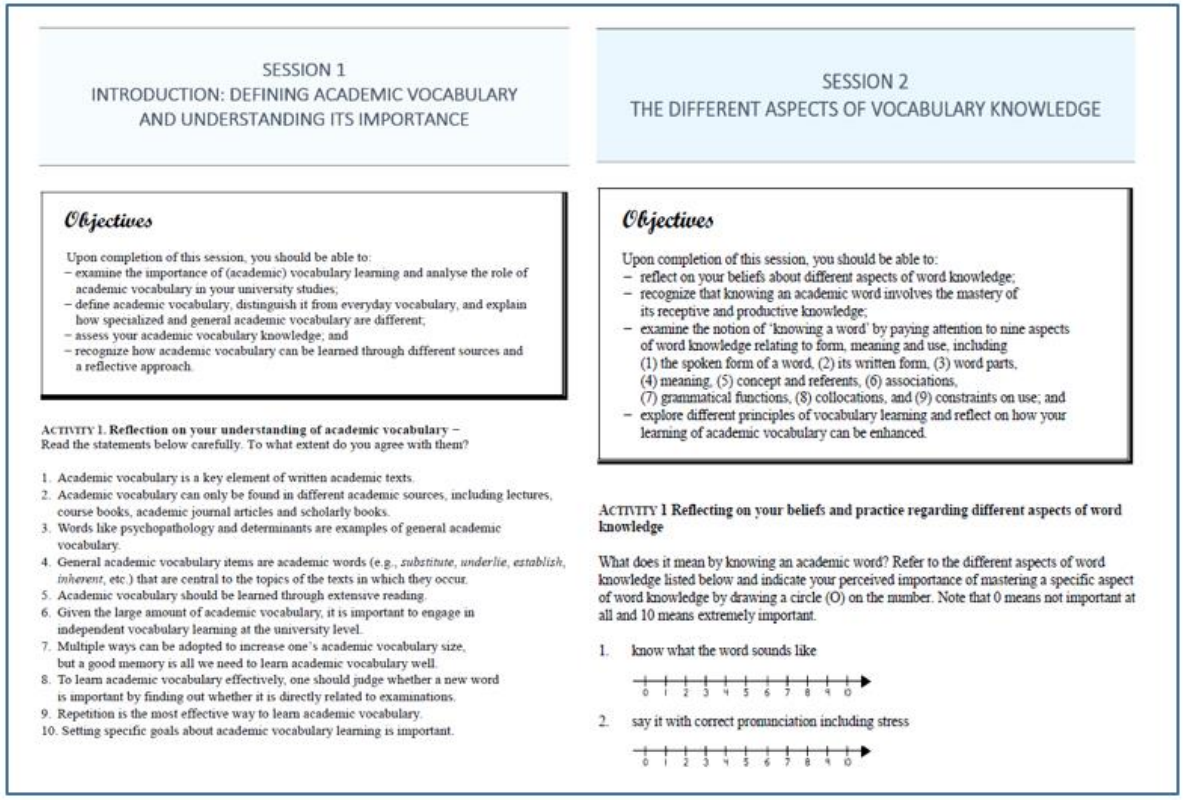
CONCLUDING REMARKS

- Taking all our findings into account, our student participants:
  - recognised the importance of LAV
  - found it (emotionally) challenging
  - lacked a sufficient variety of strategies for LAV

- EAP instructors should allocate curriculum space for LAV and assist students in their educational pursuits.
- EAP courses may not always offer this space, and students are encouraged to engage in self-regulated learning through reflective practices.
- Reflection enables learners to examine their assumptions and see the presumptions for what they are, helping them to review their learning and make informed decisions for improvement.

A REFLECTIVE APPROACH TO LAV

- Highlighting the importance of developing a comprehensive academic vocabulary by raising student awareness, allowing them to confront their existing beliefs



SESSION 1
INTRODUCTION: DEFINING ACADEMIC VOCABULARY AND UNDERSTANDING ITS IMPORTANCE

Objectives

Upon completion of this session, you should be able to:
- examine the importance of (academic) vocabulary learning and analyse the role of academic vocabulary in your university studies;
- define academic vocabulary, distinguish it from everyday vocabulary, and explain how specialized and general academic vocabulary are different;
- assess your academic vocabulary knowledge; and
- recognize how academic vocabulary can be learned through different sources and a reflective approach.

ACTIVITY 1. **Reflection on your understanding of academic vocabulary** –
Read the statements below carefully. To what extent do you agree with them?

1. Academic vocabulary is a key element of written academic texts.
2. Academic vocabulary can only be found in different academic sources, including lectures, course books, academic journal articles and scholarly books.
3. Words like psychopathology and determinants are examples of general academic vocabulary.
4. General academic vocabulary items are academic words (e.g., *substitute, underlie, establish, inherent*, etc.) that are central to the topics of the texts in which they occur.
5. Academic vocabulary should be learned through extensive reading.
6. Given the large amount of academic vocabulary, it is important to engage in independent vocabulary learning at the university level.
7. Multiple ways can be adopted to increase one's academic vocabulary size, but a good memory is all we need to learn academic vocabulary well.
8. To learn academic vocabulary effectively, one should judge whether a new word is important by finding out whether it is directly related to examinations.
9. Repetition is the most effective way to learn academic vocabulary.
10. Setting specific goals about academic vocabulary learning is important.

SESSION 2
THE DIFFERENT ASPECTS OF VOCABULARY KNOWLEDGE

Objectives

Upon completion of this session, you should be able to:
- reflect on your beliefs about different aspects of word knowledge;
- recognize that knowing an academic word involves the mastery of its receptive and productive knowledge;
- examine the notion of 'knowing a word' by paying attention to nine aspects of word knowledge relating to form, meaning and use, including (1) the spoken form of a word, (2) its written form, (3) word parts, (4) meaning, (5) concept and referents, (6) associations, (7) grammatical functions, (8) collocations, and (9) constraints on use; and
- explore different principles of vocabulary learning and reflect on how your learning of academic vocabulary can be enhanced.

ACTIVITY 1 **Reflecting on your beliefs and practice regarding different aspects of word knowledge**

What does it mean by knowing an academic word? Refer to the different aspects of word knowledge listed below and indicate your perceived importance of mastering a specific aspect of word knowledge by drawing a circle (O) on the number. Note that 0 means not important at all and 10 means extremely important.

1. know what the word sounds like

0 1 2 3 4 5 6 7 8 9 10

2. say it with correct pronunciation including stress

0 1 2 3 4 5 6 7 8 9 10

A REFLECTIVE APPROACH TO LAV

- Creating learning tasks to facilitate AVL, covering multiple aspects of vocabulary

ACTIVITY 4.1 Find out the meaning of the academic word in each question below. Think about how the picture is 'linked' to the target word and create a sentence using the target word and the picture to help vocabulary retention.

1. Appalling (adjective)

Meaning: Filling with dismay; causing horror or consternation
Link: _____
Sentence: _____
E.g. The travellers received an appalling reception at the village hotel; they were given the smallest rooms for the highest prices.
E.g. Karen had an appalled look on her face after seeing the destruction the hurricane had caused to her house.

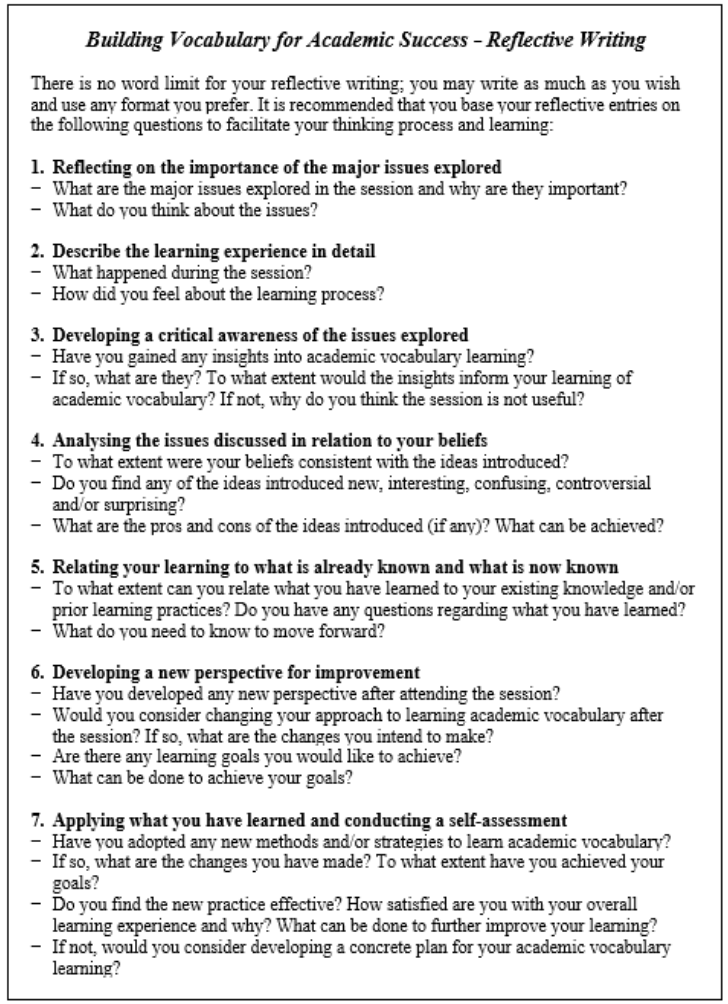
2. Amplify (verb)

Meaning: To make larger, louder or more powerful
Link: _____
Sentence: _____
E.g. The music was amplified to the point where the guests could hardly hear themselves speak.
E.g. Some actors attempt to amplify their roles by upstaging their fellow actors.

ACTIVITY 5 Choose three prefixes or suffixes commonly used to form academic vocabulary items from the table provided, check their meaning with the use of an online dictionary and create a word tree.

Prefixes and suffixes commonly used to form academic vocabulary items							
anti-	*dis-*	*mega-*	*poly-*	*trans-*	*-age*	*-ence*	*-ity*
auto-	*ex-*	*mini-*	*pre-*	*tri-*	*-al*	*-ent*	*-ive*
be-	*fore-*	*mis-*	*pseudo-*	*ultra-*	*-ance*	*-er*	*-less*
bi-	*hyper-*	*mono-*	*re-*	*un-*	*-ant*	*-ful*	*-ment*
co-	*in-*	*neo-*	*semi-*	*under-*	*-ate*	*-fy*	*-ness*
counter-	*kilo-*	*out-*	*sub-*	*vice-*	*-cy*	*-ise*	*-ous*
de-	*mal-*	*over-*	*super-*	*-able*	*-en*	*-ism*	*-ship*

A REFLECTIVE APPROACH TO LAV



Building Vocabulary for Academic Success - Reflective Writing

There is no word limit for your reflective writing; you may write as much as you wish and use any format you prefer. It is recommended that you base your reflective entries on the following questions to facilitate your thinking process and learning:

1. **Reflecting on the importance of the major issues explored**
   - What are the major issues explored in the session and why are they important?
   - What do you think about the issues?

2. **Describe the learning experience in detail**
   - What happened during the session?
   - How did you feel about the learning process?

3. **Developing a critical awareness of the issues explored**
   - Have you gained any insights into academic vocabulary learning?
   - If so, what are they? To what extent would the insights inform your learning of academic vocabulary? If not, why do you think the session is not useful?

4. **Analysing the issues discussed in relation to your beliefs**
   - To what extent were your beliefs consistent with the ideas introduced?
   - Do you find any of the ideas introduced new, interesting, confusing, controversial and/or surprising?
   - What are the pros and cons of the ideas introduced (if any)? What can be achieved?

5. **Relating your learning to what is already known and what is now known**
   - To what extent can you relate what you have learned to your existing knowledge and/or prior learning practices? Do you have any questions regarding what you have learned?
   - What do you need to know to move forward?

6. **Developing a new perspective for improvement**
   - Have you developed any new perspective after attending the session?
   - Would you consider changing your approach to learning academic vocabulary after the session? If so, what are the changes you intend to make?
   - Are there any learning goals you would like to achieve?
   - What can be done to achieve your goals?

7. **Applying what you have learned and conducting a self-assessment**
   - Have you adopted any new methods and/or strategies to learn academic vocabulary?
   - If so, what are the changes you have made? To what extent have you achieved your goals?
   - Do you find the new practice effective? How satisfied are you with your overall learning experience and why? What can be done to further improve your learning?
   - If not, would you consider developing a concrete plan for your academic vocabulary learning?

- Encouraging students to engage in reflection
- Guiding students through a progression from raising awareness and setting goals, to LAV and ultimately engaging in reflection
- Preliminary findings from our follow-up study:
  - "The reflective tasks conducted during the programme heightened my awareness of my beliefs and learning approach towards AVL."

LOOKING FORWARD: RESEARCHING THE USE OF ACADEMIC VOCABULARY

- Project: A corpus-driven analysis of academic vocabulary use in essays written by English language learners at a Hong Kong university.
- Students incorporated academic vocabulary in their essays, primarily using high-frequency words relevant to the essay topic. Essays that received higher scores exhibited a greater density and diversity of academic vocabulary compared to those with lower scores.
- A variety of errors were observed, including miscomprehension, part-of-speech misuse, voice confusion, and incorrect collocations, all of which negatively impacted the quality of writing.

Acknowledgement: The work described in this paper was fully supported by the Hong Kong Metropolitan University Research Grant (No. RD/2022/1.19).

REFERENCES

Barcelos, A., & Kalaja, P. (2011). Introduction to beliefs about SLA revisited. *System*, *39*(3), 281–189. https://doi.org/10.1016/j.system.2011.07.001

Browne, C., Culligan, B., & Phillips, J. (2013). *New academic word list*. https://www.newgeneralservicelist.com/new-general-service-list-1

Brun-Mercer, N., & Zimmerman, C. B. (2015). Fostering academic vocabulary use in writing. *The CATESOL Journal*, *27*(1), 131–148. https://files.eric.ed.gov/fulltext/EJ1111751.pdf

Cameron, L., & Low, G. (1999). Metaphor. *Language Teaching*, *32*(2), 77–96.

Chou, M. H. (2022). Validating the vocabulary learning strategies used by English as a foreign language university students in Taiwan. *RELC Journal*, 1–16. https://doi.org/10.1177/00336882221074105

Chung, E., Wan, A., & Fung, D. (2024). Understanding academic vocabulary learning in higher education: Perspectives from first-year undergraduates in Hong Kong. *International Journal of Applied Linguistics*. Advance online publication. https://doi.org/10.1111/ijal.12576

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, *34*(2), 213–238. https://doi.org/10.2307/3587951

Csomay, E., & Prades, A. (2018). Academic vocabulary in ESL student papers: A corpus-based study. *Journal of English for Academic Purposes*, *33*, 100–118. https://doi.org/10.1016/j.jeap.2018.02.003

Dang, T. N. Y. (2020). Vietnamese non-English major EFL university students' receptive knowledge of the most frequent English words. *VNU Journal of Foreign Studies*, *36*(3), 1–11. https://doi.org/10.25073/2525-2445/vnufs.4553

Darnhofer, I. (2018). Using Comic-style posters for engaging participants and for promoting research reflexivity. *International Journal of Qualitative Methods*, *17*(1). https://doi.org/10.1177/1609406918804716

REFERENCES

Evans, S., & Morrison, B. (2018). Adjusting to higher education in Hong Kong: The influence of school medium of instruction. *International Journal of Bilingual Education and Bilingualism*, *21*(8), 1016–1029. https://doi.org/10.1080/13670050.2016.1228600

Fisher, L. (2013). Discerning change in young students' beliefs about their language learning through the use of metaphor elicitation in the classroom. *Research Papers in Education*, *28*(3), 373–392. https://doi.org/10.1080/02671522.2011.648654

Fisher, L. (2017). Researching learners' and teachers' beliefs about language using metaphor. In S. Wortham, D. Kim, & S. May (Eds.), *Discourse and education: Encyclopedia of language and education* (pp.329–339) Springer. https://doi.org/10.1007/978-3-319-02243-7

Folse, K. S. (2023). *Academic word lists: What every teacher needs to know*. University of Michigan Press.

Fung, D., & Chung, E. (2024). Defining language goals in EMI: Vocabulary demand in a high-stakes assessment in Hong Kong. *Language and Education*, *38*(2), 188–202. https://doi.org/10.1080/09500782.2023.2219654

Gardner, D., & Davies, M. (2014). A new academic vocabulary list. *Applied Linguistics*, *35*(3), 305–327. https://doi.org/10.1093/applin/amt015

Gu, P. Y. (2018). Validation of an online questionnaire of vocabulary learning strategies for ESL learners. *Studies in Second Language Learning and Teaching*, *8*(2), 325–350. https://doi.org/10.14746/ssllt.2018.8.2.7

Lakoff, G., & Johnson, M. (2003). *Metaphors we live by*. University of Chicago Press.

Lee, C., Ge, H., & Chung, E. (2021). What linguistic features distinguish and predict L2 writing quality? A study of examination scripts written by adolescent Chinese learners of English in Hong Kong. *System*, *97*, Article 102461. https://doi.org/10.1016/j.system.2021.102461

REFERENCES

Luxton, J., Fry, J., & Coxhead, A. (2017). Exploring the knowledge and development of academic English vocabulary of students in New Zealand secondary schools. *Set: Research Information for Teachers*, *1*, 12–22. https://doi.org/10.18296/set.0071

Maamuujav, U. (2021). Examining lexical features and academic vocabulary use in adolescent L2 students' text-based analytical essays. *Assessing Writing*, *49*, Article 100540. https://doi.org/10.1016/j.asw.2021.100540

Masrai, A., & Milton, J. (2018). Measuring the contribution of academic vocabulary and general vocabulary knowledge to learners' academic achievement. *Journal of English for Academic Purposes*, *31*, 44–57. https://doi.org/10.1016/j.jeap.2017.12.006

Nakata, T., Tada, S., McLean, S., & Kim, Y. A. (2021). Effects of distributed retrieval practice over a semester: Cumulative tests as a way to facilitate second language vocabulary learning. *TESOL Quarterly*, *55*(1), 248–270. https://doi.org/10.1080/09500782.2023.2219654

Nation, I. S. P. (2022). *Learning vocabulary in another language* (3rd ed.). Cambridge University Press.

Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self-regulation in context* (2nd ed.). Routledge.

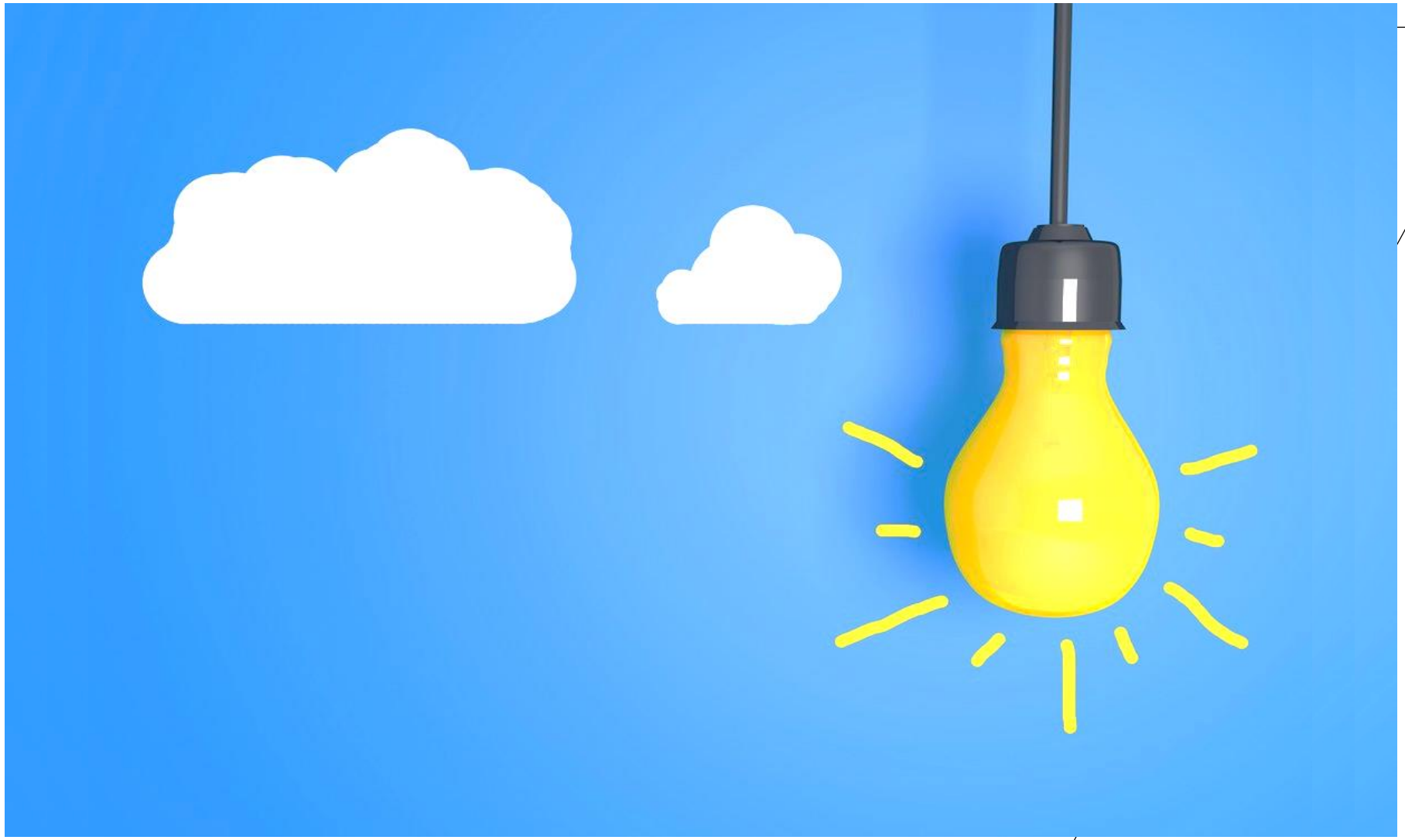
Therova, D. (2021). The acquisition and development of academic vocabulary: Learners' perspectives. *Journal of Academic Language and Learning*, *15*(1), 85–101.

Warnby, M. (2023). Academic vocabulary knowledge among adolescents in university preparatory programmes. *Journal of English for Academic Purposes*, *61*, Article 101203. https://doi.org/10.1016/j.jeap.2022.101203

Web, S. A., & Chang, A. C. (2012). Second language vocabulary growth. *RELC Journal*, *43*(1), 113-126. https://doi.org/10.1177/0033688212439367

Zimmerman, B. J., & Moylan, A. R. (2009). Self-regulation: Where metacognition and motivation intersect. In D. J. Hacker, J. Dunlosky & A. C. Graesser (Eds.), *Handbook of metacognition in education* (pp. 299–315). Routledge.

QUESTIONS AND COMMENTS ARE WELCOME



THANK YOU

Edsoulla Chung
Email: hychung@hkmu.edu.hk
Webpage: www.hkmu.edu.hk/edsoulla

Daniel Fung
Email: ktdfung@hku.hk
Webpage: https://web.edu.hku.hk/faculty-academics/ktdfung