

The scale of student challenges in EMI education (validated version)

Sources of knowledge

The following scale items are taken, with permission, from the work of Stephen Evans, who must be credited in any future work that uses or adapts this instrument. Credit can be cited to either of the following published pieces of work:

- Evans, S., & Green, C. (2007). Why EAP is necessary: A survey of Hong Kong tertiary students. *Journal of English for Academic Purposes*, 6(1), 3-17. <https://doi.org/10.1016/j.jeap.2006.11.005>
- Evans, S., & Morrison, B. (2011). Meeting the challenges of English-medium higher education: The first-year experience in Hong Kong. *English for Specific Purposes*, 30(3), 198-208. <https://doi.org/10.1016/j.esp.2011.01.001>

Scale validation

The scale in its current 7-point Likert Scale format was used in the following study, and validated via Confirmatory Factor Analysis:

- Kamasak, R., Sahan, K., & Rose, H. (2021). Academic language-related challenges at an English-medium university. *Journal of English for Academic Purposes*, 49: 100945. <https://doi.org/10.1016/j.jeap.2020.100945> (Appendix A)

Use in other research

The full 45-item scale (Appendix B) has also been used in the following published research:

- Rose, H., McKinley, J., Xu, X. and Zhou, S. (2020). *Investigating policy and implementation of English medium instruction in higher education institutions in China*. London: British Council. <https://www.teachingenglish.org.uk/article/investigating-policy-implementation-english-medium-instruction-higher-education-0>
- Aizawa, I. & Rose, H. (2020). High school to university transitional challenges in English Medium Instruction in Japan. *System*. <https://doi.org/10.1016/j.system.2020.102390> [Original 5-point Likert Scale version used]
- Aizawa, I. & Rose, H. (2019). An analysis of Japan's English as medium of instruction initiatives within higher education: the gap between meso-level policy and micro-level practice. *Higher Education*, 77(6): 1125-1142. <https://doi.org/10.1007/s10734-018-0323-5> [Original 5-point Likert Scale version used]

The scale has also been validated in a Japanese context using confirmatory factor analysis in the following study:

- Aizawa, I., Rose, H., Thompson, G. & Curle, S. (2020). Beyond the threshold: Exploring English language proficiency, linguistic challenges, and academic language skills of Japanese students in an English Medium Instruction programme. *Language Teaching Research*, <https://doi.org/10.1177/1362168820965510>

APPENDIX A: The EMI Challenges Scale

Adapted from: Evans, S., & Morrison, B. (2011). Meeting the challenges of English-medium higher education: The first-year experience in Hong Kong. *English for Specific Purposes*, 30(3), 198-208. <https://doi.org/10.1016/j.esp.2011.01.001>

Validated in: Kamasak, R., Sahan, K., & Rose, H. (2021). Academic language-related challenges at an English-medium university. *Journal of English for Academic Purposes*, 49: 100945. <https://doi.org/10.1016/j.ieap.2020.100945>

Use: The scale can be used in its entirety to capture challenges across all four skills, or researchers may wish to only use the items associated with each of the four skills (writing, reading, speaking, or listening). Research has shown each academic skill to constitute its own factor, and each factor to have very high reliability. Mean scores for each of the four skills can, therefore, be used for analysis in research.

Scale: Students respond via a seven-point Likert scale with answers ranging from 1 (very difficult) to 7 (very easy).

Very difficult	difficult	somewhat difficult	Neither	somewhat easy	easy	Very easy
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Background questionnaire

In which faculty do you study?

- ☐ Faculty of Education
- ☐ Faculty of Law
- ☐ Faculty of Economics, Administrative and Social Sciences
- ☐ Faculty of Communication
- ☐ Faculty of Architecture and Design
- ☐ Faculty of Engineering
- ☐ Faculty of Health Sciences
- ☐ Faculty of Medicine
- ☐ Other Schools

What is your year of study?

- ☐ 1st year
- ☐ 2nd year
- ☐ 3rd year
- ☐ 4th year

Gender

- ☐ Female
- ☐ Male
- ☐ Prefer not to say

Yes
No

Part1 Academic Writing Skills

Very difficult somewhat difficult Neither somewhat easy easy Very easy

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

Expressing ideas clearly and logically

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Linking ideas from different sources

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Writing the introduction to an assignment

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Writing the body of an assignment

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Writing the conclusion to an assignment

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Linking sentences smoothly

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Part 2 Academic Reading Skills

Please answer each item by selecting the appropriate item on the scale from very difficult to very easy.

Very difficult	difficult	somewhat difficult	Neither	somewhat easy	easy	Very easy
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Understanding specific vocabulary

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Working out the meaning of difficult words

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Reading carefully to understand a text

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Reading quickly to find specific information

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Identifying supporting ideas and examples

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Reading quickly to get overall meaning

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Identifying the key ideas of a text

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Taking brief, relevant notes

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Understanding the organization of a text

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Part 3 Academic Speaking Skills

Please answer each item by selecting the appropriate item on the scale from very difficult to very easy.

Very difficult	difficult	somewhat difficult	Neither	somewhat easy	easy	Very easy
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Speaking accurately (grammar)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Speaking clearly (pronunciation)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Presenting information/ ideas

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Participating actively in discussion

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Communicating ideas fluently

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Speaking from notes

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Asking questions

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Answering questions

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Communicating ideas confidently

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Using visual aids (e.g. PowerPoint)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Part 4 Academic Listening Skills

Please answer each item by selecting the appropriate item on the scale from very difficult to very easy.

Very difficult	difficult	somewhat difficult	Neither	somewhat easy	easy	Very easy
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Understanding the main ideas of lectures

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Understanding the overall organization of lectures

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Understanding key vocabulary

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Taking brief, clear notes

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Identifying supporting ideas and examples

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Understanding lecturers' accents

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Following a discussion

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Identifying different views and ideas

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Understanding questions

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Success in EMI

Please answer each item by selecting the appropriate item on the scale from Strongly disagree

to Strongly agree.

I perform well in my
EMI courses:

Strongly
disagree



disagree



Somewhat
disagree



Neither



Somewhat
agree



agree



Strongly
agree



My learning of
academic content
through my EMI
courses is
successful:

Strongly
disagree



disagree



Somewhat
disagree



Neither



Somewhat
agree



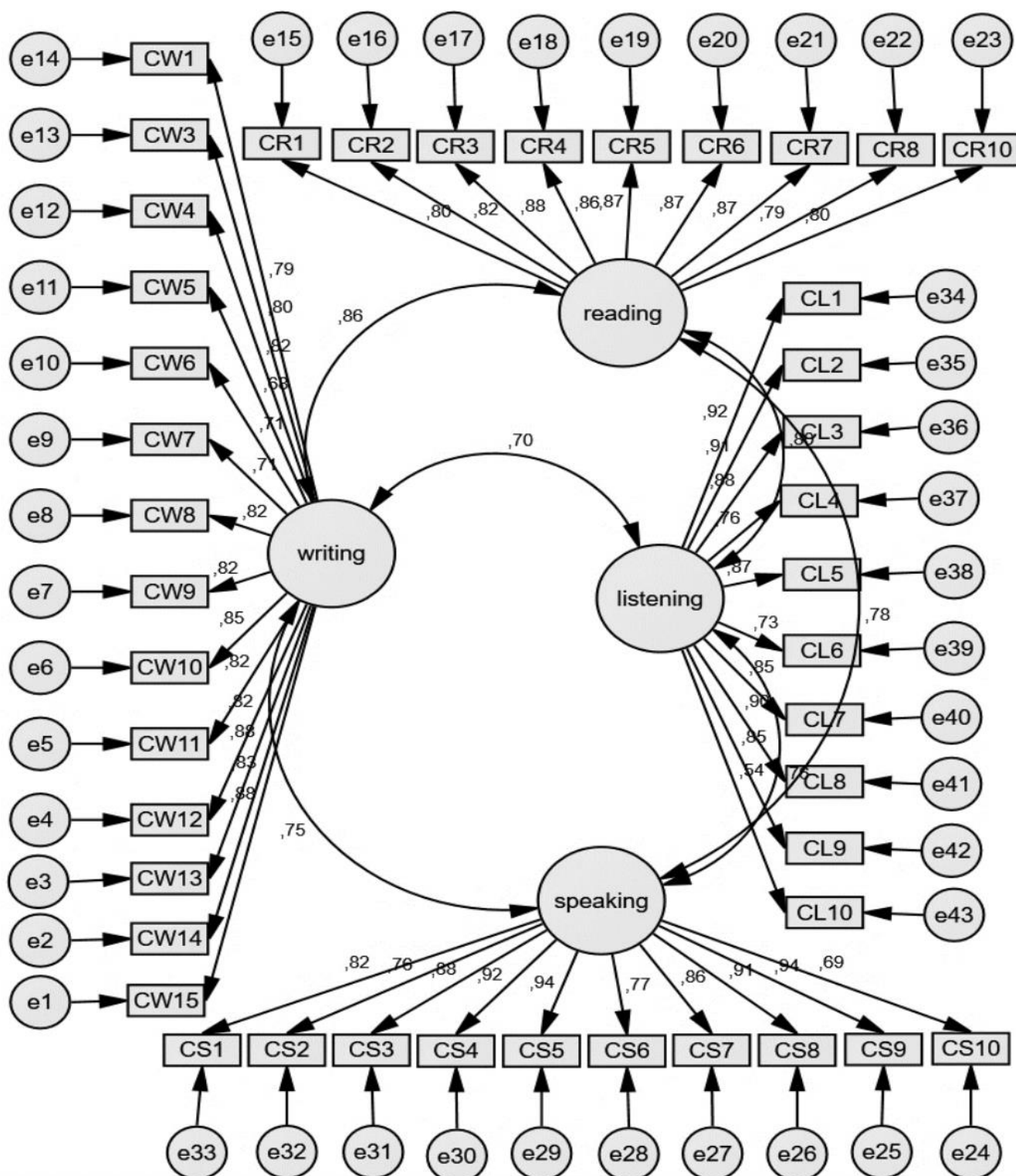
agree



Strongly
agree



Validation Information



The indices used to explore the fitness of the model were parsimonious fit index [χ^2/df : 3.979], comparative fit index [CFI: 0.943], goodness of fit index [GFI: 0.922], route mean square error of approximation [RMSEA: 0.063], non-normed fit index [NNFI: 0.936] and the Tucker-Lewis index [TLI: 0.958].

APPENDIX B: The EMI Challenges Scale (Full version)

Items taken from: Evans, S., & Morrison, B. (2011). Meeting the challenges of English-medium higher education: The first-year experience in Hong Kong. *English for Specific Purposes*, 30(3), 198-208.
<https://doi.org/10.1016/j.esp.2011.01.001>

Exploratory Factor Analysis conducted on all items in:

- Kamasak, R., Sahan, K., & Rose, H. (2021). Academic language-related challenges at an English-medium university. *Journal of English for Academic Purposes*, 49: 100945.
<https://doi.org/10.1016/j.jeap.2020.100945>

Instructions: Please answer how easy or difficult you find each item by selecting the appropriate point on the scale from very difficult to very easy

Academic Writing Skills

- 1 Planning written assignments
- 2 Expressing ideas in correct English
- 3 Revising written work
- 4 Using appropriate academic style
- 5 Writing a bibliography/ references section
- 6 Proofreading written work
- 7 Referring to sources in written work
- 8 Summarizing/ paraphrasing ideas in sources
- 9 Organizing ideas in coherent paragraphs
- 10 Expressing ideas clearly and logically
- 11 Linking ideas from different sources
- 12 Writing the introduction to an assignment
- 13 Writing the body of an assignment
- 14 Writing the conclusion to an assignment
- 15 Linking sentences smoothly

Academic Reading Skills

- 1 Understanding specific vocabulary
- 2 Working out the meaning of difficult words
- 3 Reading carefully to understand a text
- 4 Reading quickly to find specific information
- 5 Identifying supporting ideas and examples
- 6 Reading quickly to get overall meaning
- 7 Identifying the key ideas of a text
- 8 Taking brief, relevant notes
- 9 Using your own words when taking notes
- 10 Understanding the organization of a text

Academic Speaking Skills

- 1 Speaking accurately (grammar)
- 2 Speaking clearly (pronunciation)
- 3 Presenting information/ ideas
- 4 Participating actively in discussion
- 5 Communicating ideas fluently
- 6 Speaking from notes
- 7 Asking questions
- 8 Answering questions
- 9 Communicating ideas confidently
- 10 Using visual aids (e.g. PowerPoint)

Academic Listening Skills

- 1 Understanding the main ideas of lectures
- 2 Understanding the overall organization of lectures

- 3 Understanding key vocabulary
- 4 Taking brief, clear notes
- 5 Identifying supporting ideas and examples
- 6 Understanding lecturers' accents
- 7 Following a discussion
- 8 Identifying different views and ideas
- 9 Understanding questions
- 10 Understanding classmates' accents

Items of the questionnaire, constructs and factor loadings (Kamasak *et al.*, 2021)

Items	F1: Writing Challenges ($\alpha = 0.963$)	F2: Speaking Challenges ($\alpha = 0.962$)	F3: Listening Challenges ($\alpha = 0.954$)	F4: Reading Challenges ($\alpha = 0.957$)
CW12. Writing the introduction to an assignment	0.806			
CW13. Writing the body of an assignment	0.798			
CW14. Writing the conclusion to an assignment	0.797			
CW15. Linking sentences smoothly	0.736			
CW5. Writing a bibliography/references section	0.699			
CW4. Using appropriate academic style	0.684			
CW9. Organising ideas in coherent paragraphs	0.679			
CW1. Planning written assignments	0.672			
CW8. Summarising/paraphrasing ideas in sources	0.665			
CW10. Expressing ideas clearly and logically	0.652			
CW11. Linking ideas from different sources	0.649			
CW3. Revising written work	0.608			
CW7. Referring to sources in written work	0.584			
CW6. Proofreading written work	0.572			
CW2. Expressing ideas in correct English	0.319**			
CS5. Communicating ideas fluently		0.802		
CS4. Participating actively in discussion		0.792		
CS9. Communicating ideas confidently		0.755		
CS7. Asking questions.		0.734		
CS8. Answering questions		0.721		
CS3. Presenting information/ideas.		0.714		
CS6. Speaking from notes		0.706		
CS1. Speaking accurately (grammar)		0.699		
CS2. Speaking clearly (pronunciation)		0.683		
CS10. Using visual aids (e.g. PowerPoint)		0.659		
CL4. Taking brief, clear notes			0.783	
CL1. Understanding the main ideas of lectures			0.775	
CL2. Understanding overall organisation of lectures				
CL3. Understanding key vocabulary			0.751	
CL8. Identifying different views and ideas			0.736	
CL5. Identifying supporting ideas and examples			0.706	
CL9. Understanding questions			0.702	
CL7. Following a discussion			0.651	
CL6. Understanding lecturers' accents			0.622	
CL10. Understanding classmates' accents			0.592	
			0.503	
CR6. Reading quickly to get overall meaning				0.723
CR4. Reading quickly to find specific information				0.703
CR3. Reading carefully to understand a text				0.677
CR7. Identifying the key ideas of a text				0.638
CR1. Understanding specific vocabulary				0.601
CR5. Identifying supporting ideas and examples				0.589
CR2. Working out the meaning of difficult words				0.571
CR10. Understanding the organisation of a text				0.568
CR8. Taking brief, relevant notes				0.552
CR9. Using your own words when taking notes				0.386**
**Dropped items				
Kaiser-Meyer-Olkin Sampling Adequacy			0.983	
Bartlett's Test of Approx. Chi-Square Sphericity			29503.728***	
Overall reliability of the scale ($\alpha = 0.974$)				
*** $P < 0.001$				