

A Corpus-aided English Pronunciation Training Programme

(Workshop 2)

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語言學及現代語言系
LINGUISTICS AND
MODERN LANGUAGE STUDIES



英語教育學系
ENGLISH LANGUAGE
EDUCATION

This Workshop

English

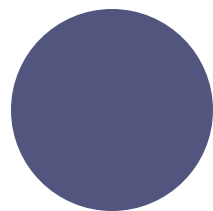
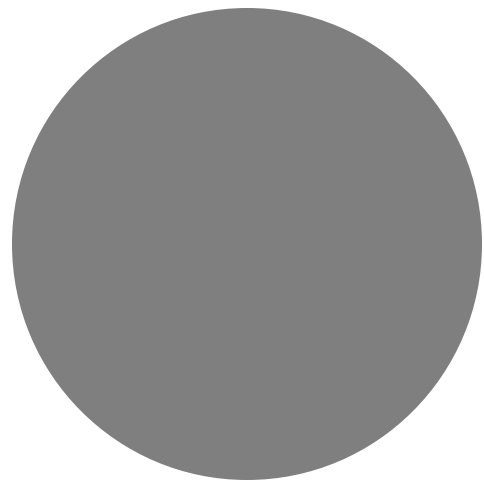
- Explore the suprasegmental system of English in alignment with the suprasegmental features in the corpus (pausing, intonation, lexical stress, CV linking)

Corpus

- Have hands-on practice of corpus concordances
- Understand acoustic properties of the suprasegmental features

Teaching

- Integrate corpus data into pronunciation teaching



English Suprasegmental System

The English SOUND System

The Segmental System

phonemes

- consonants & vowels
(including diphthongs)



The Suprasegmental System

linking the segments /
phonemes

- pausing, intonation, lexical
stress, CV linking...

The English SOUND System

The Segmental System

phonemes

- consonants & vowels
(including diphthongs)



The Suprasegmental System

linking the segments /
phonemes

- pausing, intonation, lexical
stress, CV linking...

1. Pausing

- Human speech communication contains both **sounds** and **silence (pause)**.
- Generally, pauses of various lengths can occur at the **end of the statement** or **between grammatical units** within sentences.



1. Pausing

- In speech production, pauses are necessary for a speaker to regain his breath and make time available for the cognitive processes of speech planning.

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- With respect to linguistic functions, speakers or readers can use pauses to segment an utterance into smaller stretches.

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- In speech production, pauses are necessary for a speaker to regain his breath and make time available for the cognitive processes of speech planning.
- With respect to linguistic functions, speakers or readers can use pauses to segment an utterance into smaller stretches.
- Effective speakers use **appropriate pauses** to draw the audience's attention to **meaningful chunks of information** they would like to convey.



1. Pausing

Classification of pausing:

- **Silent pause:** a period without articulation by the speaker (usually longer than 100ms).
e.g. Why do people usually have an accent **(P)** when they speak a second language? 
- **Filled pause:**

1. Pausing

Classification of pausing:

- **Silent pause:** a period without articulation by the speaker (usually longer than 100ms).
e.g. Why do people usually have an accent **(P)** when they speak a second language? 
- **Filled pause:** a period of articulation of non-meaningful content
e.g. Will you manage **(FP)** to make progress, **(P)** or will you just give up? 

2. Intonation

Intonation:

H.O.W Y.O.U
D.O.I.N.'?

Joey in *Friends*



2. Intonation









Intonation:

- is the use of **pitch variation** in discourse.
- occurs at the **end of phrases/sentences**.
- shapes the **meaning** in various ways.



2. Intonation

Falling intonation is used in:

- **Declarative sentences** – I live in Hong **Kong** .
- **Commands** – Turn **left** .
- **Exclamatory sentences** – What a wonderful **day** !
- **The last item of a list** – I like red, blue, and **yellow** .
- **Wh-questions** – Why do people usually have an accent when they speak a second **language** ? 
- **Tag questions** – But old habits won't change without a lot of hard work, will **they** ? 

2. Intonation

Rising intonation is used in:

- **Yes/ No questions –**

Does this mean that accents can't be **changed** ? 

- **Every item of a list except the last one –**

I like **red** , **blue** , and yellow.

- **Dependent or introductory sentences –**

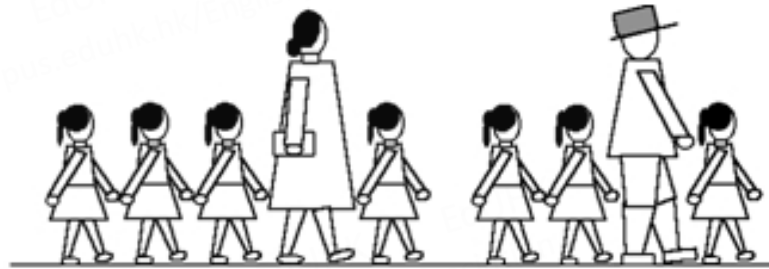
If it is sunny **tomorrow** , we will have picnic.

- **Direct address –**

Rebecca , be careful with the dog.

3. Lexical stress

- Stress is the relative emphasis that may be given to certain syllables in a word (**lexical stress**), or to certain words in a phrase or sentence (**sentential stress**).
- In English, stressed syllables are **louder** than non-stressed syllables. Also, they are **longer** and have a **higher pitch**.



English: Pronunciation is important.

● ● ● ○ ● ● ● ○ ●



Chinese: 發 音 很 重 要

○ ○ ○ ○ ○

3. Lexical stress

- Syllables in a word can be either **stressed** or **unstressed**.
- The strongest stress is **primary stress**.
- The second strongest stress is **secondary stress**.

categorical

/ˌkætəˈɡɒrɪkəl/

Secondary
stress

Primary stress

3. Lexical stress

- Differences in lexical stress placement result in **changes of word meaning**.
- e.g. DEsert vs deSERT
ADdress vs adDRESS
CONduct vs conDUCT
ACcent vs acCENT



3. Lexical stress

Lexical stress vs. stress



<https://www.imdb.com/title/tt0119217/videoplayer/vi1575984665>

Lexical stress

Singlish in '*I Not Stupid*' (小孩不笨)



4. CV linking

- **Consonant vowel (CV) linking** is one of the features of **connected speech** by native speakers of English.
- It occurs when a word **ends in a consonant** sound and the next word **starts with a vowel** sound.

e.g. turn off → tur-noff

an egg → a-negg

Why do people usually **have an accent** when they **speak a** second language? 

Discussion 1



Discuss with your partner(s):

- **Are suprasegmental features important for English pronunciation teaching and learning, and why?**

Discussion 2

Discuss with your partner(s):

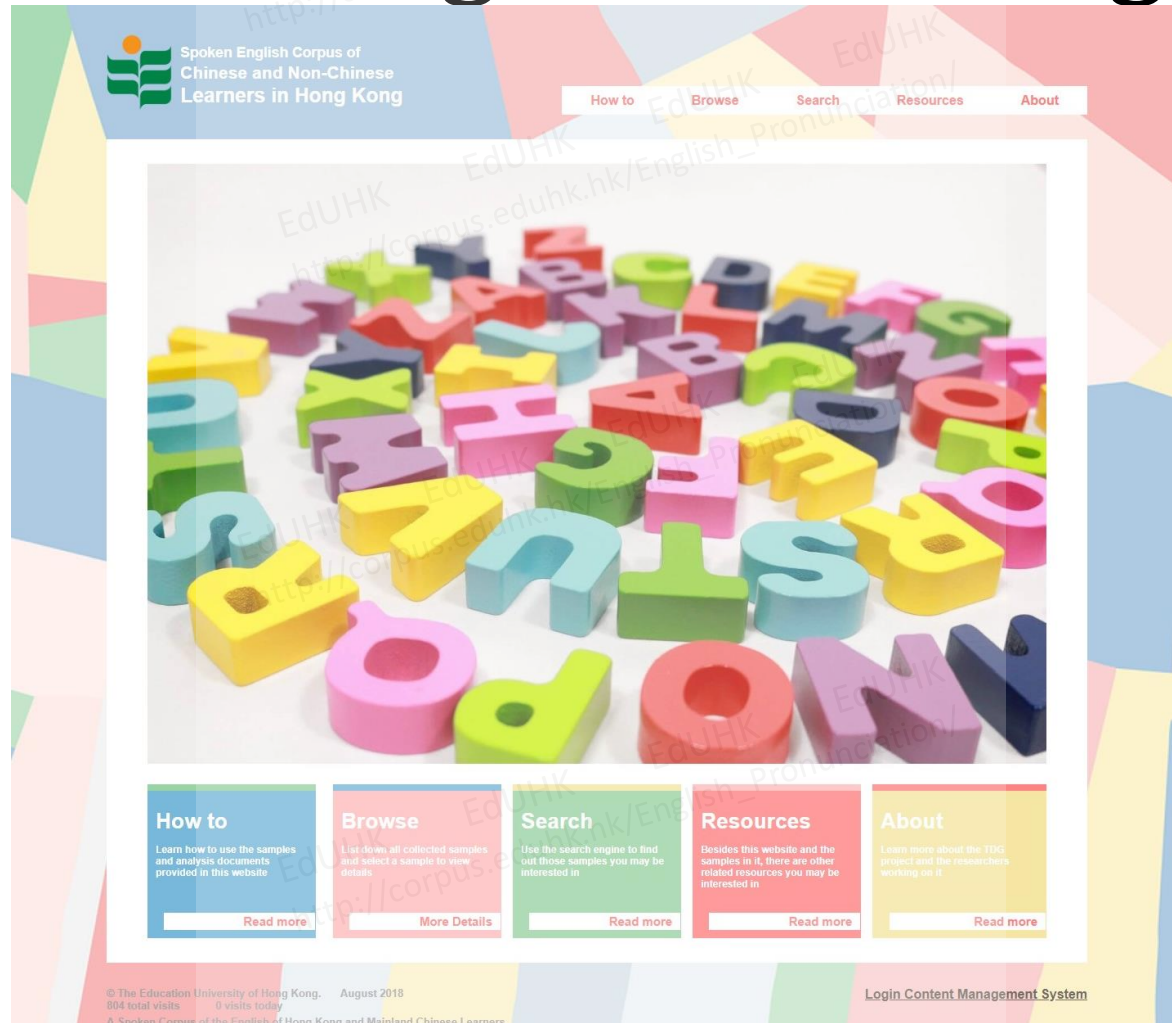
- **What are the most frequent English suprasegmental features you observed or think the English learners in Hong Kong (from local Hong Kong, mainland China, or ethnic minority groups) have?**
- **Why do the features occur so frequently?**



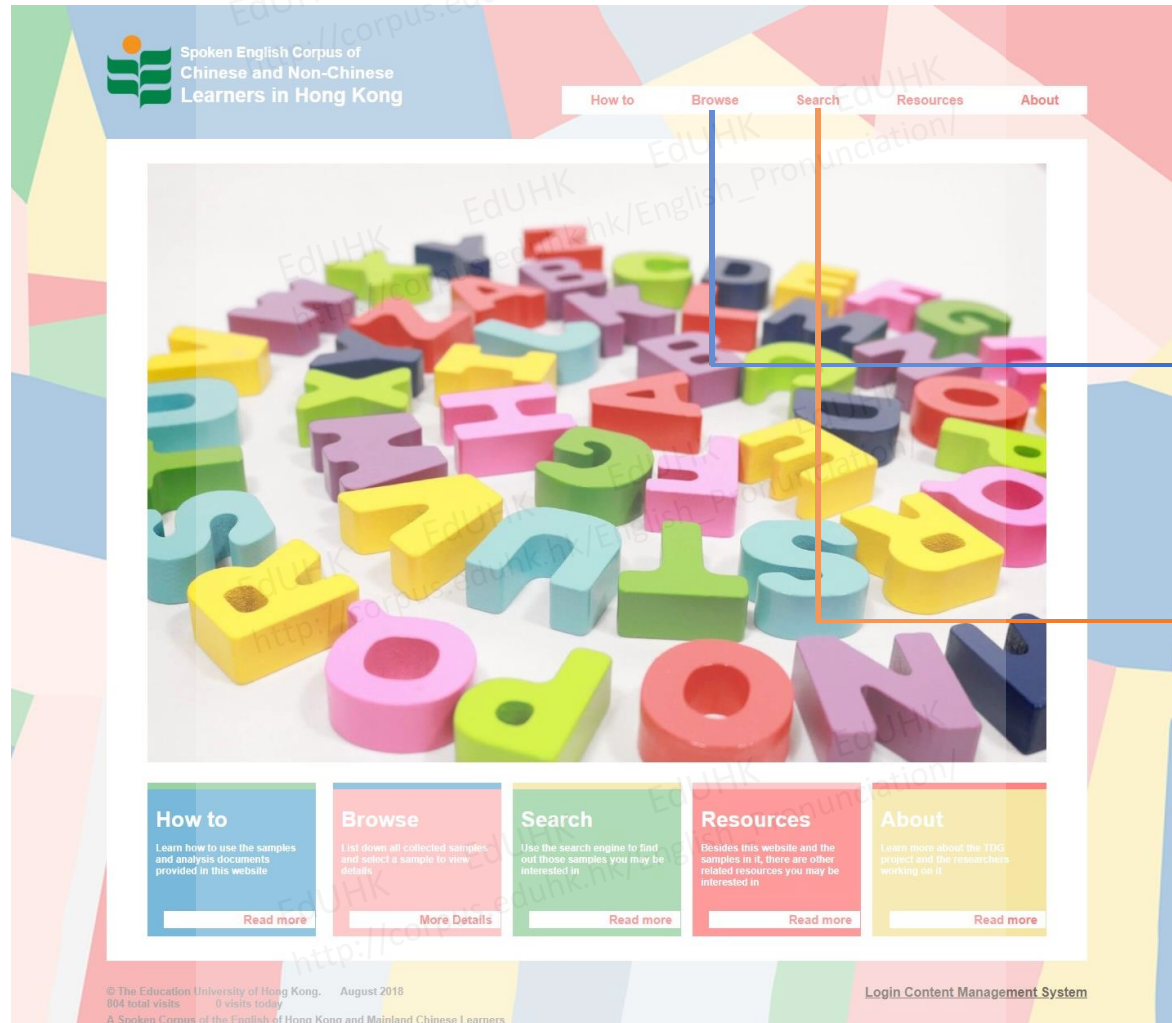


English Suprasegmental features in the corpus

Our Corpus-aided English Pronunciation Teaching and Learning System



Exploitation of our new corpus...



*Browse
function*

*Search
function*



<http://phonetics2.eduhk.hk/#/home>

Our Spoken English Corpus



Browse function



<http://phonetics2.eduhk.hk/#/home>

Spoken English Corpus of Chinese and Non-Chinese Learners in Hong Kong

How to Browse Search Resources About

Browse Speakers

Language/Dialect Background: [Any] Gender: [Either] Age: [Any] L1: [Any] L2: [Any] L3: [Any] Filter Speaker

Users can right click the buttons and select "open in new tab" to view multiple speakers' speech data.

Our Corpus-based Online English Pronunciation Learning System

0:00 / 1:36

View Raw Records

Our Spoken English Corpus



Browse function

Spoken English Corpus of Chinese and Non-Chinese Learners in Hong Kong

How to Browse Search Resources About

Browse Speakers

Language/Dialect Background: [Any] Gender: [Either] Age: [Any] L1: [Any] L2: [Any] L3: [Any] Filter Speaker

Users can right click the buttons and select "open in new tab" to view multiple speakers' speech data.

HK01	Passage One	Passage Two	Interview Question	Interview Answer
HK02	Passage One	Passage Two	Interview Question	Interview Answer
HK15	Passage One	Passage Two	Interview Question	Interview Answer
HK16	Passage One	Passage Two	Interview Question	Interview Answer

Our Spoken English Corpus



Browse function

Sentence reading with graphic illustration for *suprasegmental features*



Spoken English Corpus of
Chinese and Non-Chinese
Learners in Hong Kong

[How to](#) [Browse](#) [Search](#) [Resources](#) [About](#)

Browse Speakers

Language/Dialect Background: Gender: Age: L1: L2: L3: [Filter Speaker](#)

Users can right click the buttons and select "open in new tab" to view multiple speakers' speech data.

HK01	Passage One	Passage Two	Interview Question	Interview Answer
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HK03	Passage One	Passage Two	Interview Question	Interview Answer
HK04	Passage One	Passage Two	Interview Question	Interview Answer
HK05	Passage One	Passage Two	Interview Question	Interview Answer
HK06	Passage One	Passage Two	Interview Question	Interview Answer
HK07	Passage One	Passage Two	Interview Question	Interview Answer
HK08	Passage One	Passage Two	Interview Question	Interview Answer
HK09	Passage One	Passage Two	Interview Question	Interview Answer
HK10	Passage One	Passage Two	Interview Question	Interview Answer
HK11	Passage One	Passage Two	Interview Question	Interview Answer
HK12	Passage One	Passage Two	Interview Question	Interview Answer
HK13	Passage One	Passage Two	Interview Question	Interview Answer
HK14	Passage One	Passage Two	Interview Question	Interview Answer
HK15	Passage One	Passage Two	Interview Question	Interview Answer
HK16	Passage One	Passage Two	Interview Question	Interview Answer

Our spoken English corpus - browse

Speaker: ML24

Hometown: Jilin Gender: female Age: 19 Education Level: Bachelor Major: Science and Web Technology
English Level: College Entrance Examination 135 out of 150 Year of Learning English: 12 L1: Mandarin L2: English L3: (N/A)

Notes: "HK", "ML" and "SA" in the speaker's name stand for "Hong Kong", "Mainland" and "South and South-east Asia".

*Speaker
information*

Remarks:

1. The blue contour in pictures is pitch contour to indicate the **intonation** (pitch).
2. The yellow contour in pictures is intensity contour to indicate the **intensity** of the speech.
3. The suprasegmental features that have been spotted. Please tick the boxes to show features.

- ☒ Inappropriate pausing(IP)
- ☒ Absence of pausing(AP)
- ☒ Absence of CV linking(AL)
- ☒ Inappropriate lexical stress(ILS)
- ☒ Inappropriate intonation(II)

*clickable
feature list*

Sentence 1:

▶ 0:00 / 0:03

▶ 0:00 / 0:03 — 🔊 ⋮

▶ 0:00 / 0:04

Annotation

The screenshot shows the Praat software interface with the following components:

- Waveform:** Two channels (Ch 1 and Ch 2) of the speech signal are displayed at the top.
- Spectrogram:** A spectrogram is shown below the waveform, with a blue box highlighting a specific region.
- Pitch Contour:** A blue line graph showing the pitch of the speech signal.
- Text Grid:** A table below the spectrogram showing the segmentation of the speech into words and syllables. The words are: "Why", "do", "people", "usually", "have", "an", "accent", "when", "they", "speak", "a", "second", "language". The syllables are: "Why", "do", "people", "usually", "have", "an", "accent", "when", "they", "speak", "a", "second", "language".
- Phonetic Labels:** Labels like "p(0.16s)", "linking", and "linking" are visible in the text grid.
- Duration:** The visible part of the audio is 4.005986 seconds, and the total duration is 4.005986 seconds.

Reading content

CV linking

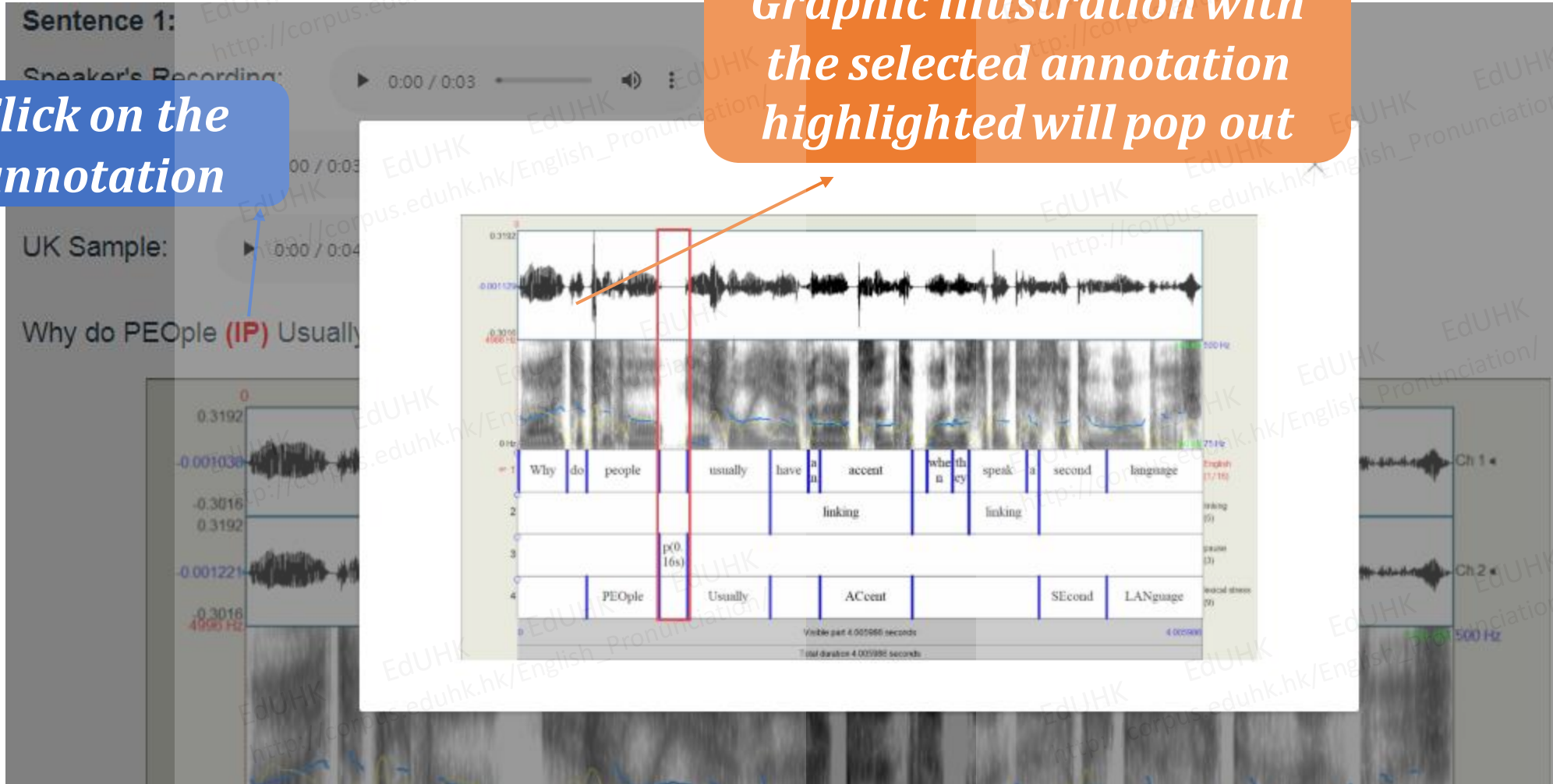
Pausing

Lexical stress

Our spoken English corpus - browse

Click on the
annotation

Graphic illustration with
the selected annotation
highlighted will pop out



Our Spoken English Corpus – search



Search function

Spoken English Corpus of Chinese and Non-Chinese Learners in Hong Kong

How to Browse Search Resources About

Search Passage

Users can right click the buttons and select "open in new tab" to view multiple speakers' speech data

Passage One (Suprasegmental)

Step 1: [NONE SELECTION]

Passage Two (Segmental)

[NONE SELECTION]

[NONE SELECTION]



<http://phonetics2.eduhk.hk/#/home>

Our Spoken English Corpus – search

Search Passage

Users can right click the buttons and select "open in new tab" to view multiple speakers' speech data

Passage One (Suprasegmental)

Step 1:

Passage One

[Search Result]

Speaker: HK01	Speaker: HK02	Speaker: HK03	Speaker: HK04
Speaker: HK05	Speaker: HK06	Speaker: HK07	Speaker: HK09
Speaker: HK10	Speaker: HK11	Speaker: HK12	Speaker: HK13
Speaker: HK14	Speaker: HK15	Speaker: HK16	Speaker: HK17
Speaker: HK18	Speaker: HK19	Speaker: HK20	Speaker: ML01
Speaker: ML02	Speaker: ML03	Speaker: ML04	Speaker: ML05
Speaker: ML06	Speaker: ML07	Speaker: ML08	Speaker: ML09
Speaker: ML11	Speaker: ML12	Speaker: ML13	Speaker: ML14
Speaker: ML15	Speaker: ML16	Speaker: ML17	Speaker: ML18
Speaker: ML19	Speaker: ML20	Speaker: ML21	Speaker: ML22

*a list of
speakers who
have the
target feature*

Our Spoken English Corpus – search

Sentence 5:

Speaker's Recording:

▶ 0:00 / 0:03



US Sample:

▶ 0:00 / 0:02

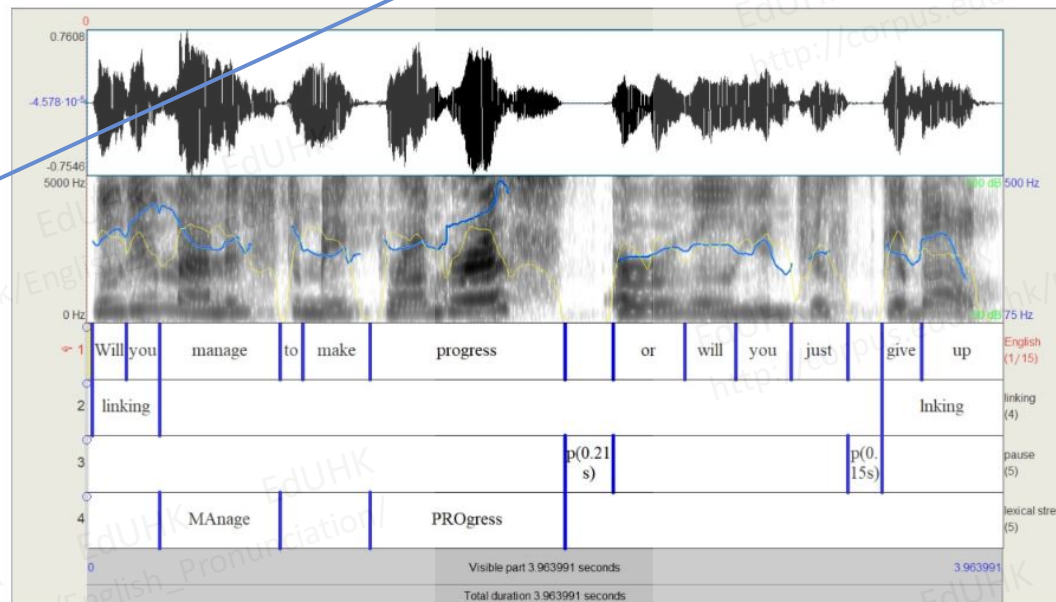


UK Sample:

▶ 0:00 / 0:03

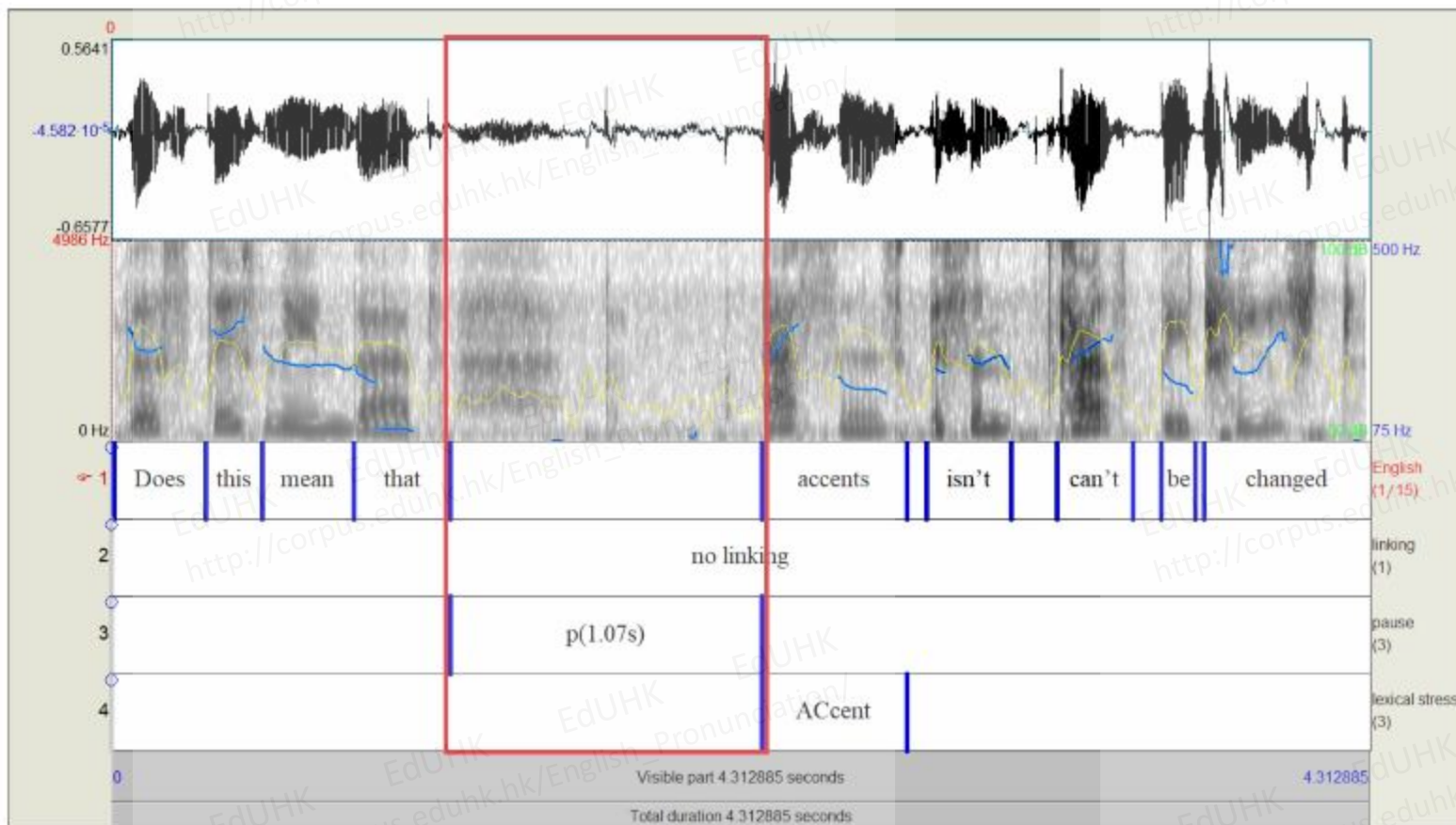


Will you MANage to make PROgress, or will you just (IP) give up?



After choosing a speaker, the data page will appear with the target feature highlighted

Inappropriate pausing (IP)



Learner

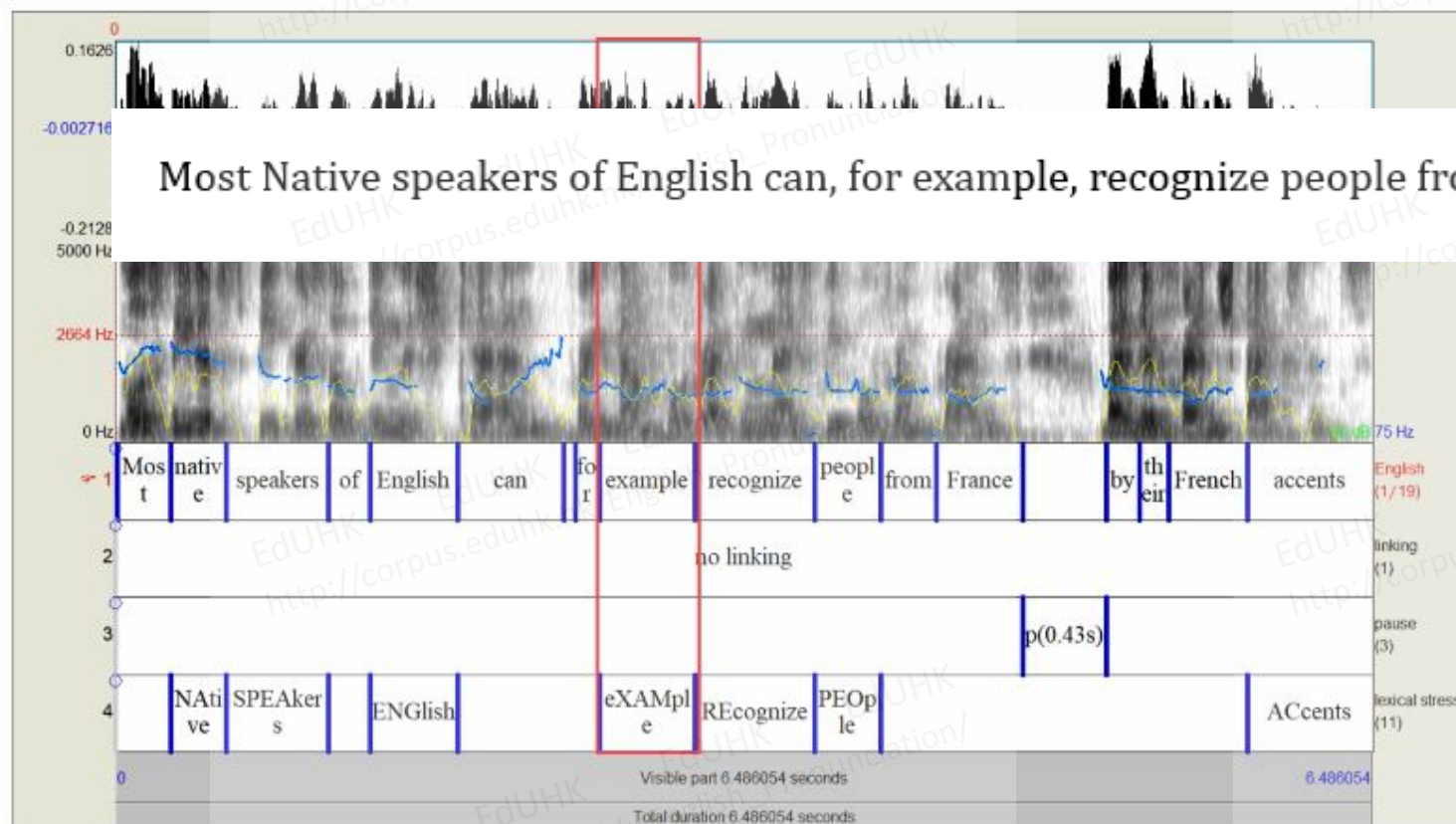


UK



US

Absence of pausing (AP)



Learner

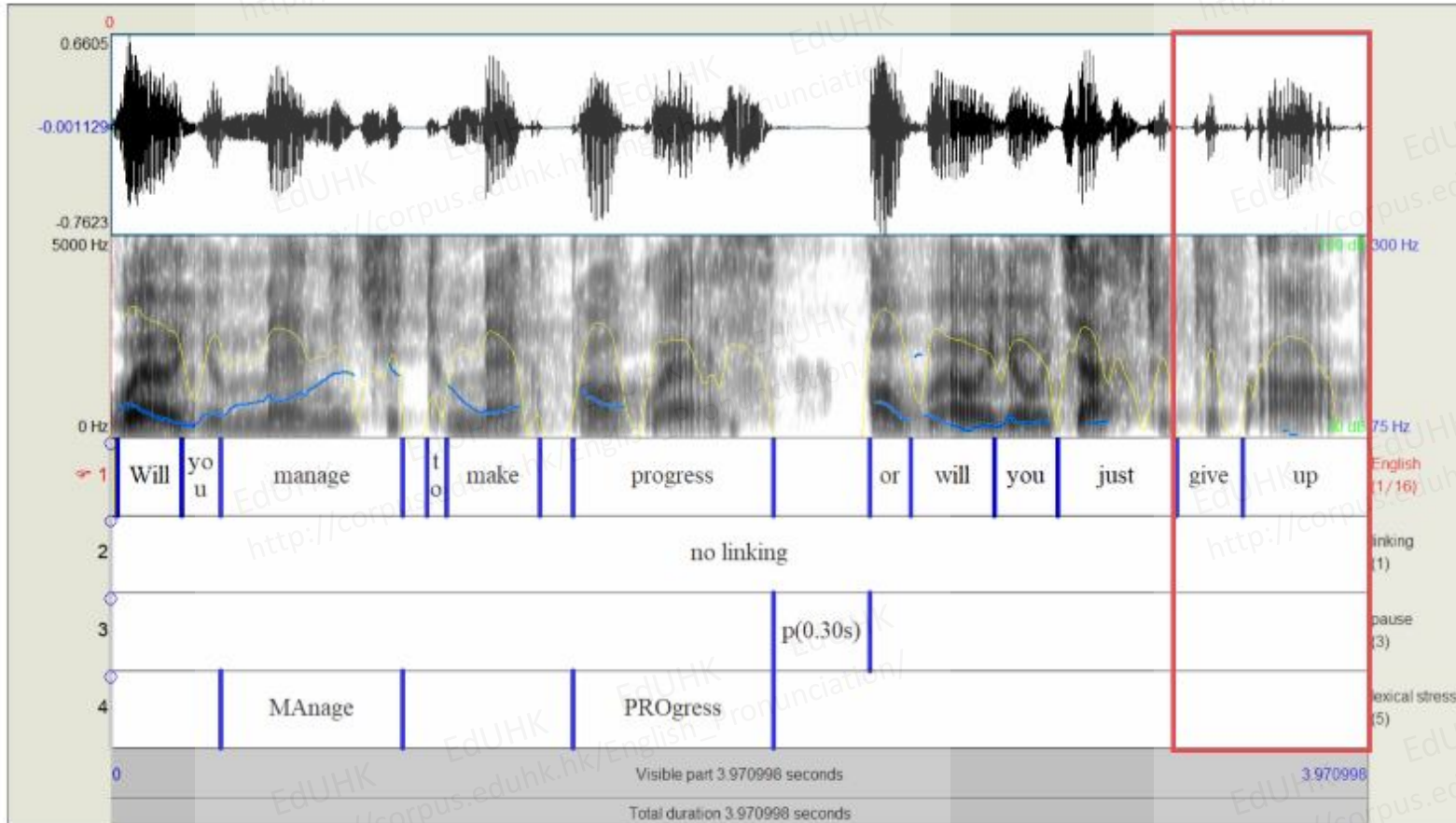


UK



US

Absence of linking (AL)

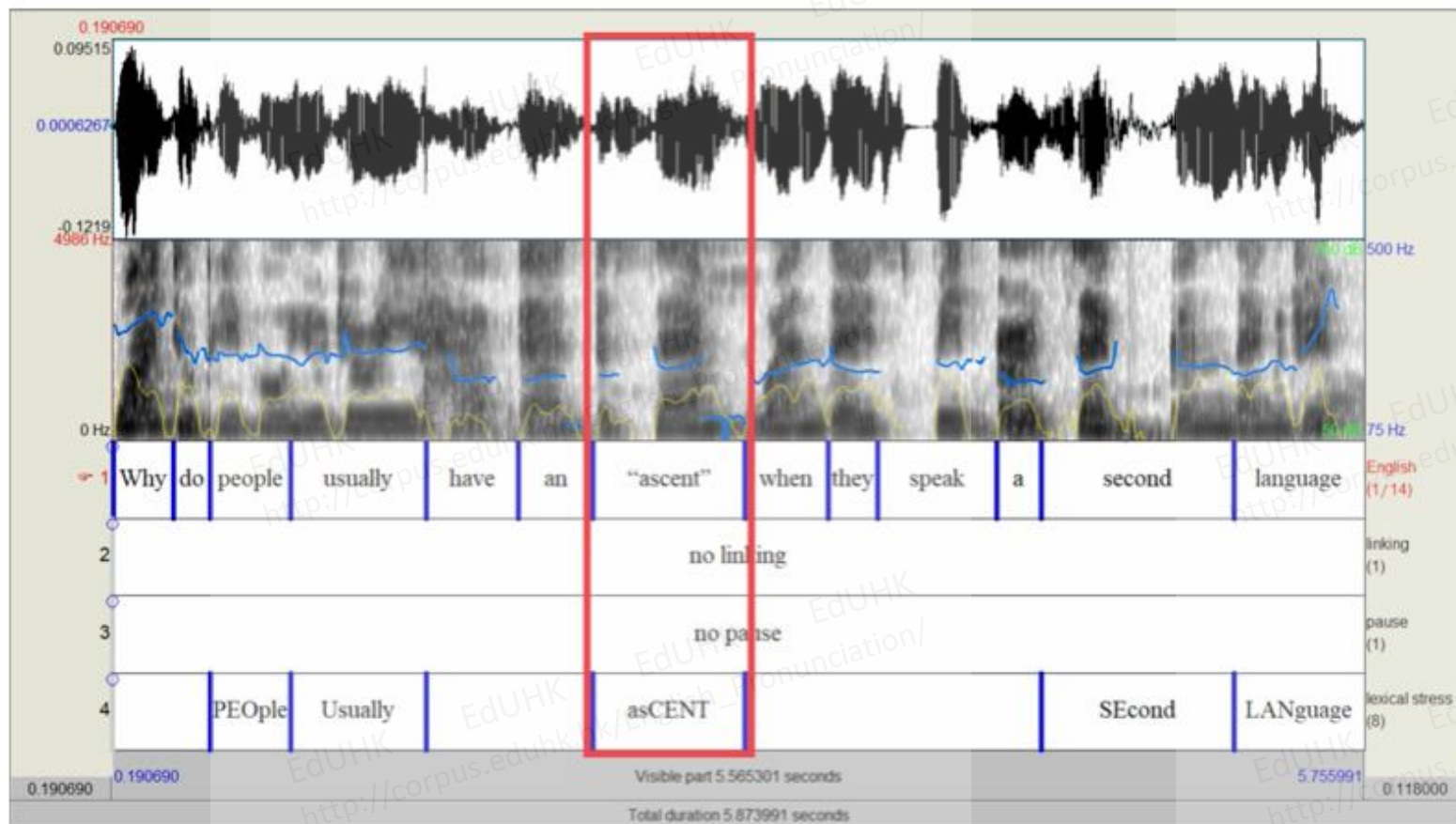


 Learner

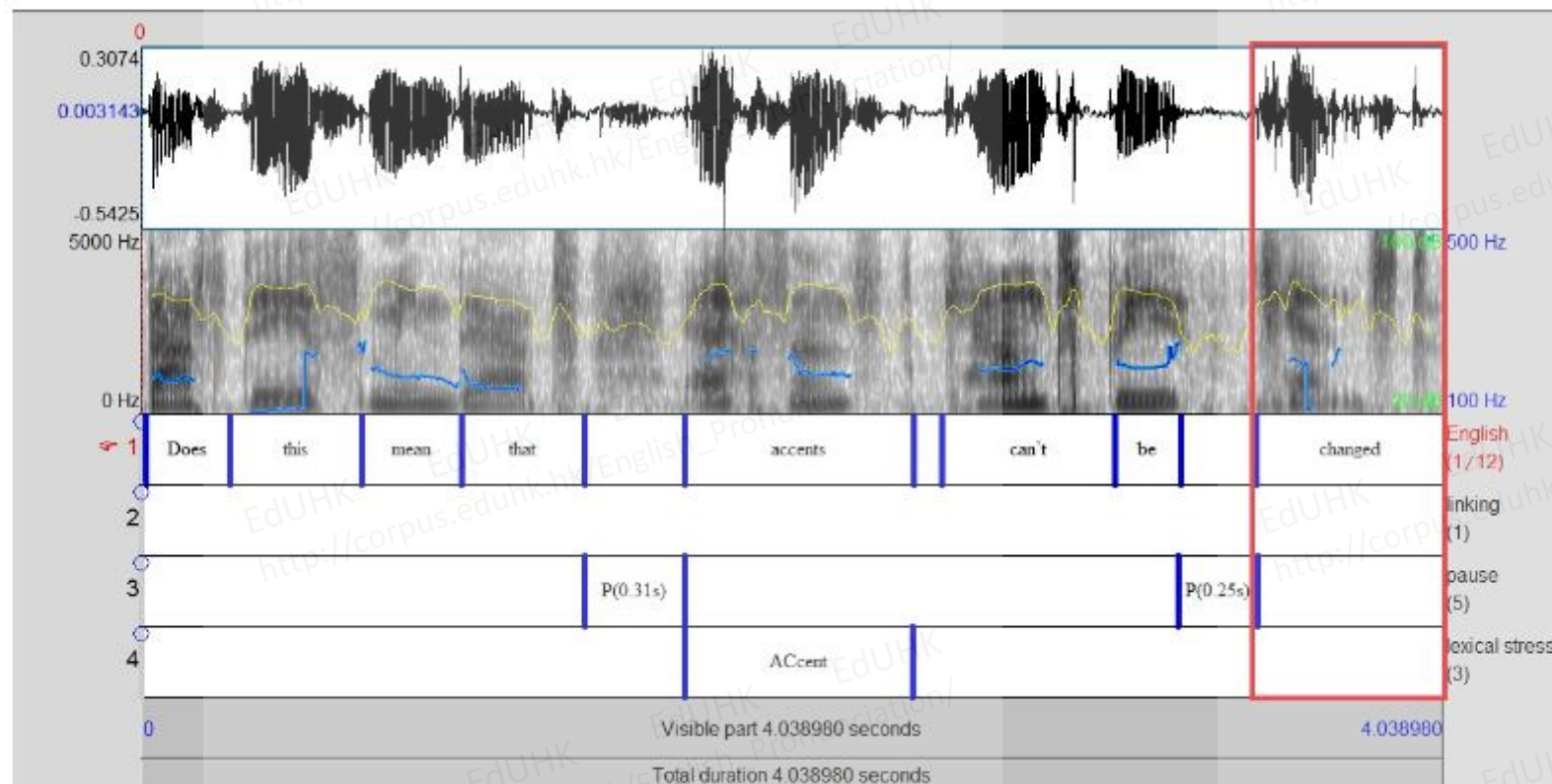
 UK

 US

Inappropriate lexical stress (ILS)



Inappropriate intonation (II)



Learner



UK



US

Hands-on activity 1:



Worksheet 1

1. Visit the corpus <http://phonetics2.eduhk.hk/#/home>.
2. Use 'search' function.
3. Choose **one suprasegmental feature** you are interested in.
4. Note down the **numbers of HK, ML, SA** speakers who have the suprasegmental feature and calculate the **percentage** of occurrences for each group of speakers.
5. Discuss with your partner(s):
 - 1) **why** did you choose this suprasegmental feature?
 - 2) for the suprasegmental feature you searched for, **which group of speakers** has the highest frequency of occurrence?
 - 3) what are the **possible causes** for such phenomenon?

Type of suprasegmental feature	Group of speaker	Number of occurrences	Percentage of occurrences
Inappropriate pausing	HK	19/20	95%
	ML	90/96	93.75%
	SA	18/20	90%
Type of suprasegmental feature	Group of speaker	Number of occurrences	Percentage of occurrences
Absence of pausing	HK	1/20	5%
	ML	13/96	13.54%
	SA	11/20	55%
Type of suprasegmental feature	Group of speaker	Number of occurrences	Percentage of occurrences
Absence of CV linking	HK	20/20	100%
	ML	95/96	98.96%
	SA	20/20	100%
Type of suprasegmental feature	Group of speaker	Number of occurrences	Percentage of occurrences
Inappropriate lexical stress	HK	3/20	15%
	ML	19/96	19.79%
	SA	5/20	25%
Type of suprasegmental feature	Group of speaker	Number of occurrences	Percentage of occurrences
Inappropriate intonation	HK	20/20	100%
	ML	96/96	100%
	SA	20/20	100%

Our Spoken English Corpus – search

Search Passage

Users can right click the buttons and select "open in new tab" to view multiple speakers' speech data

Passage One (Suprasegmental)

Step 1:

Passage One				[Search Result]
Speaker: HK02	Speaker: ML04	Speaker: ML24	Speaker: ML26	
Speaker: ML38	Speaker: ML45	Speaker: ML47	Speaker: ML48	
Speaker: ML50	Speaker: ML51	Speaker: ML53	Speaker: ML55	
Speaker: ML57	Speaker: ML72	Speaker: SA02	Speaker: SA03	
Speaker: SA04	Speaker: SA05	Speaker: SA08	Speaker: SA09	
Speaker: SA12	Speaker: SA13	Speaker: SA14	Speaker: SA15	
Speaker: SA17				

a list of speakers who have the target feature

11 out of 20 SA speakers have this feature.

Our Spoken English Corpus – search

Search Passage

Users can right click the buttons and select "open in new tab" to view multiple speakers' speech data

Passage One (Suprasegmental)

Step 1:

Passage One				[Search Result]
Speaker: HK01	Speaker: HK02	Speaker: HK03	Speaker: HK04	
Speaker: HK05	Speaker: HK06	Speaker: HK07	Speaker: HK08	
Speaker: HK09	Speaker: HK10	Speaker: HK11	Speaker: HK12	
Speaker: HK13	Speaker: HK14	Speaker: HK15	Speaker: HK16	
Speaker: HK17	Speaker: HK18	Speaker: HK19	Speaker: HK20	
Speaker: ML01	Speaker: ML02	Speaker: ML03	Speaker: ML04	
Speaker: ML05	Speaker: ML06	Speaker: ML07	Speaker: ML08	
Speaker: ML09	Speaker: ML10	Speaker: ML11	Speaker: ML12	
Speaker: ML13	Speaker: ML14	Speaker: ML15	Speaker: ML16	
Speaker: ML17	Speaker: ML18	Speaker: ML19	Speaker: ML20	
Speaker: ML21	Speaker: ML22	Speaker: ML23	Speaker: ML24	
Speaker: ML25	Speaker: ML26	Speaker: ML27	Speaker: ML28	

95 out of 96 ML speakers, 20 HK speakers, and 20 SA speakers have this feature.

Our Spoken English Corpus – search

Search Passage

Users can right click the buttons and select "open in new tab" to view multiple speakers' speech data

Passage One (Suprasegmental)

Step 1:

Passage One				[Search Result]
Speaker: HK01	Speaker: HK02	Speaker: HK03	Speaker: HK04	
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Speaker: HK13	Speaker: HK14	Speaker: HK15	Speaker: HK16	
Speaker: HK17	Speaker: HK18	Speaker: HK19	Speaker: HK20	
Speaker: ML01	Speaker: ML02	Speaker: ML03	Speaker: ML04	
Speaker: ML05	Speaker: ML06	Speaker: ML07	Speaker: ML08	
Speaker: ML09	Speaker: ML10	Speaker: ML11	Speaker: ML12	
Speaker: ML13	Speaker: ML14	Speaker: ML15	Speaker: ML16	
Speaker: ML17	Speaker: ML18	Speaker: ML19	Speaker: ML20	
Speaker: ML21	Speaker: ML22	Speaker: ML23	Speaker: ML24	
Speaker: ML25	Speaker: ML26	Speaker: ML27	Speaker: ML28	
Speaker: ML29	Speaker: ML30	Speaker: ML31	Speaker: ML32	

96 ML speakers, 20 HK speakers, and 20 SA speakers have this feature.

Falling intonation is used in:

- **Tag questions** – But old habits won't change without a lot of hard work, will **they** ? 

Hands-on activity 1:

5. Discuss with your partner(s):

- 1) **why** did you choose this suprasegmental feature?
- 2) for the suprasegmental feature you searched for, **which group of speakers** has the highest frequency of occurrence?
- 3) what are the **possible causes** for such phenomenon?

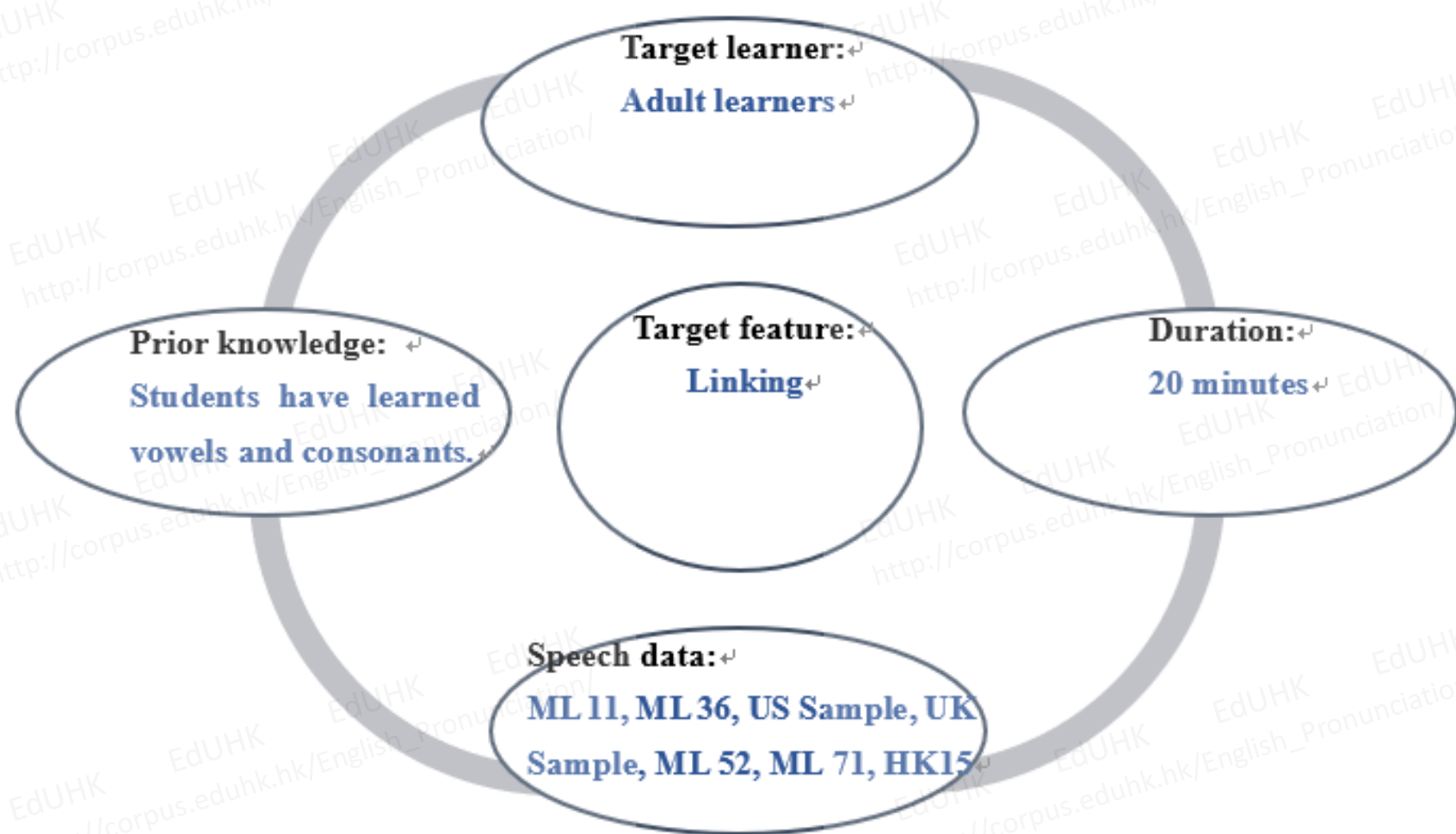
Hands-on activity 2

Worksheet 2

1. Form groups/pairs.
2. Select **one suprasegmental feature**.
3. Integrate the **corpus data** into a **classroom activity** to help students remedy the target pronunciation feature.



4. Include the following elements:
 - target feature
 - target learner
 - prior knowledge
 - speech data from the corpus
 - duration of the activity
 - what the activity looks like



1. Feature discovery

Students listen to the recordings of ML 11, ML 36, and US and UK samples, (Sentence 5, Passage one in the Spoken English Corpus of Chinese and Non-Chinese Learners in Hong Kong) and find the differences between learners and native speakers.

The teacher then gives instructions and examples of CV linking.

2. Consolidation

Students listen to the recordings of ML 52, ML 71, HK 15, and check whether these speakers have the feature of absence of CV linking.

3. Production

Students listen to the song “1000 hours” and try to find CV linking features in the song.

Students sing the song together and check whether they produce CV linking feature appropriately and correctly.

Do you love the rain
Does it make you dance
When you're drunk with your friends at a party
What's your favorite song
Does it make you smile
Do you think of me
When you close your eyes tell me what are you dreaming
Everything I wanna know it all
I'd spend 10,000 hours
And 10,000 more
Oh if that's what it takes to learn that sweet heart of yours
And I might never get there
But I'm gonna try
If it's 10,000 hours
Or the rest of my life
I'm gonna love you
Or the rest of my life
I'm gonna love you



<https://www.youtube.com/watch?v=Y2E71oe0aSM>

Scheduled Corpus-aided English Pronunciation Training Workshops and Online Lessons

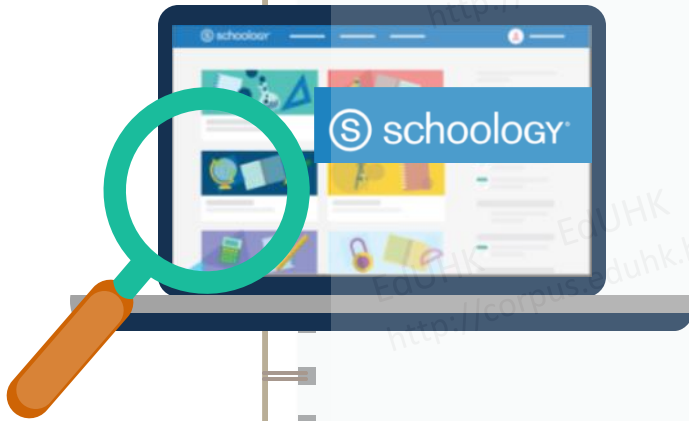
Topic	Date	Time	Venue
Workshop I - Introduction of spoken corpus, phonetics and phonology, and pronunciation features; Exploitation of corpus data to do phonological analysis of segmental features	23-Oct-2019 (Wed)	15:30pm-17:30pm	B4-LP-03
Online Lesson I - Basic concepts of spoken corpus, segmental system of English and pronunciation features; Phonological analysis of segmental features	25-Oct-2019 (Fri)	By 23:55pm	-
Workshop II - Exploitation of corpus data to do phonological analysis of suprasegmental features (word stress, intonation); Introduction of speech rhythm, linking, pause, and speech rate	30-Oct-2019 (Wed)	15:30pm-17:30pm	D3-LP-02
Workshop III - Discussion of the benefits of doing corpus-based analysis through speech corpus and how we can use the findings in the language classroom	6-Nov-2019 (Wed)	15:30pm-17:30pm	B4-LP-03
Online Lesson II - Basic concepts of suprasegmental system of English, and pronunciation features; Phonological analysis of suprasegmental features	8-Nov-2019 (Fri)	By 23:55pm	-
Workshop IV - Development of teaching materials for primary and secondary students; Competition	20-Nov-2019 (Wed)	15:30pm-17:30pm	B4-LP-03

Evaluation Form



Procedures of how to sign up for your free **Schoology** account to get access to our online session next week.

Instruction on Schoology Registration




Please **sign up** for your free **Schoology** account to get access to our online session next week.

<https://www.schoology.com/>



Instruction on Schoology Registration



2. Please type in the access code 8CJG-2MWC-TQF3H, then click “Continue”.

Sign up for Schoology

Back

8CJG-2MWC-TQF3H

Enter the access code provided by your instructor

Continue

3. Please type in your personal information, then click “Register”.

Sign up for

First Name

Email or Username

Password

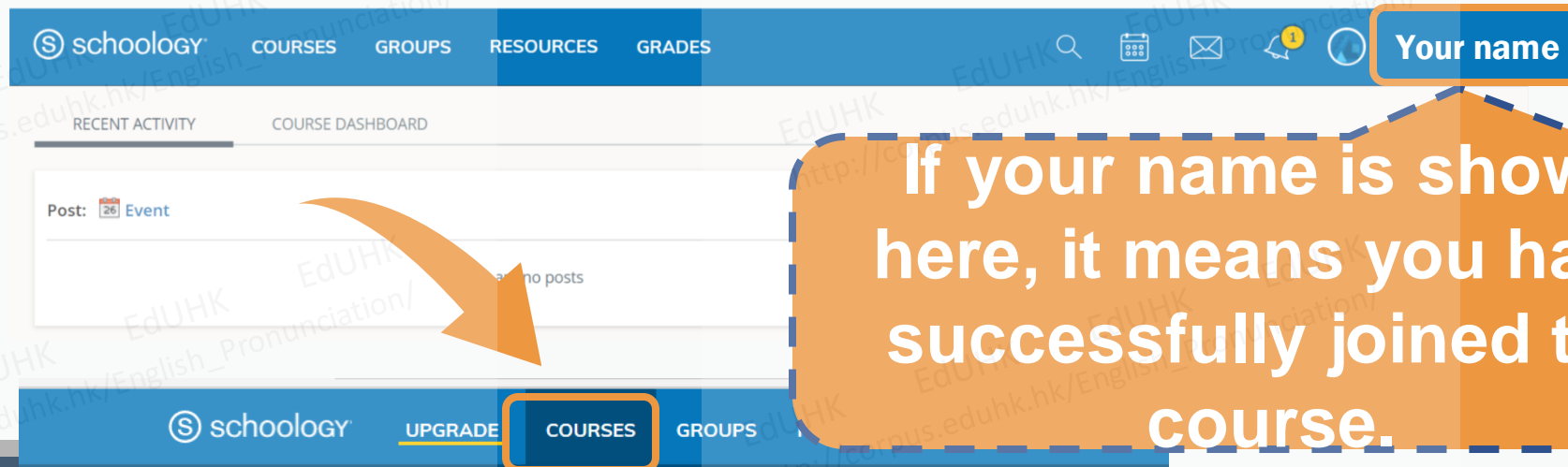
Confirm Password

Birthday: Month Day Year

☐ By clicking Register, you are agreeing to our Privacy Policy and Terms of Use

Register

Instruction on Schoology Registration



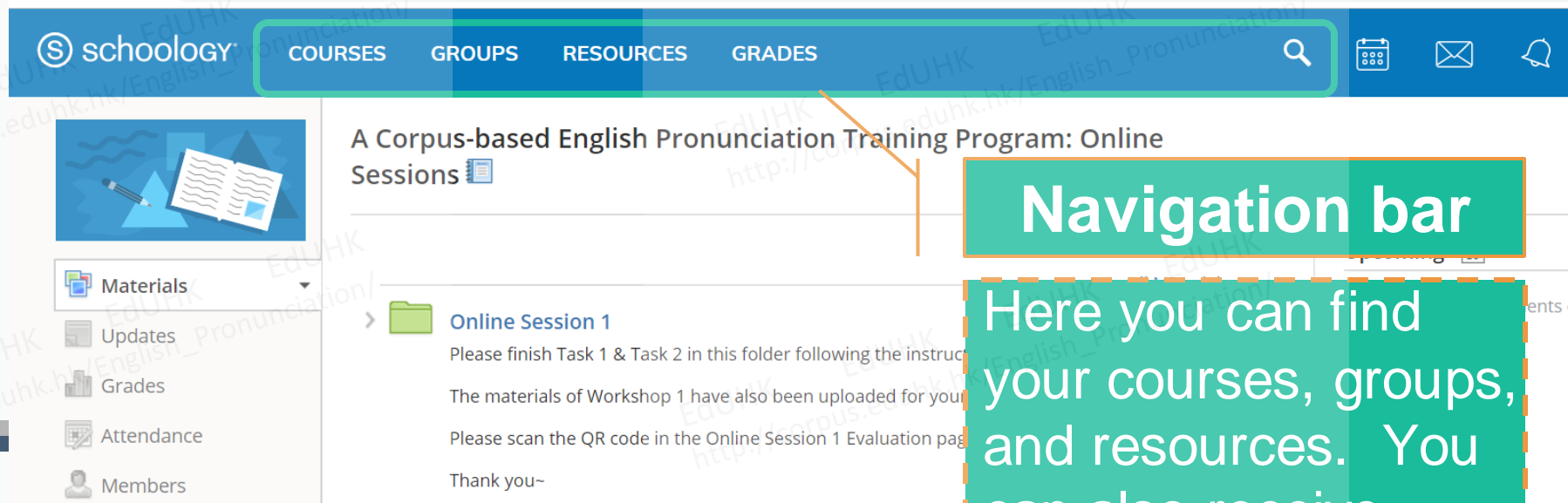
If your name is shown here, it means you have successfully joined the course.

Courses



4. Click on the course to access the course content.

Instruction on Schoology Registration



Navigation bar

Here you can find your courses, groups, and resources. You can also receive notifications and requests, as well as update your profile and switch accounts.

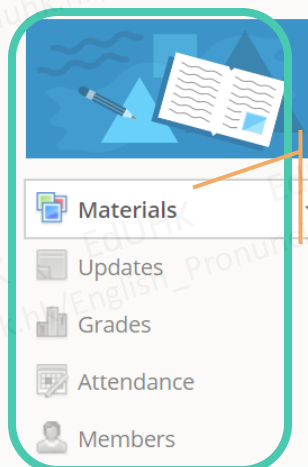
Instruction on Schoology Registration



A Corpus-based English Pronunciation Training Program: Online Sessions

Course menu

Your course menu will show your materials, updates, grades, and more.



Upcoming · 18

No upcoming assignments or

Instruction on Schoology Registration



A screenshot of the Schoology web interface. The top navigation bar is blue with the Schoology logo and links for COURSES, GROUPS, RESOURCES, and GRADES. On the right side of the navigation bar, there is a search icon, a calendar icon, an email icon, and a notification bell icon. A green callout box with a dashed border points to the calendar icon, containing the text: "You can switch your view by clicking the 'calendar' icon." A larger green callout box with a dashed border is overlaid on the main content area, containing the text: "Reminder: Your upcoming assignments and events are listed in chronological order." The main content area shows a sidebar with links for Materials, Updates, Grades, Attendance, and Members. The main content area displays a course titled "A Comprehensive English Program: Online" with a session listed.

Thanks

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