

APAIE 2024



PERTH, AUSTRALIA 4-8 MARCH 2024

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Collaborating for sustainable impact: partnerships across the Asia Pacific

APAIE Perth 4 - 8 March 2024



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Session 12E: Thurs 7th March, 8:30 – 9:15

How Do You Like My Course? - Practices of EMI

I-jan (Michelle) Peng
National Taiwan University, Taiwan

Leveraging digital-first and AI innovations to enhance the student experience

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Duolingo English Test, Canada

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HOW DID YOU LIKE MY COURSE ?



國立臺灣大學
National Taiwan University



NTU CBE
臺大雙語教育中心
CENTER FOR BILINGUAL EDUCATION
NATIONAL TAIWAN UNIVERSITY

Presenter:

Michelle Peng (I Jan)

Project Manager

Center for Bilingual Education

Supervisor:

Prof. Shih-Torng Ding

Executive Vice Present of NTU

Director of Center for Bilingual Education



OUTLINE

How did you like my EMI (English as a Media of Instruction) course?

- **Background**
- **Method**
- **Result and Discussion**
- **Conclusion**

BACKGROUND

MOE's Program on Bilingual Education for Students in College (BEST Program)

Criterion	2030
Percentage of students acquiring an English proficiency equivalent to CEFR B2 before entering their Sophomore year	50%
Percentage of credits coming from EMI classes for 50% of sophomore and first-year grad students	50%

BACKGROUND

Center for Bilingual Education (CBE) at NTU



ASSOCIATE DIRECTOR
Dr. Hsiao-Wei Yuan
Vice President for
International Affairs



DIRECTOR
Dr. Shih-Torng Ding
Executive Vice President



ASSOCIATE DIRECTOR
Dr. Hung-Jen Wang
Vice President for
Academic Affairs



Student



Faculty



Universitywide



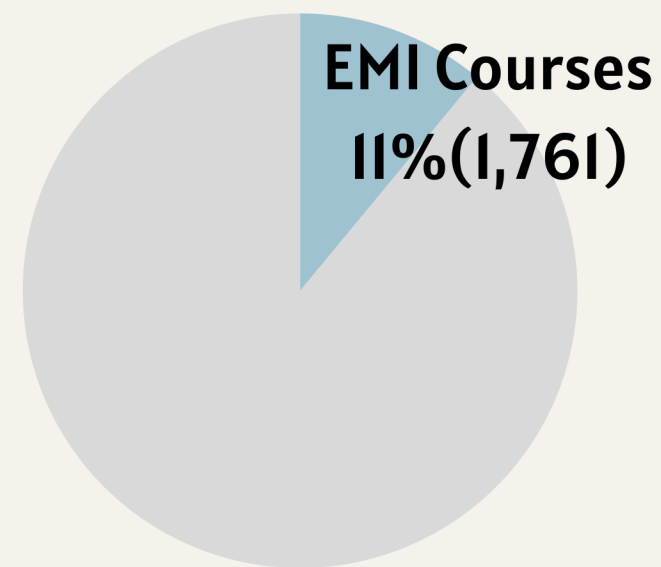
Teaching and
Learning Center



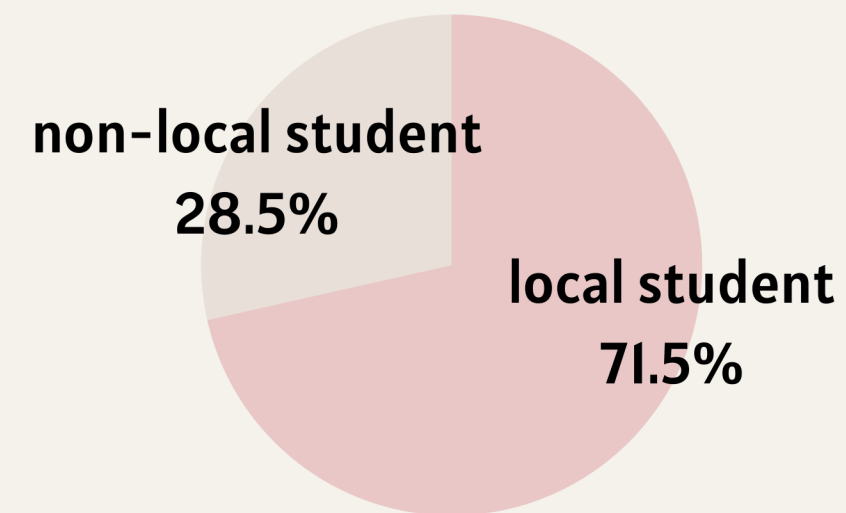
BACKGROUND

Data from Fall 2022 to Spring 2023

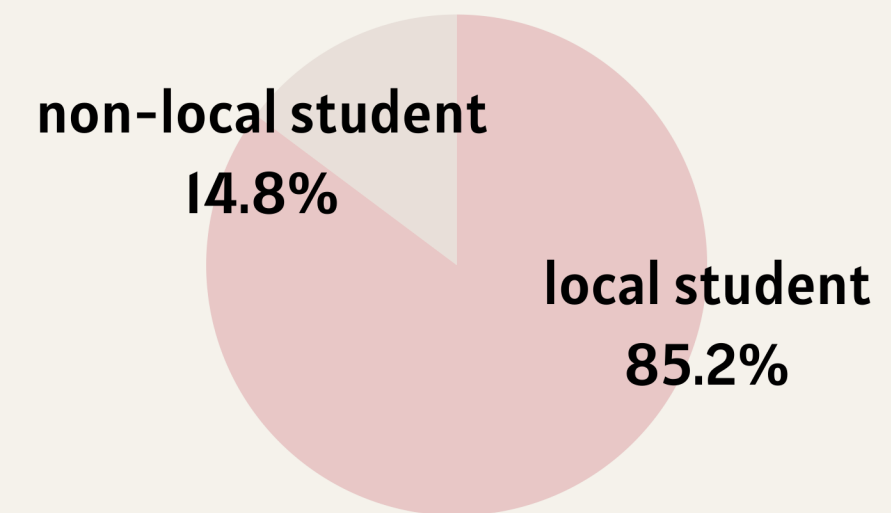
NTU courses



Students who take over 20% of their courses in EMI



Sophomore



First-year grad students

BACKGROUND

"How did you like my course?"

Research Questions

- **What are the Students' EMI learning background and experiences?**
- **How do students learn in EMI course?**
- **What are students' biggest challenges in EMI courses?**
- **What are their learning needs in EMI courses?**

METHOD

Survey

- **Personal information (4)**
- **Experiences & readiness (3)**
- **Strategies in learning the subject content (3)**
- **Needs for studying in EMI Courses (5)**

METHOD

An online survey was conducted through:

- **mass email to all NTU students**
- **NTU Facebook fanpage for students**
- **CBE website**
- **other: IG、 campus-wide posters**

METHOD

- **Students can submit individual responses to each EMI course that they were taking**
- **Encompassed English language courses**
- **Collected in 2023**

April 10  June 2

RESULTS

Participants

1,373 valid responses from 381 EMI courses

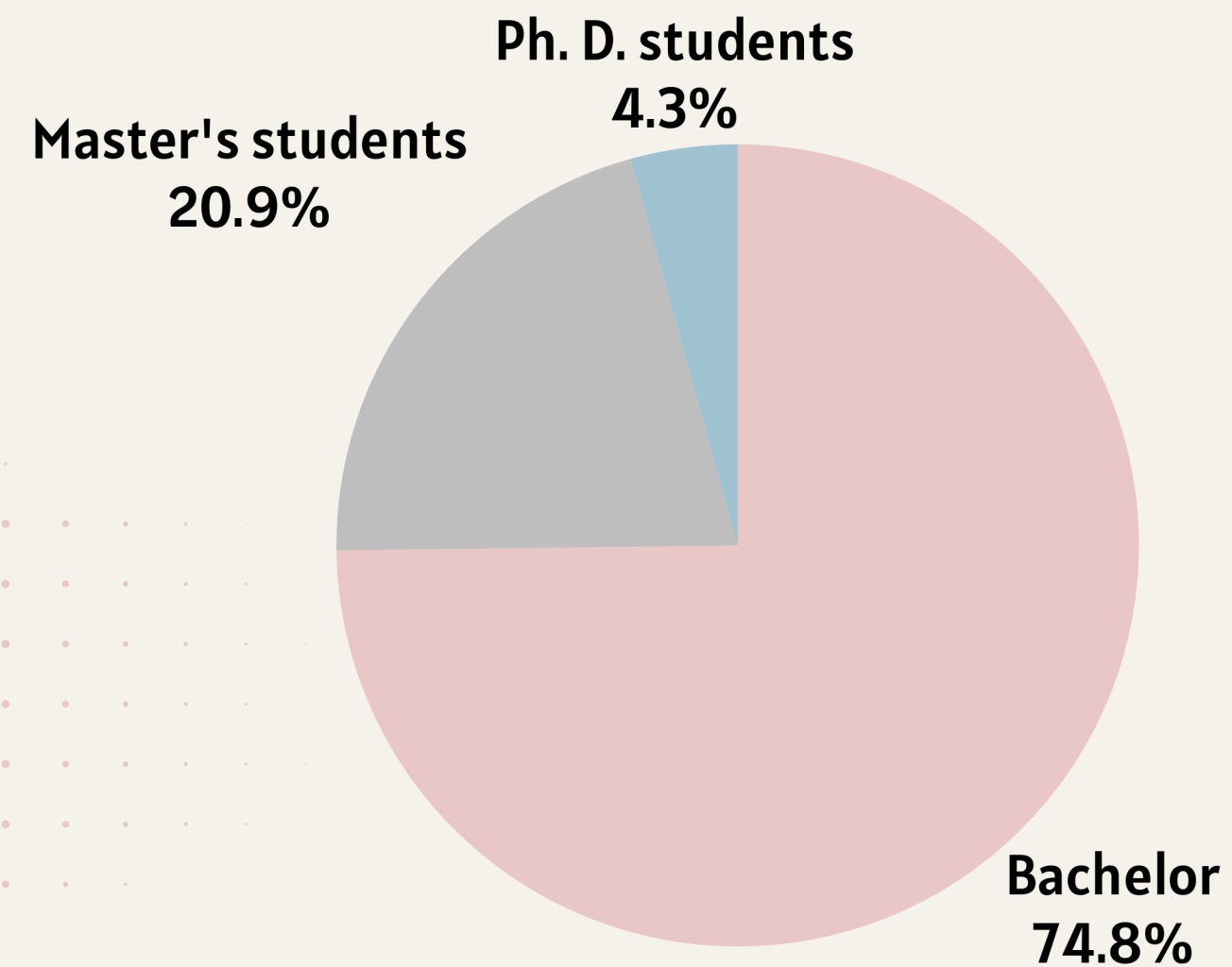
College	Participants(n)	Percentage (%)
Engineering	243	17.7%
Liberal Arts	181	13.2%
Social Sciences	177	12.9%
Bio-Resources & Agriculture	173	12.6%
Management	150	10.9%
Electrical Engineering & Computer Science	129	9.4%

College	Participants(n)	Percentage (%)
Science	112	8.2%
Medicine	53	3.9%
Law	43	3.1%
Life Science	42	3.1%
Public Health	41	3.0%
Advanced Technology	13	0.9%
International College & Other	16	1.2%

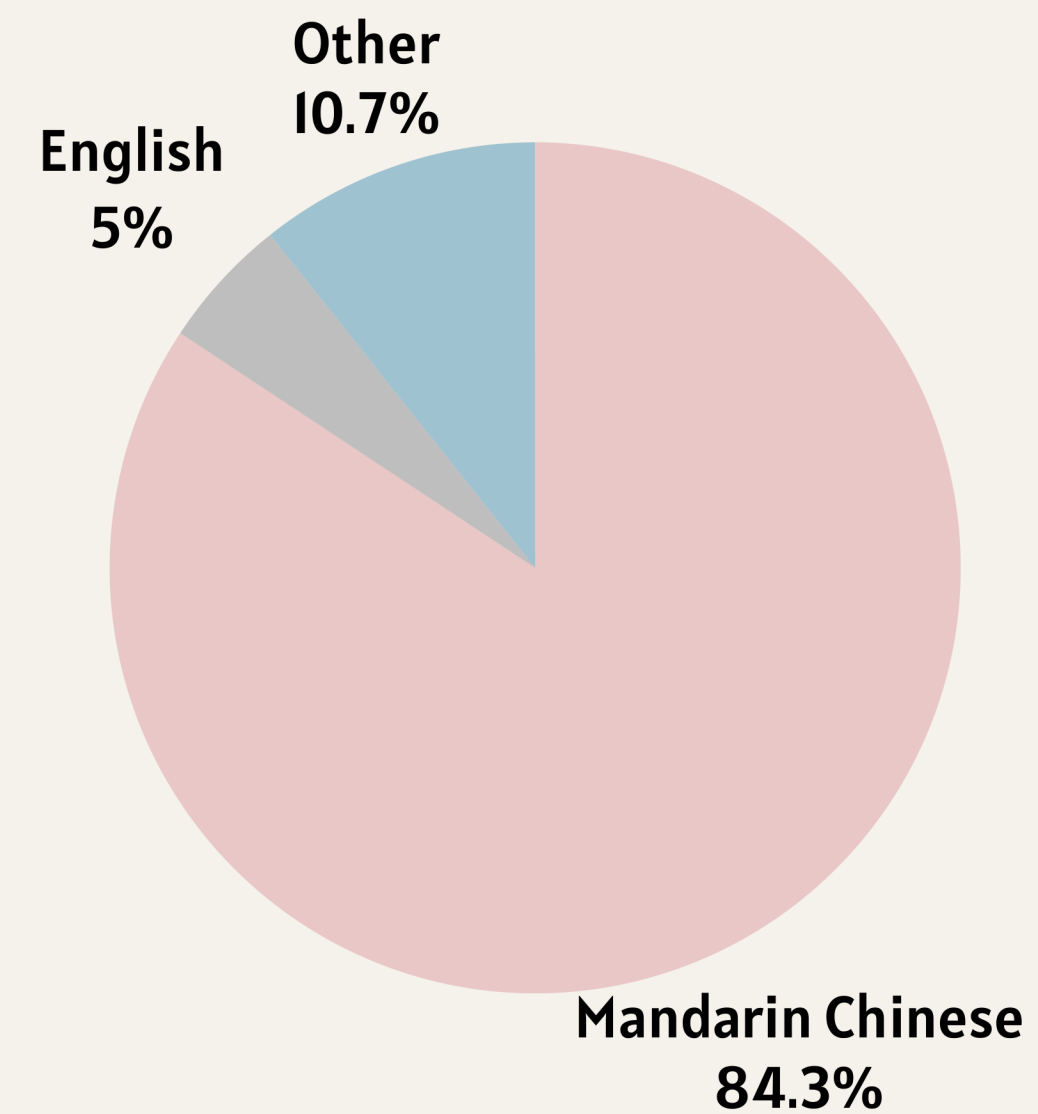
RESULTS

Participants

Compositions



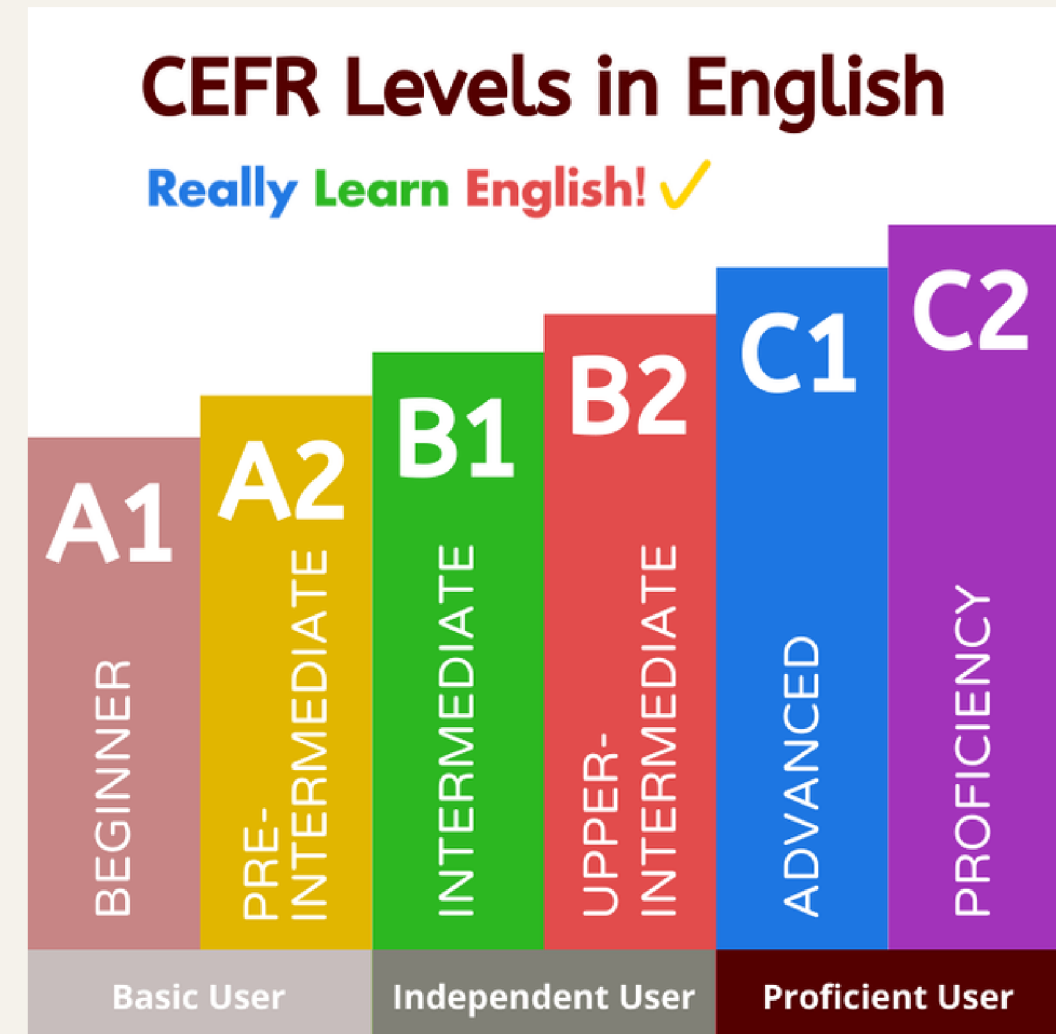
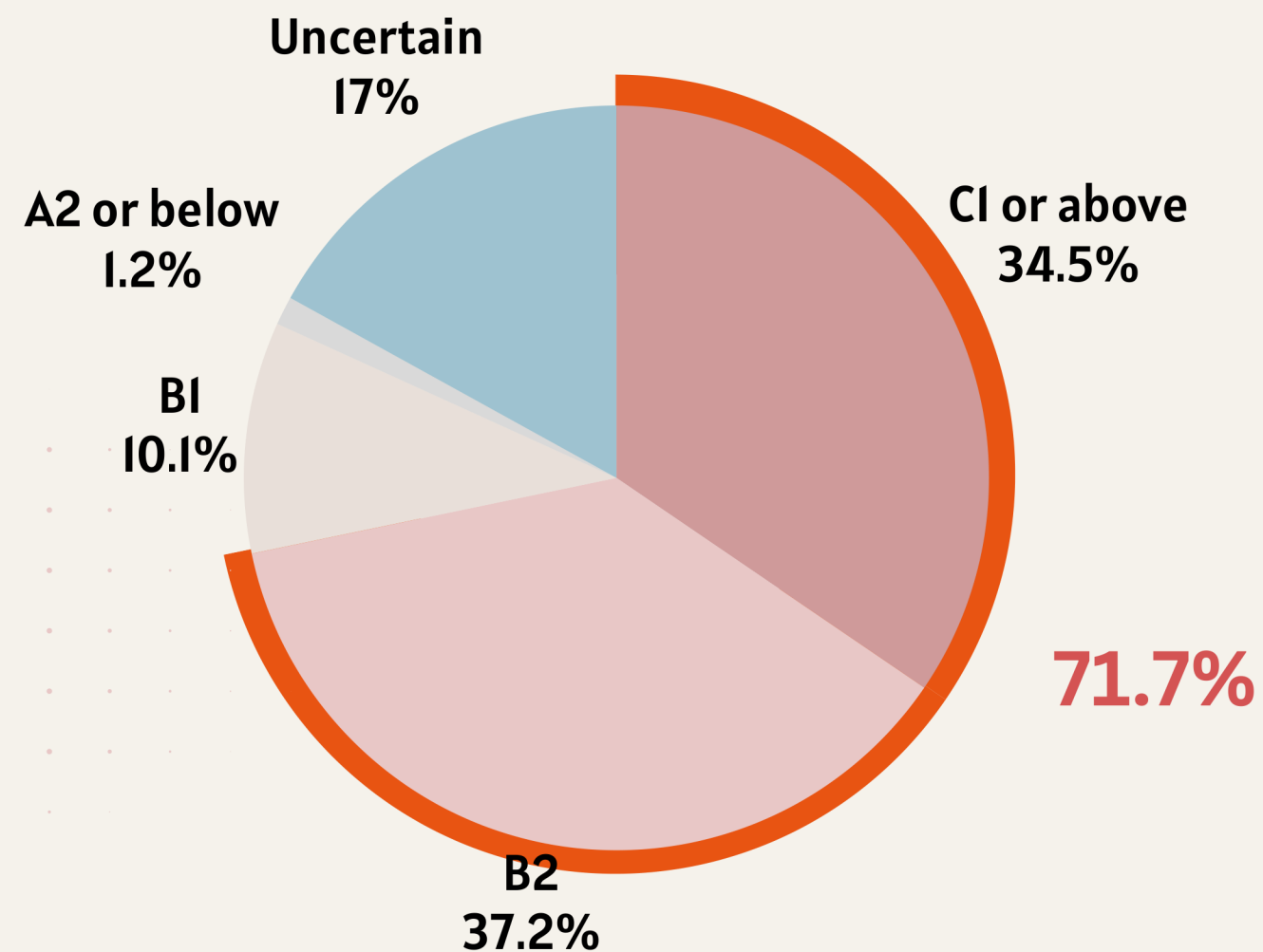
Native language



RESULTS

Participants

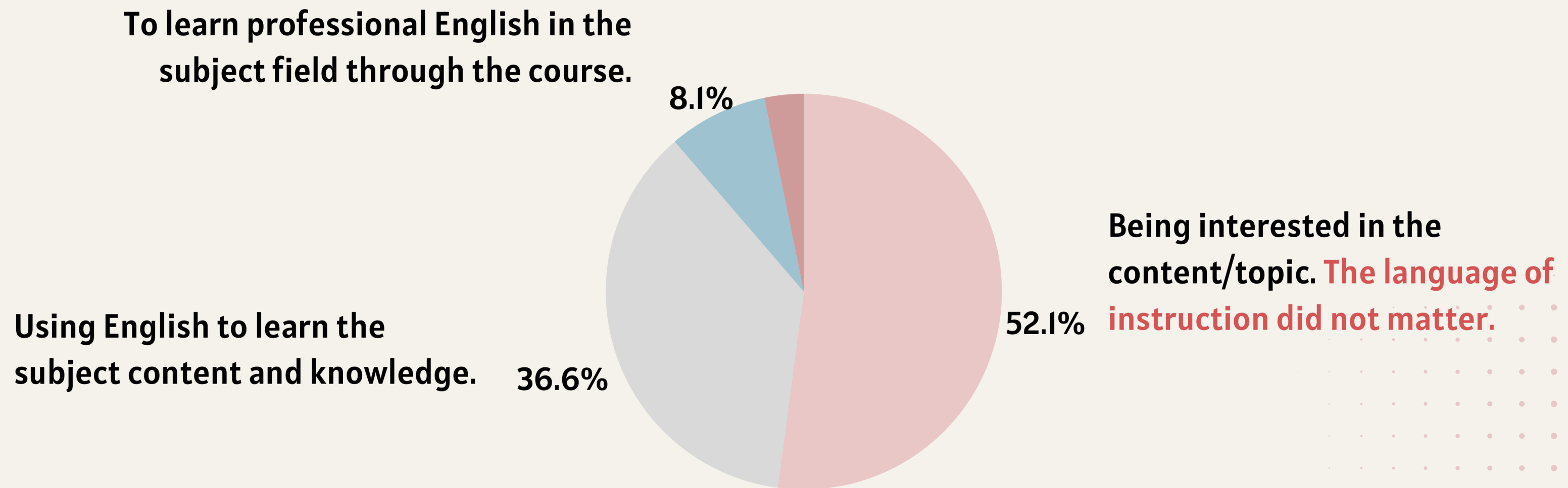
Self-assessed English Proficiency



RESULTS

Readiness I:

The expectation I had for this course before I signed up was?

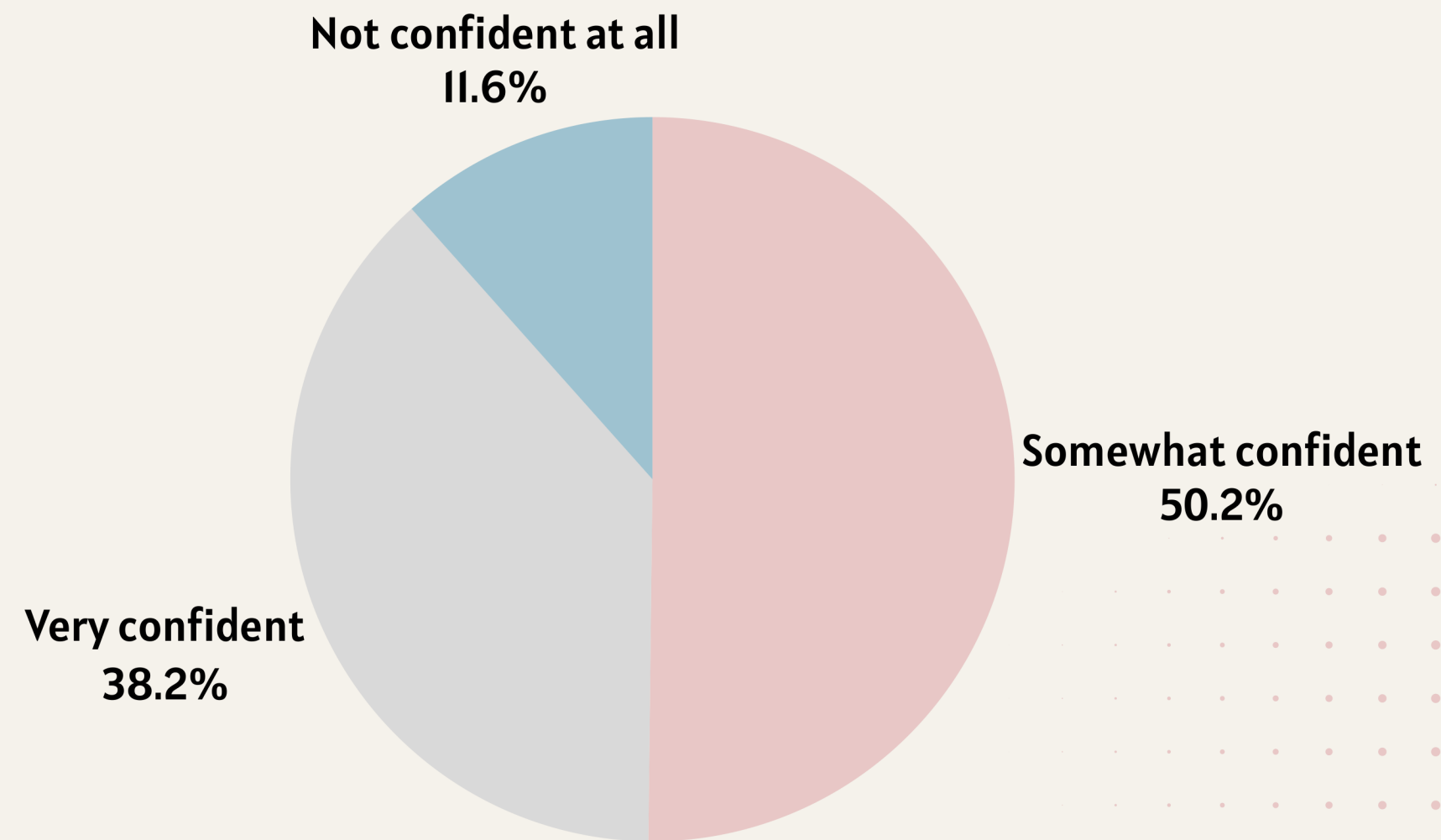


RESULTS

Readiness 2:

How confident am I in using English in taking the course?

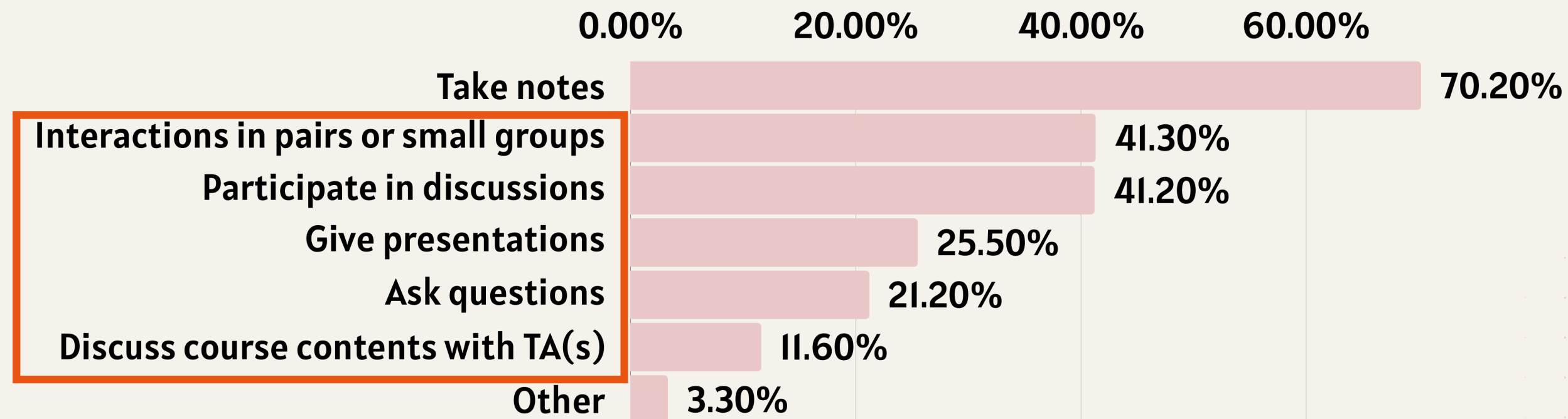
- Very confident
- Somewhat confident
- Not confident at all



RESULTS

Learning Activities:

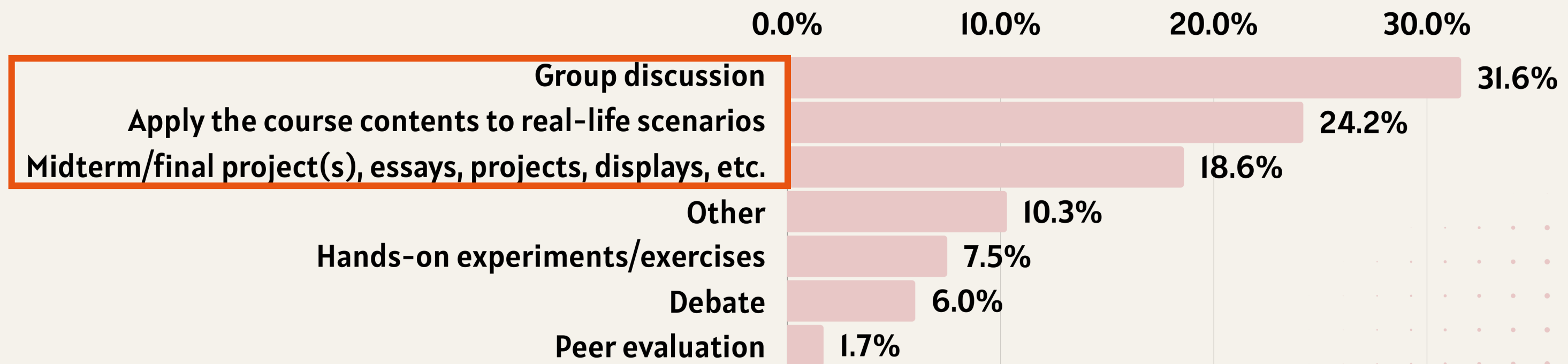
I. Irrespective of the language of the course, the activity that I most often engage in during class is/are (Select all that apply)



RESULTS

Learning Activities:

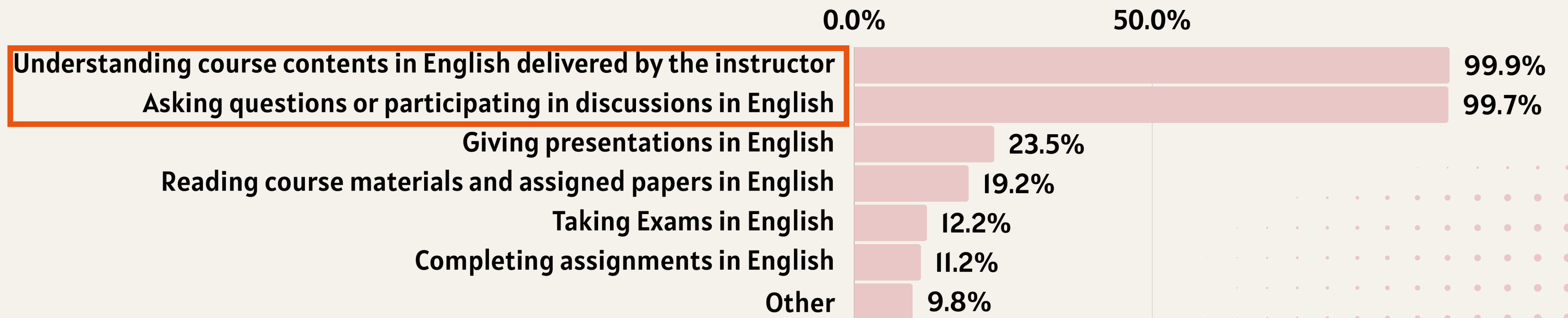
2. Irrespective of the language of the course, to me, the most interesting activity is_____.



RESULTS

Needs for studying in EMI Courses

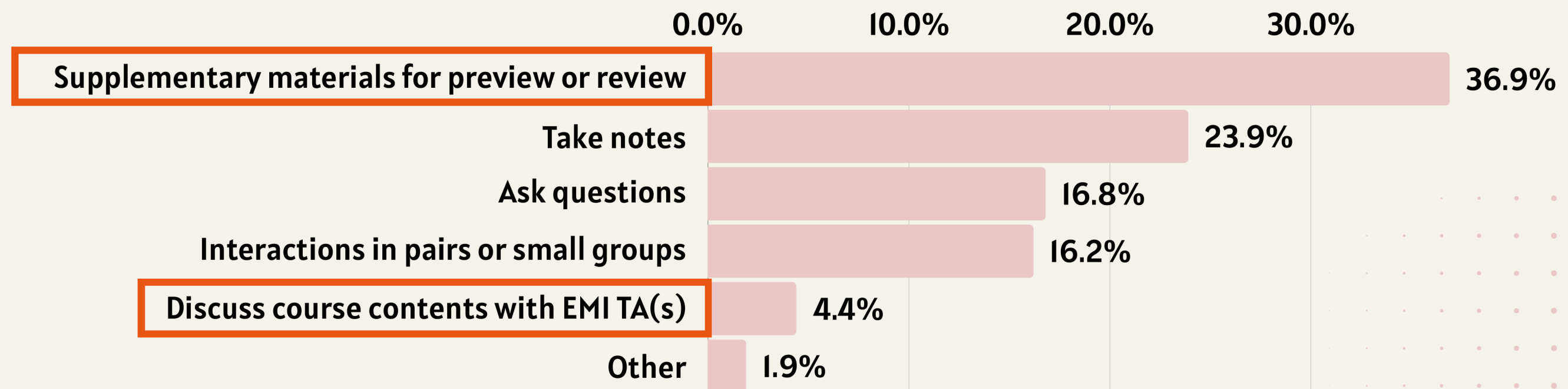
1. What am I most worried about using English in this course? (Select all that apply)



RESULTS

Needs for studying in EMI Courses

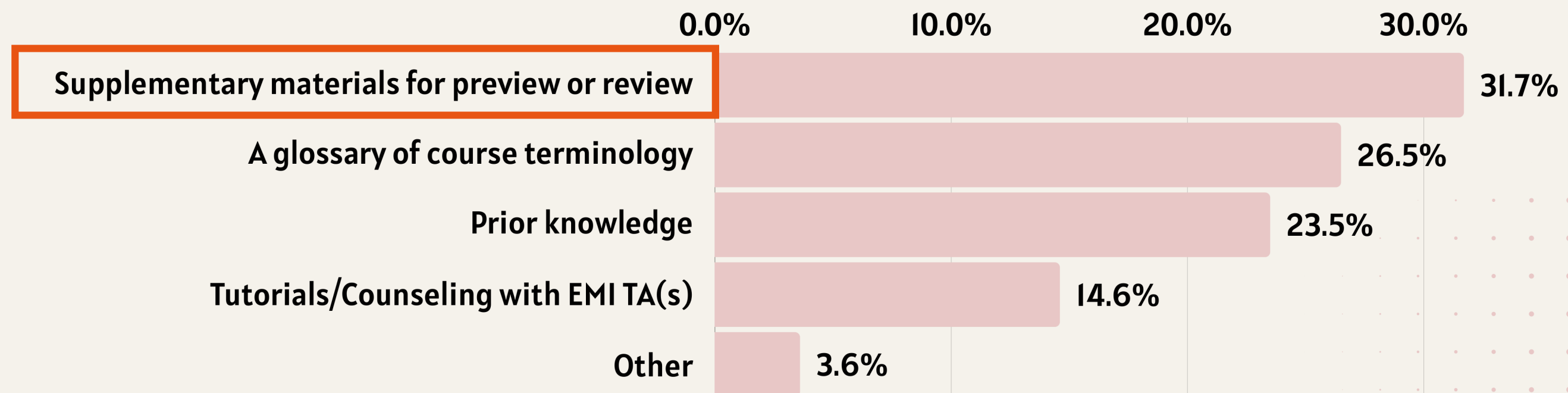
2. Among all the EMI courses (not English language learning courses) I took, what can help me to understand the course contents the best?



RESULTS

Needs for studying in EMI Courses

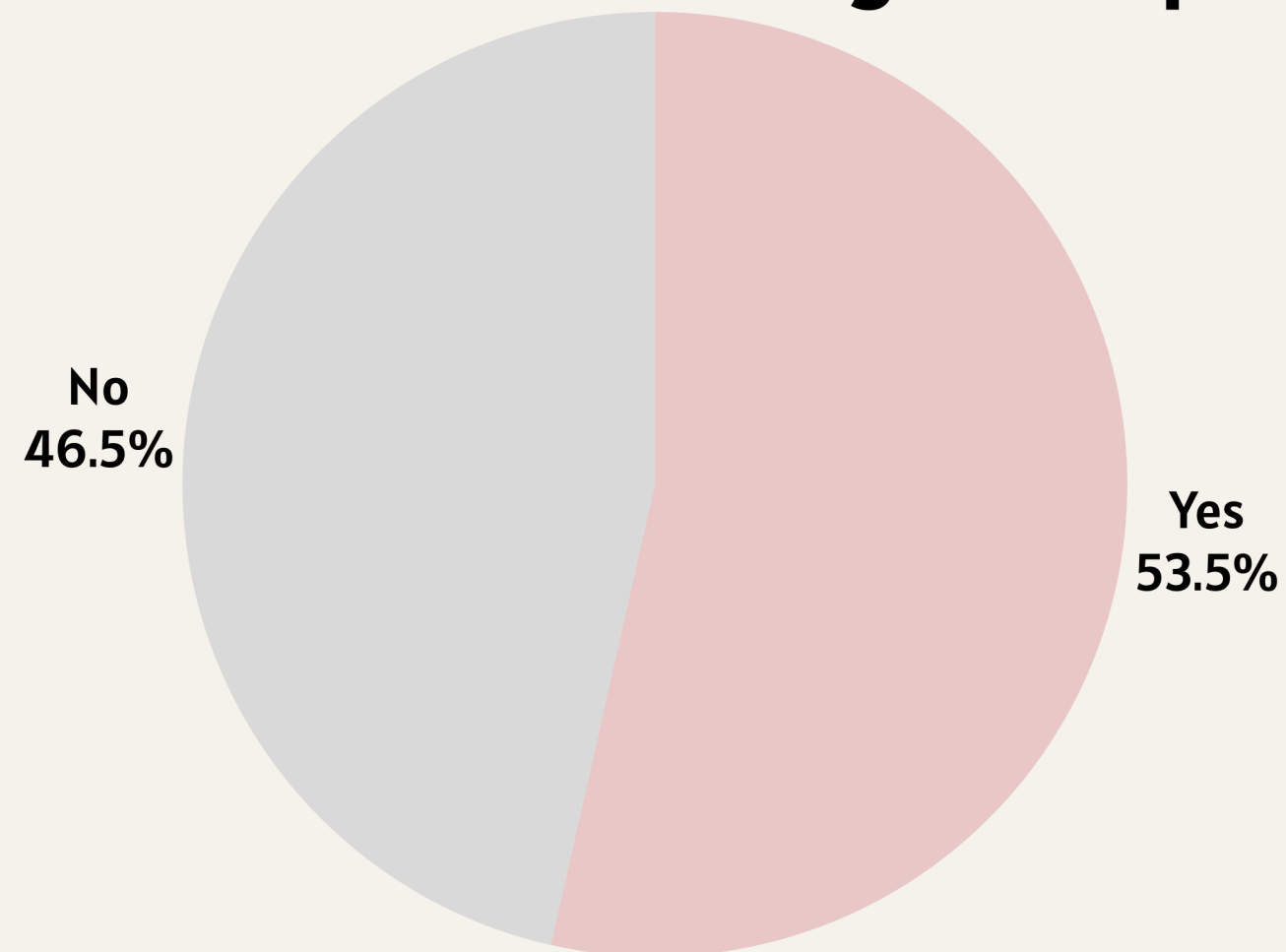
3. Considering this course is mediated in English, I would appreciate it if my instructor could provide me with the following learning supports or resources (Select all that apply)



RESULTS

Needs for studying in EMI Courses

4. For this English-mediated class, I think the instructor has made arrangements for “non-native English-speaking” students.

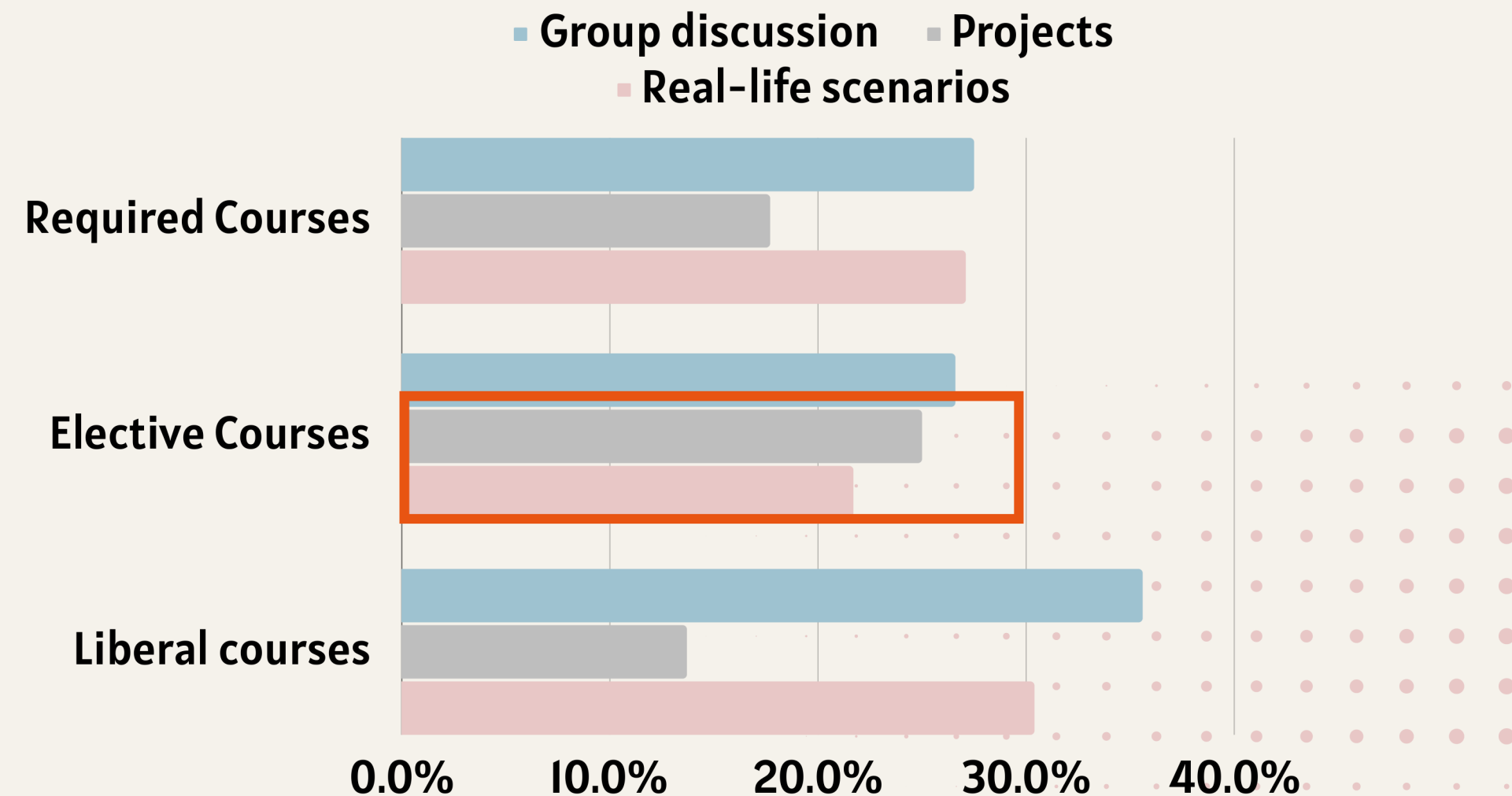


DISCUSSION I

Course Types : Required Courses/ Elective Courses/ Liberal Courses

I. A student's motivation to learn will influence their preferred activities in the classroom.

Irrespective of the language of the course, to me, the most interesting activity is_____

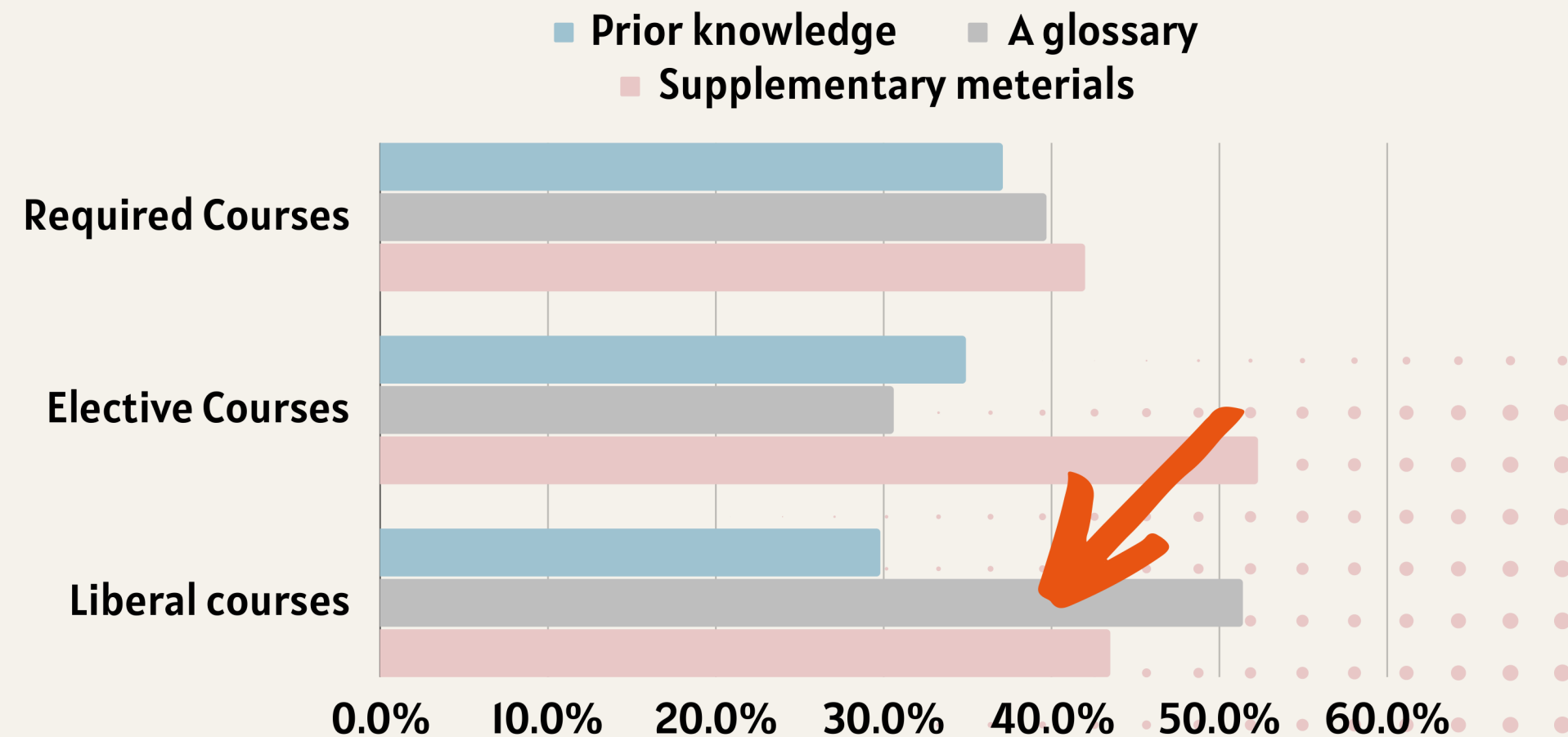


DISCUSSION 1

Course Types : Required Courses/ Elective Courses/ Liberal Courses

2. Students need additional help for liberal courses.

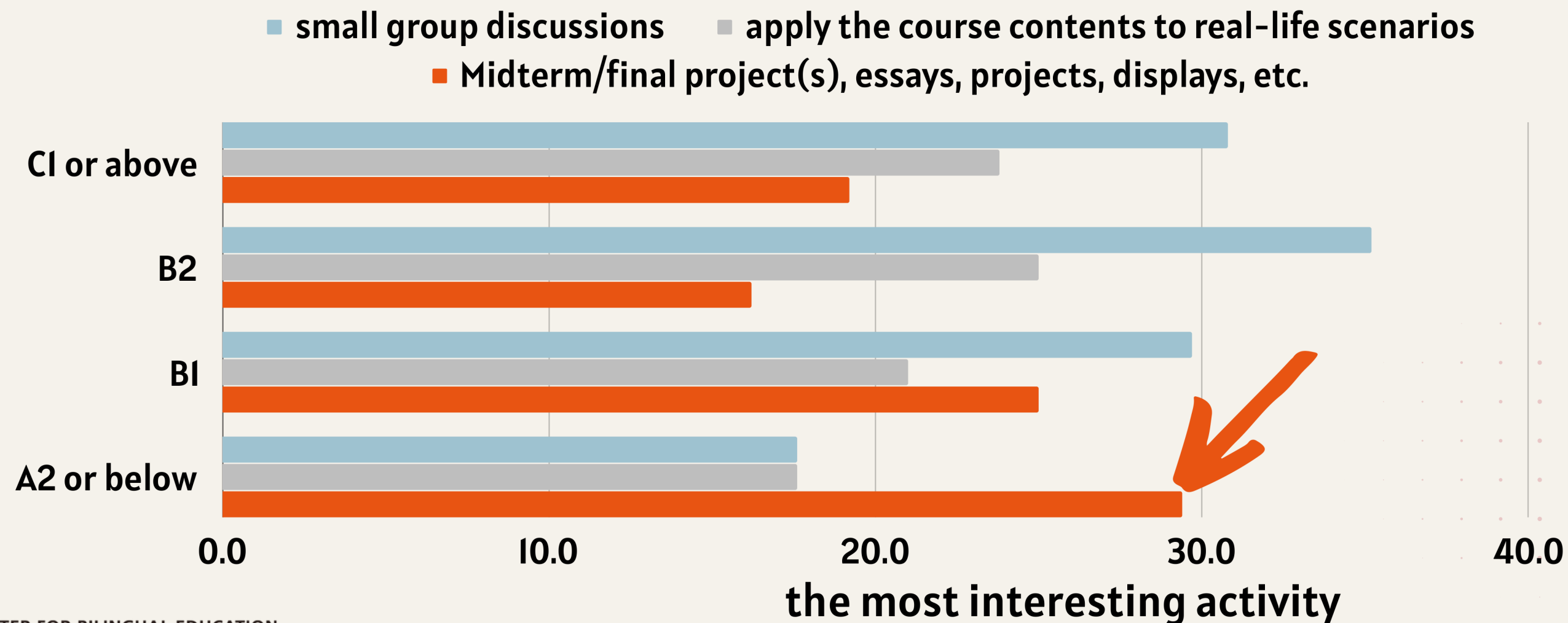
**I would appreciate it if my instructor
could provide me with the following
learning supports or resources
(Select all that apply)**



DISCUSSION 2

English Proficiency : C1 above/B2 BI/A2 or below/uncertain

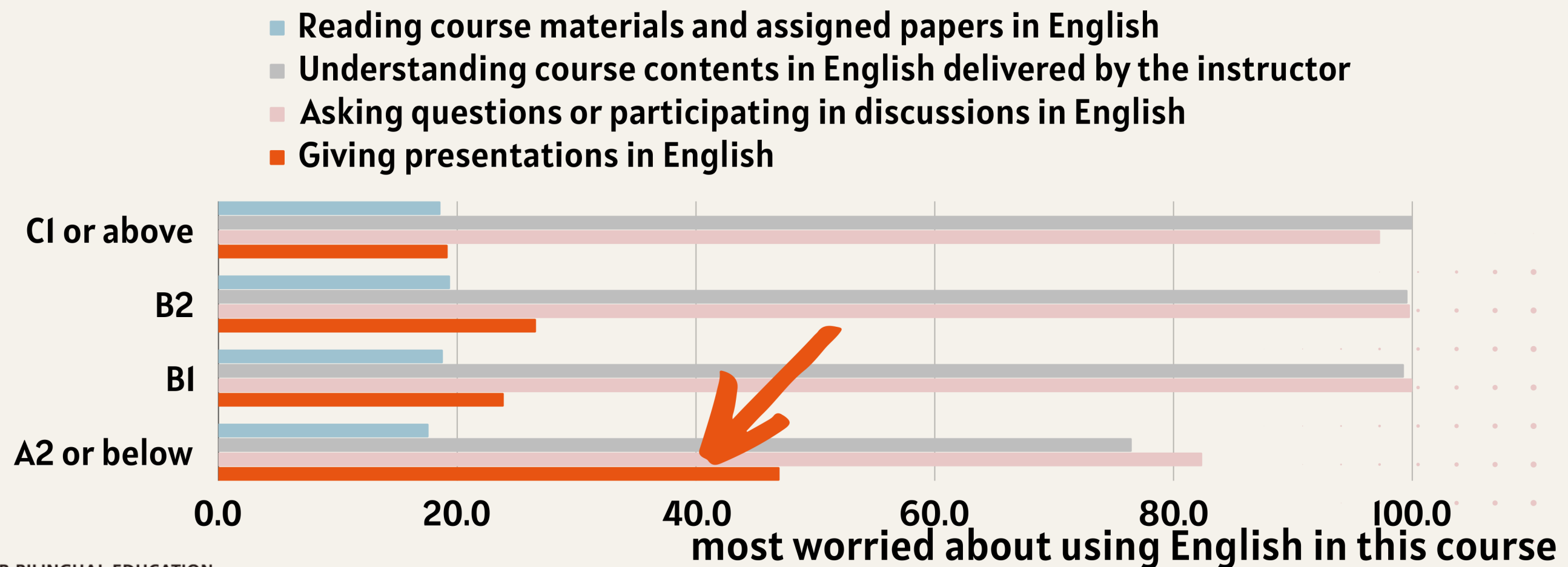
- A2 and below students disfavor verbal presentation



DISCUSSION 2

English Proficiency : C1 above/B2 BI/A2 or below/uncertain

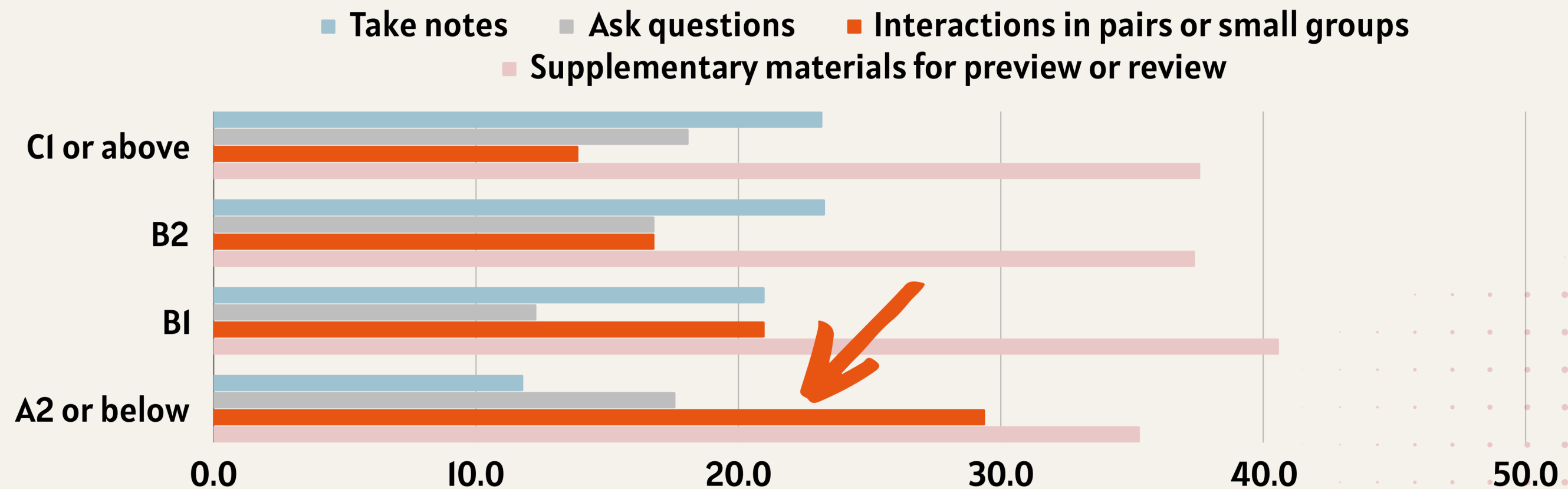
- A2 and below students disfavor verbal presentation



DISCUSSION 2

English Proficiency : C1 above/B2 B1/A2 or below/uncertain

- prefer peer supports

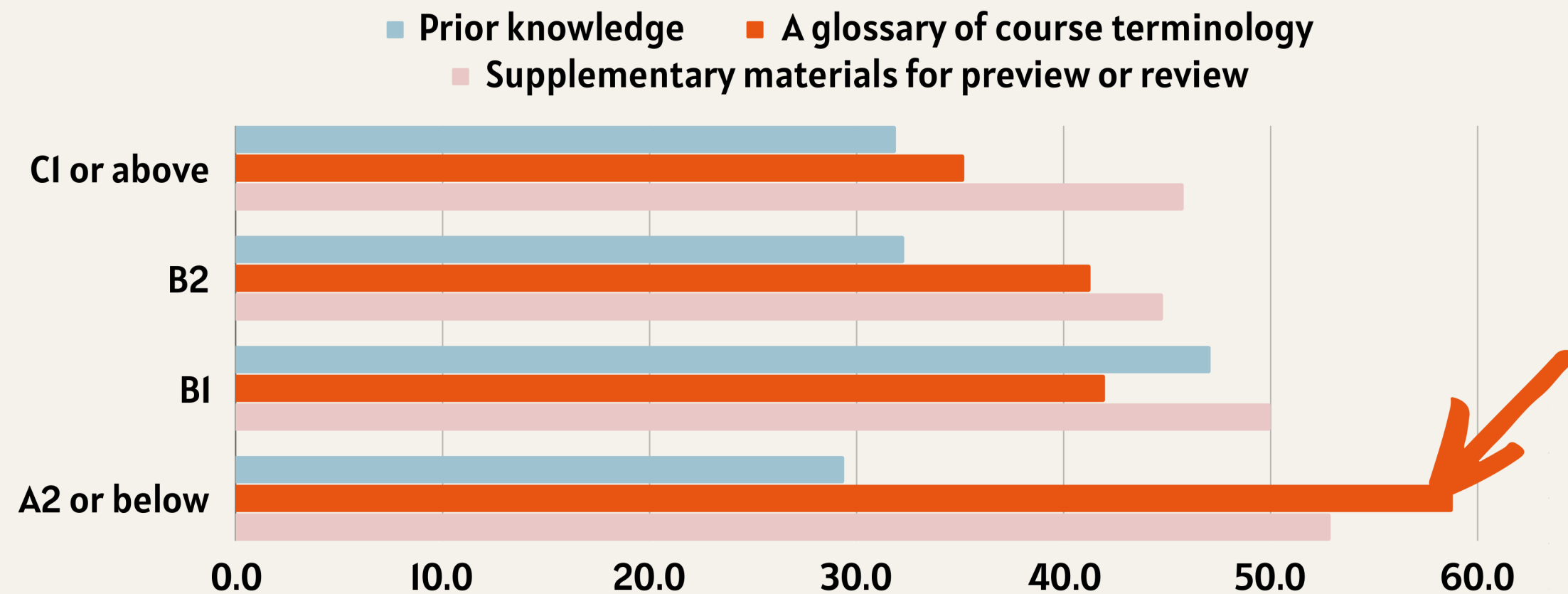


what can help to understand the course contents the best?

DISCUSSION 2

English Proficiency : C1 above/B2 B1/A2 or below/uncertain

- appreciate glossary of terminology

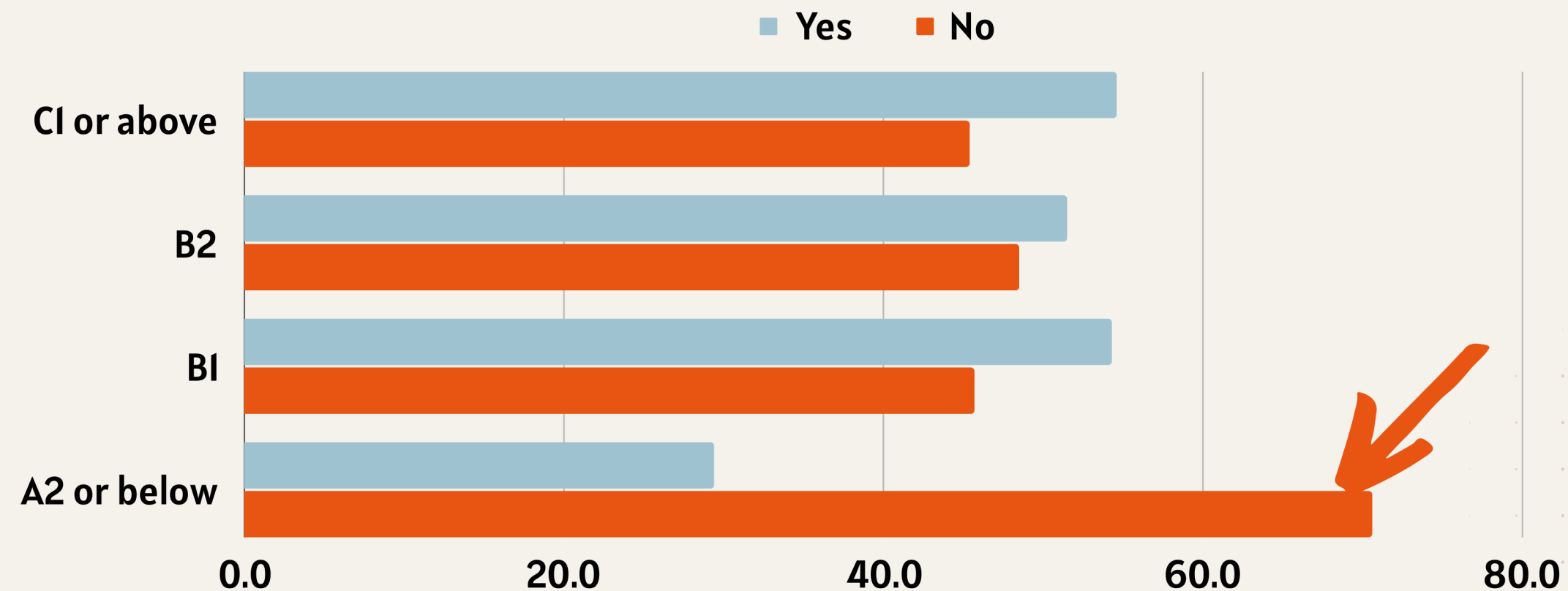


appreciate it if my instructor could provide me following learning supports or resources

DISCUSSION 2

English Proficiency : C1 above/B2 BI/A2 or below/uncertain

- Was additional help available?



DISCUSSION 2

English Proficiency : C1 above/B2 B1/A2 or below/uncertain

A2 and below students showed different results from others.

- **disfavor verbal presentation;**
- **prefer peer supports (e.g., small group discussions);**
- **appreciate glossary of terminology;**
- **didn't perceive additional help**

CONCLUSION

Summary of the findings

- Most students in the EMI courses have a self-assessed English proficiency of **B2 or above**, and more than 90% of them were **confident** in taking EMI courses.
- The most common thing to do in the classroom is **taking notes**, and the most favorite activity is **group discussion**.
- The biggest challenge is **using English to understand** course contents delivered by the instructor and **to ask questions or participating in discussion**.

CONCLUSION

Actions being or to be taken in response

Students' needs

- **The importance of diverse assessment methods.**
- **Additional assistance for A2 and below students.**

Written feedback and suggestions

- 1. Using Mandarin Chinese when needed**
- 2. Using formulaic language in the classroom**
- 3. Giving positive mindset**

OUTCOMES AND IMPACTS

Learning Outcomes

Autonomous Learning



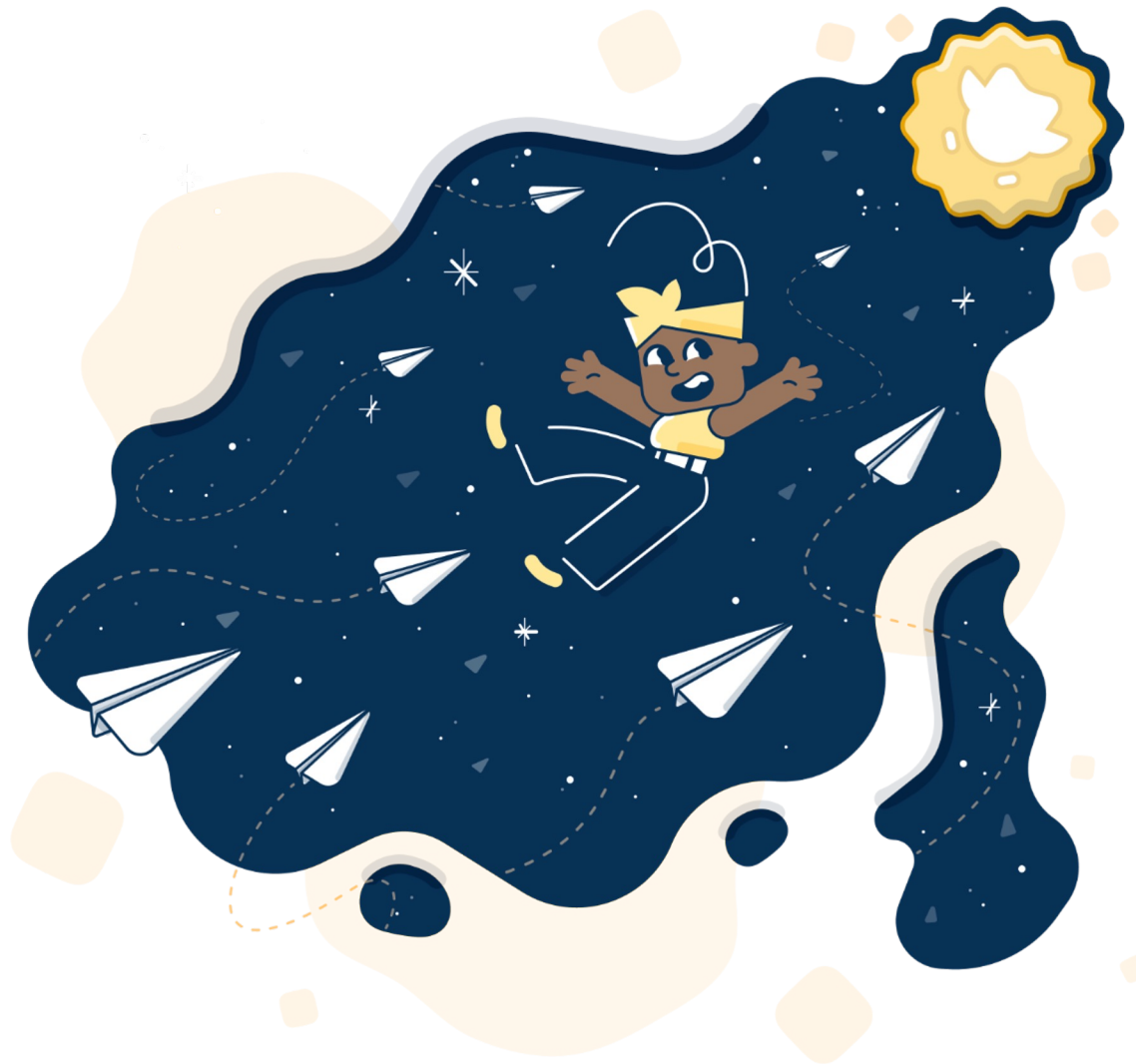
THANK YOU



<https://cbe.ntu.edu.tw/>

Nation Taiwan University | 2024

Leveraging digital-first &
AI innovations to enhance
the student experience



Duolingo presenter

Alyson Murray

Senior Strategic
Engagement Manager,
Canada

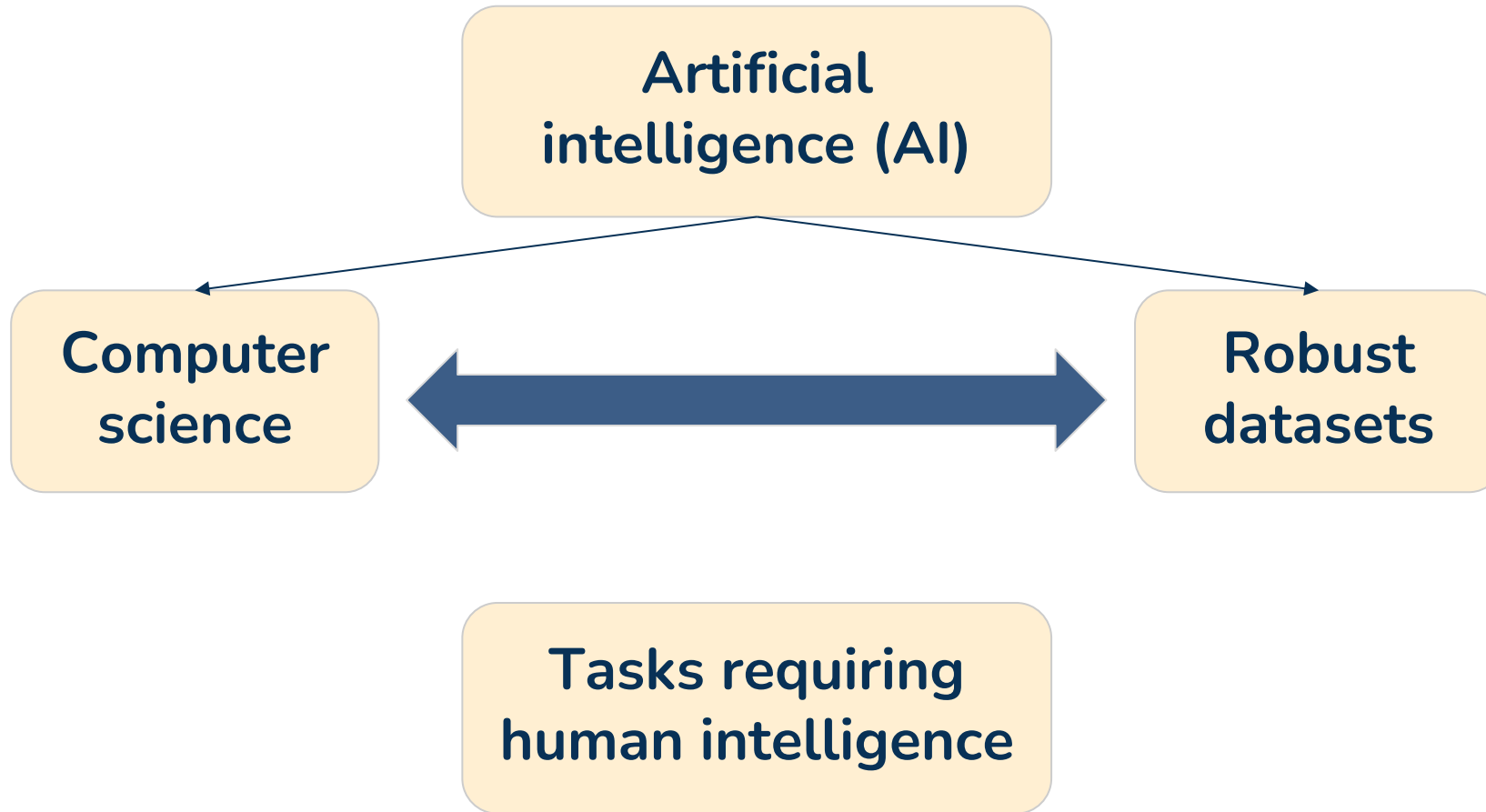


Learning Objectives

1. Acquire three critical questions to review on your campus to ensure your tools, technologies and techniques are enhancing, rather than limiting the student experience.
1. Identify key considerations when reviewing AI-driven learning or student support tools.
1. Expand your thinking on how digital tools can enhance the student experience and increase access to education.

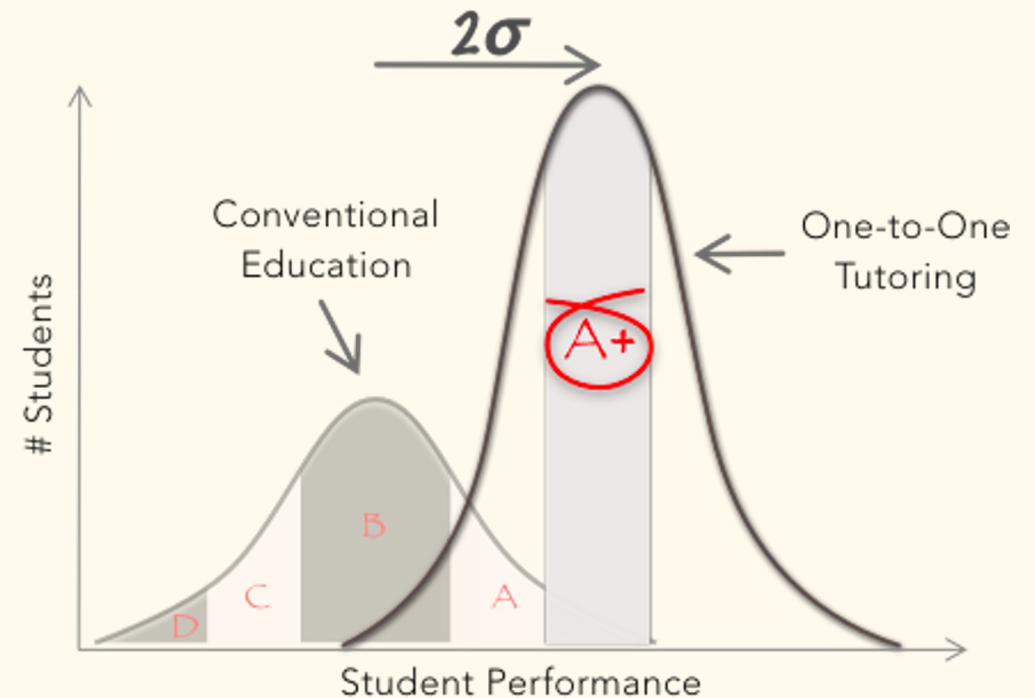


What is AI?



Why does this matter?

- AI is solving 'Blooms 2 Sigma Problem'
- The average student achievement with a 1-1 tutor is better than 98% of students from a traditional class
- How can we deliver 1-1 tutoring against the limitations of time, resources, and the varying needs of students?



DET Case Study



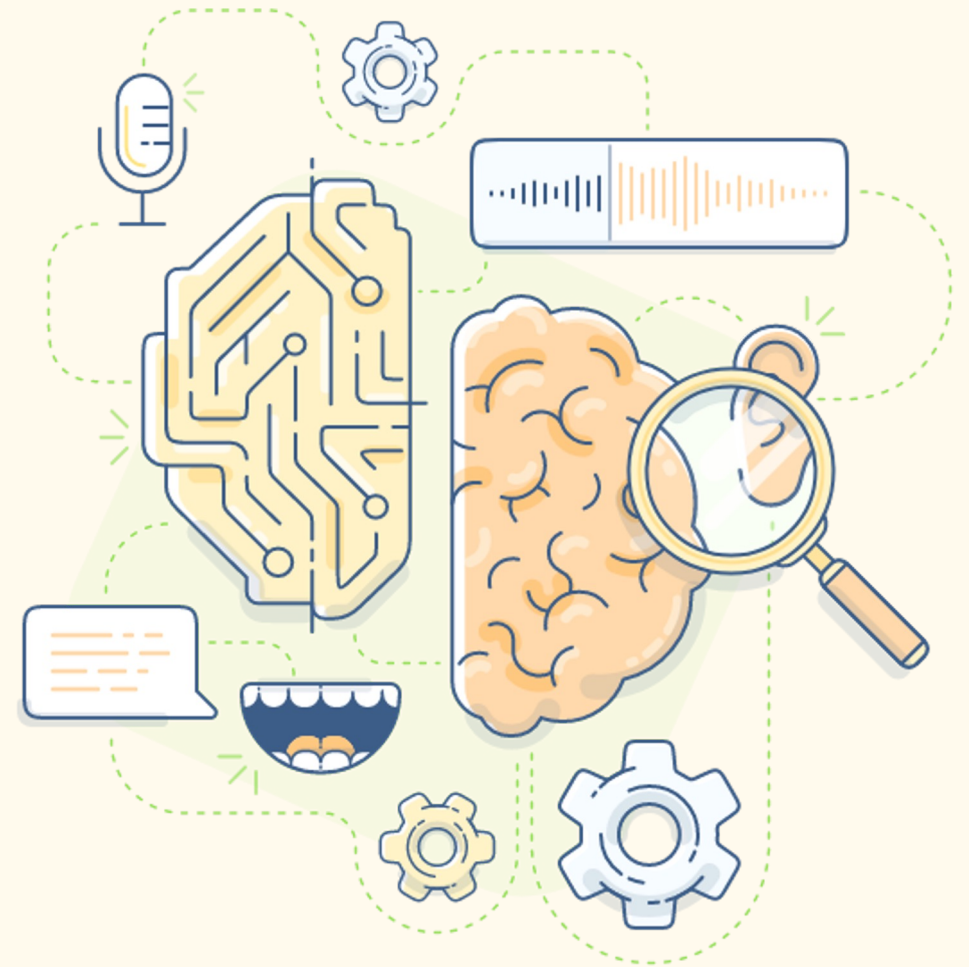
Duolingo's mission is to develop the best education in the world and make it universally available.

Leveraging the best of AI, machine learning, computer vision and online user experience we've been able to develop a high stakes English proficiency exam that is secure, valid, affordable, convenient and comprehensive.



Question 1

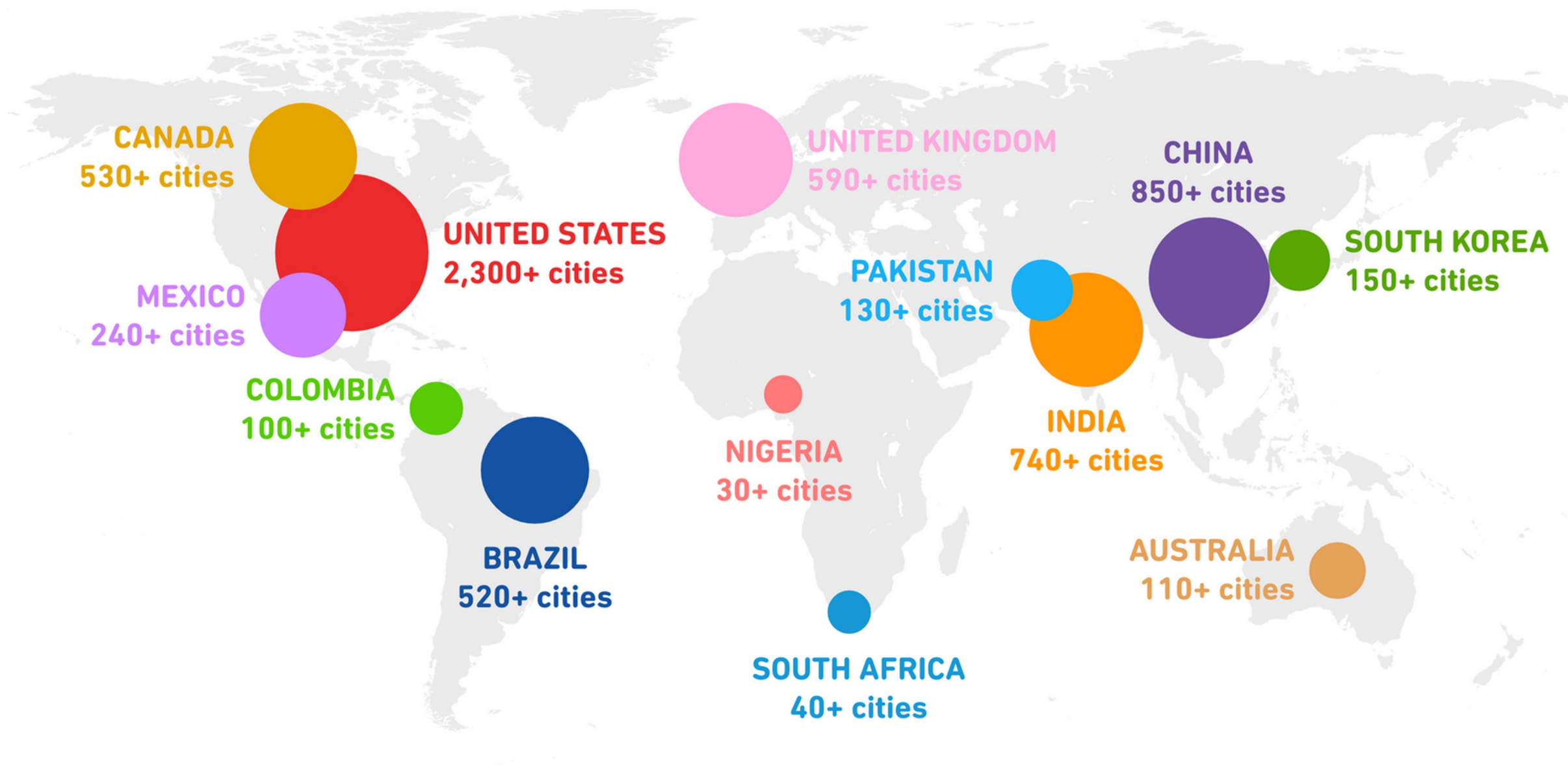
- Who can't access our existing tools / processes, or faces significant barriers in doing so?



Broadening access

- Removes barriers associated with in-person processes
 - Scheduling
 - Transportation and location
 - Cost
- Allows students to thrive in their optimal environment

DET in Action



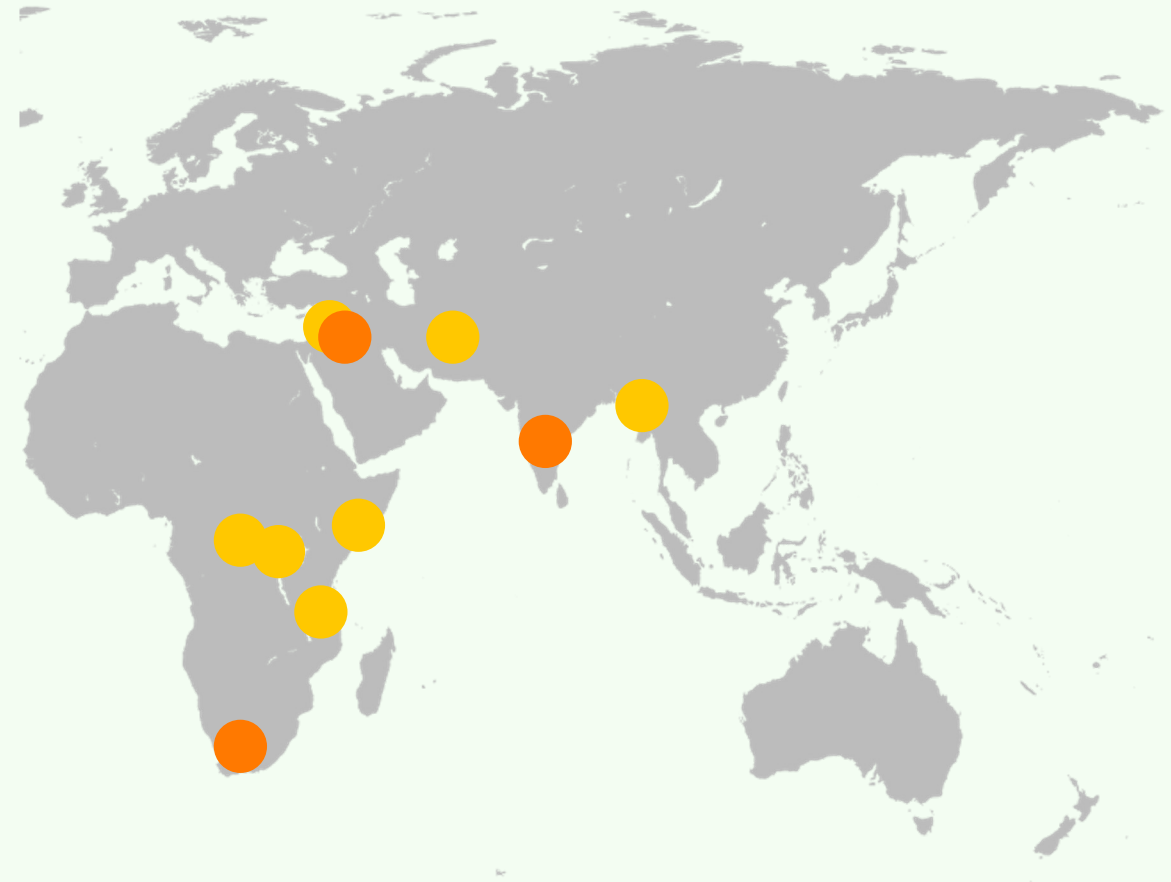
Duolingo x UNHCR

115 applications from carefully vetted candidates in four UNHCR locations - Cameroon, India, Iraq, and South Africa

- 64 finalists interviewed
- 25 selected for the inaugural cohort of Duolingo University Access Scholars

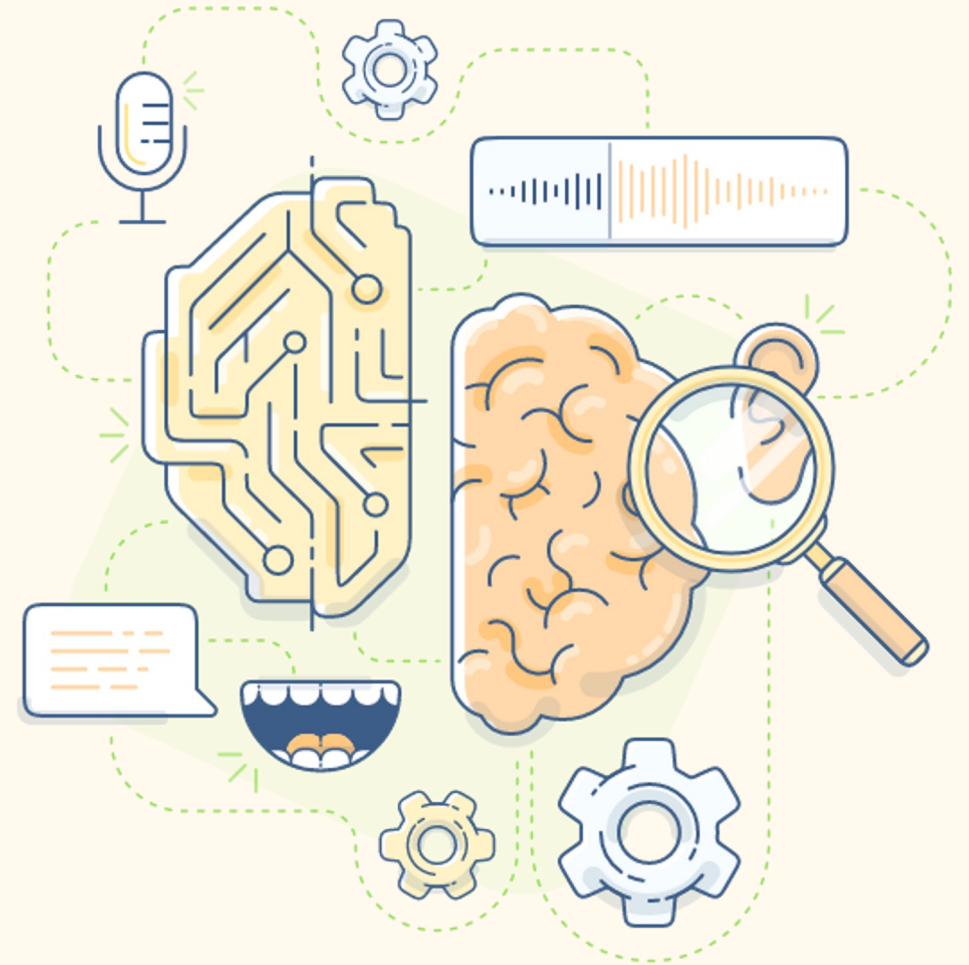
● **UNHCR locations** (India, Iraq, South Africa)

● **University Access Scholar's origin country**
Afghanistan, Burundi, DRC, Myanmar, Somalia, Syria, Tanzania



Question 2

- Where can digital tools infuse personalization for users and create more engaging experiences?



Creating customized and efficient learning

- AI is leading the way in adaptive and customized online experiences
- Learning tailored to interests and ability
- Optimizing the level of challenge creates learning efficiencies and maintains engagement

DET in Action

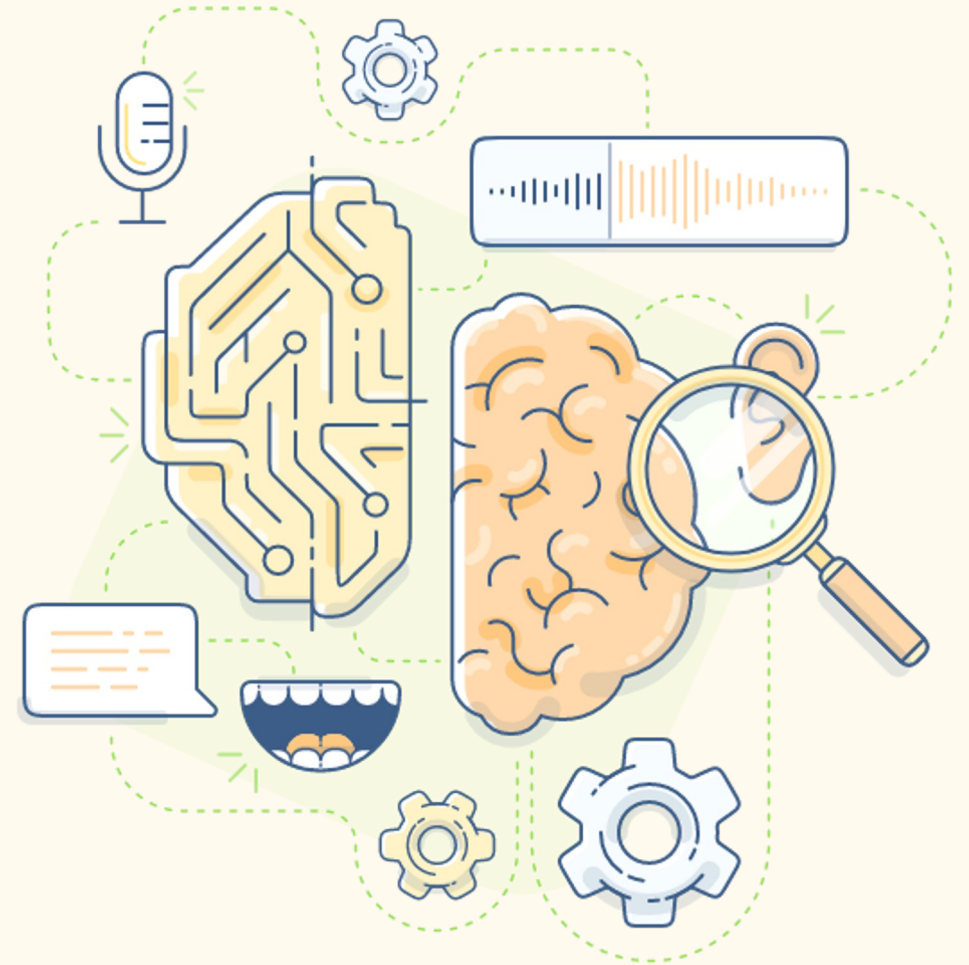


Adaptive engine draws items as
test is being taken

**Computerized adaptive test
design**

Question 3

- How can we combine AI / digital tools and the talents of our team to supercharge our work?



Drawing on the unique strengths of technology and human capital

- AI and humans have distinct strengths and weaknesses
 - Playing to the strengths of each can help accelerate our work
-
- AI: sorting through huge data sets, finding patterns, applying rules consistently, etc.
 - Humans: navigating nuance, complex judgement, critical thinking skills

DET in Action

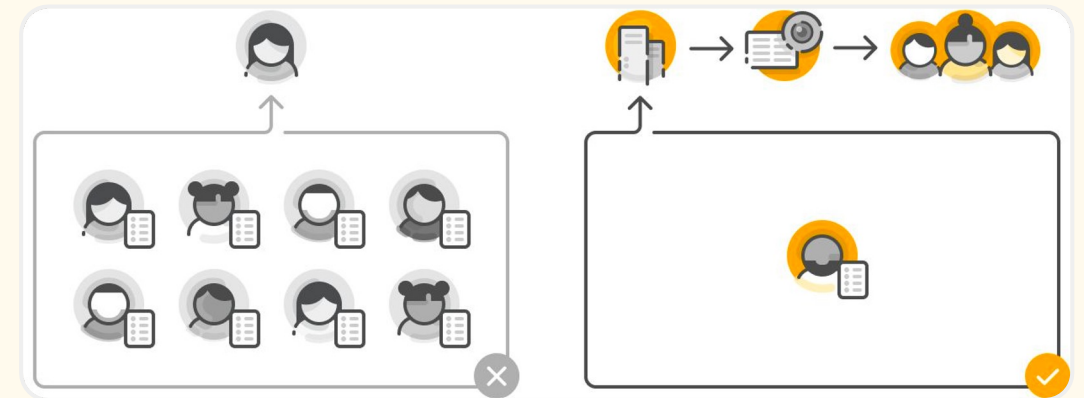
Human-in-the-loop AI

Expert human proctors, with the help of AI, examine each test session for over **150 different behaviors/environmental factors** over multiple, independent rounds of review to help verify test taker identity, rule adherence, and the legitimacy of certified results from testing.

Using the test video, audio, screen recording, keystrokes, mouse movement, and other recorded variables, proctors examine:

- The test taker's environment
- Eye movement
- Background noise
- Irregular behavior
- Other suspicious activities

Completed within 48 hours after test submission.



englishtest.duolingo.com/security

Technology and work always evolve

- Automation raised concerns about replacing blue collar workers
 - Traditionally, automation targeted physical tasks
 - Ex. Manufacturing, agriculture, retail, etc.
- Generative AI is shifting work for white collar workers and raising concerns about job displacement
 - AI automation targets cognitive tasks (problem solving, decision making, planning, etc.)

“AI won’t take your job. It’s somebody using AI that will take your job.”

- Richard Baldwin, Economist and Professor,
Geneva Graduate Institute**

We need to collaborate with Generative AI

Generative AI is disrupting industries that have previously been immune to automation.

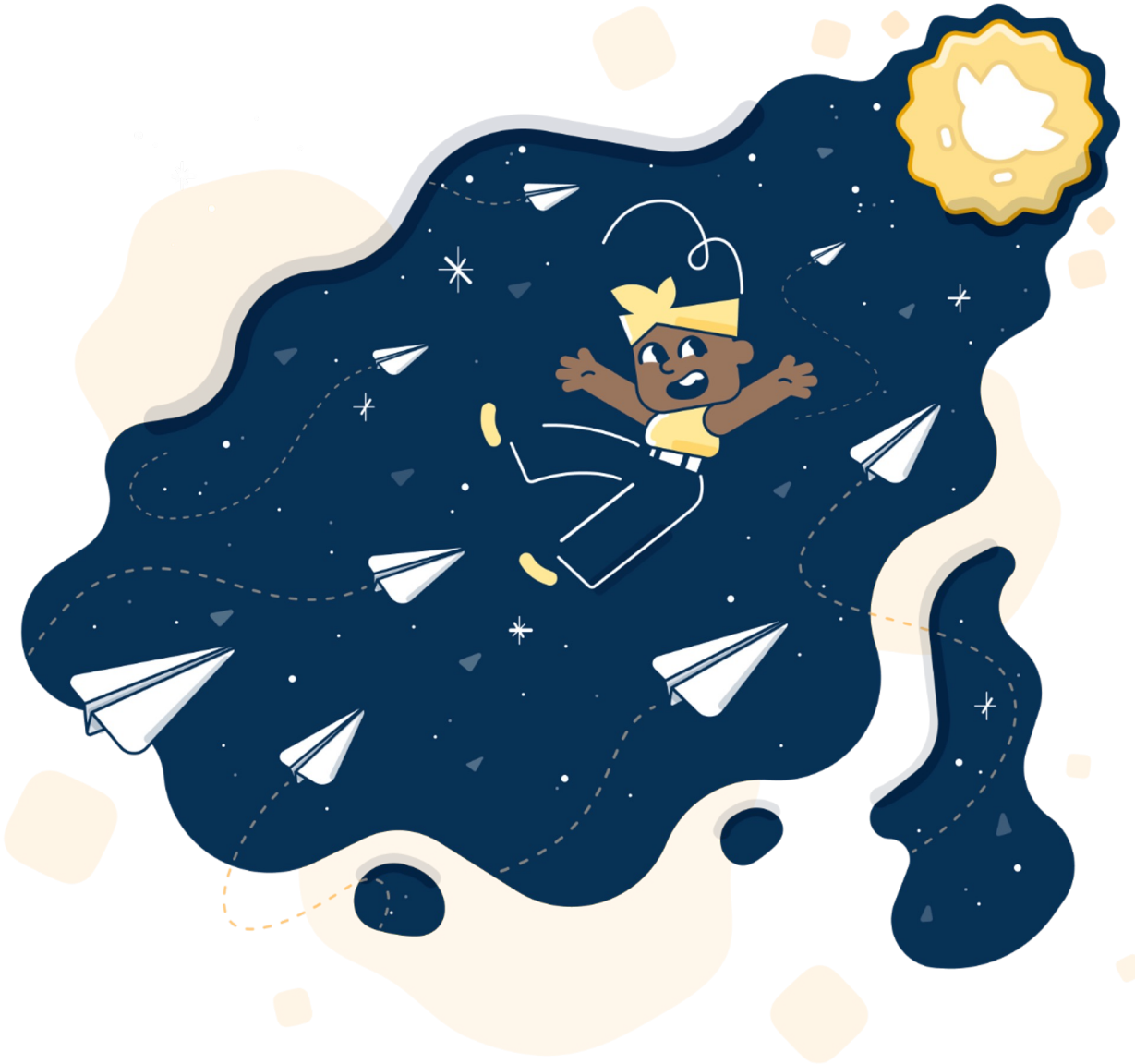
How can you leverage the power of AI to help you focus on higher value, strategic work, create efficiencies and future-proof your skills?

Working with vendors leveraging AI

- How / if there is human involvement alongside the AI?
- What data is the AI trained on? Are there copyright considerations?
- How have they mitigated bias in their tools and systems?
- What quality control measures do you have in place?
- Are there any accessibility considerations as a result of the use of AI?
- Data and PII privacy policies
- Have they published responsible AI standards? How transparent are their policies?

Thanks! Questions?

alyson.murray@duolingo.com



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