

# The 4<sup>th</sup> International Conference on Literature, Linguistics, and Language Teaching (ICoLLiTec)

12<sup>th</sup> November 2022 | Universitas Pamulang, South Tangerang City, Indonesia

## Helping migrants to improve their pronunciation skills

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**FCT** Fundação  
para a Ciência  
e a Tecnologia



**el@n** DH  
ENSINO DE LÍNGUAS ONLINE



## Goal

To show how different free digital resources can be used by migrants to achieve a good level of pronunciation, especially in terms of intelligibility and comprehensibility

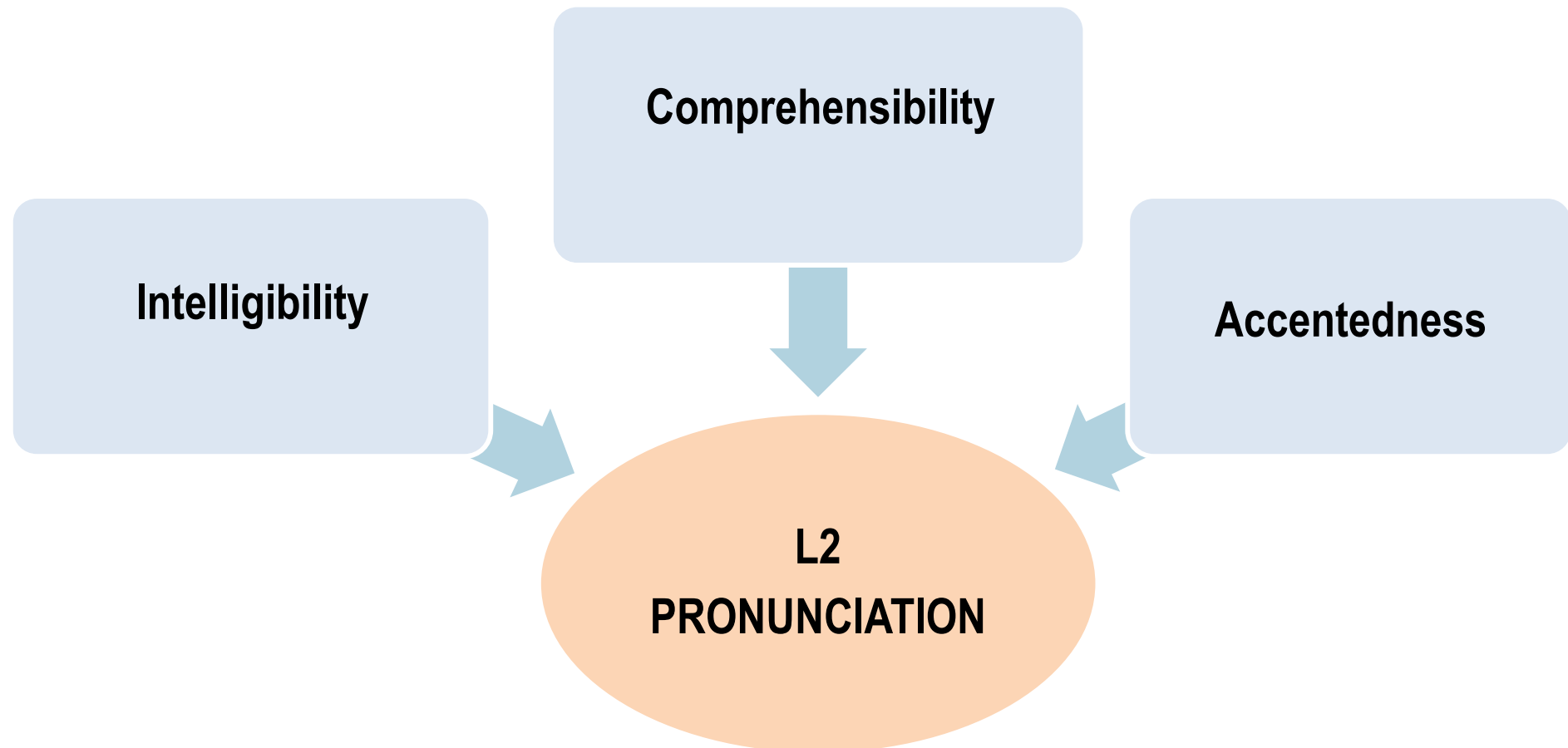
## Migrant

- ✓ Worker in a host country
- ✓ User of mobile and internet
- ✓ Wish for integration
- ✓ Highly constrained in terms of time and financial resources
- ✓ User of the L2 language

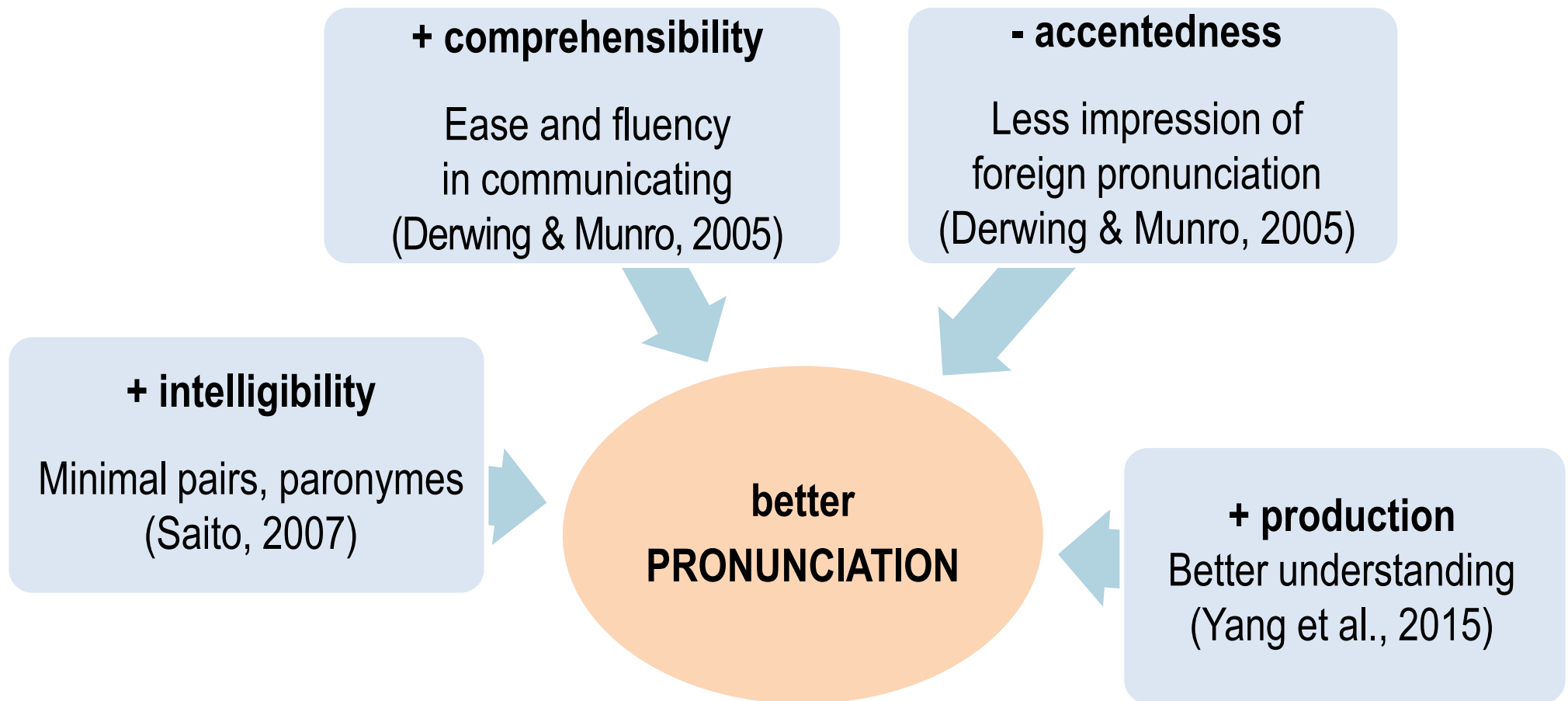
## Outline

1. Why is pronunciation important (for migrants)?
2. How can they improve their pronunciation?
3. Which free digital resources can they use?
4. How can we reach out to migrants and help them?

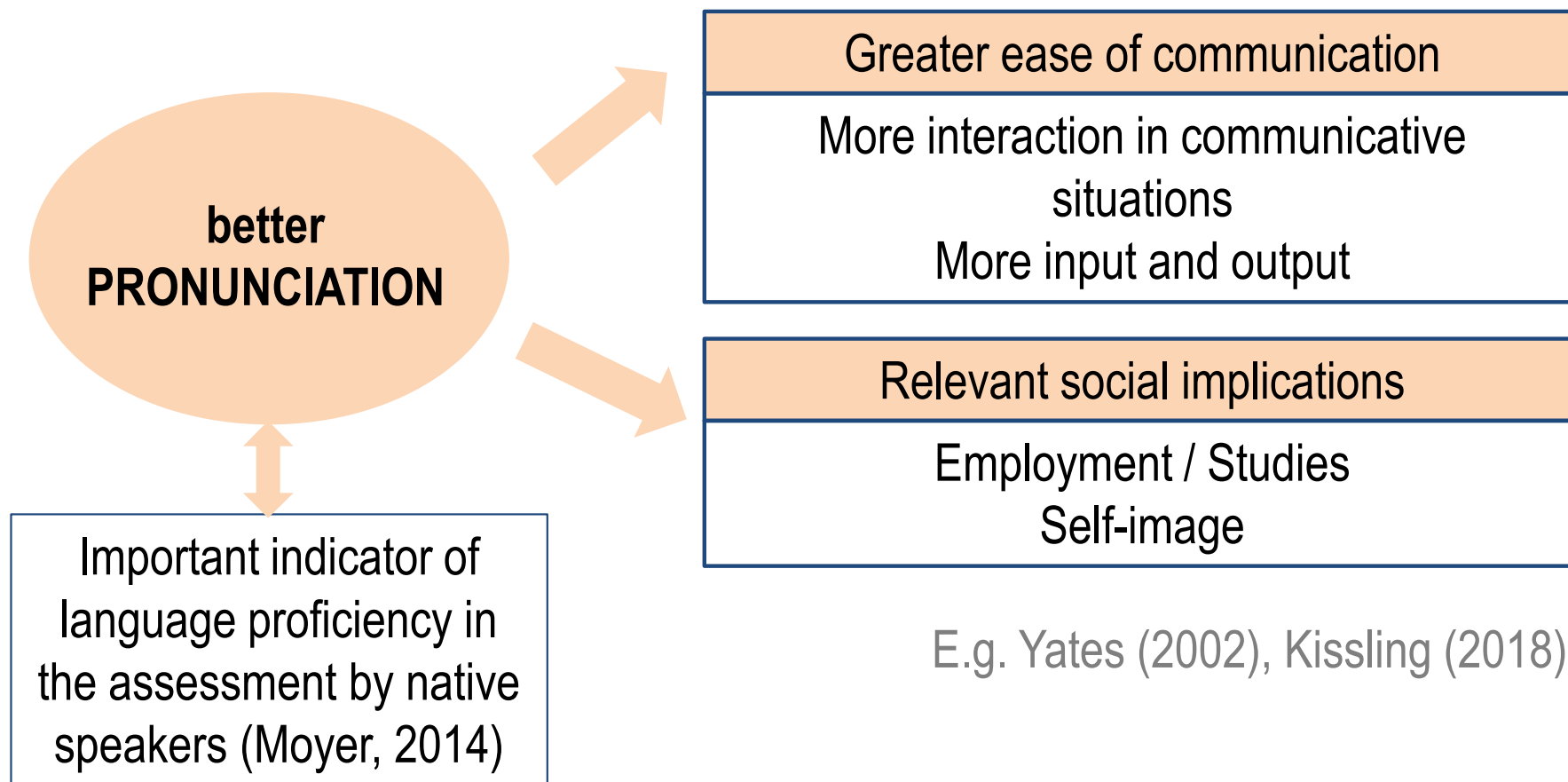
# 1. Why is pronunciation important (for migrants)?



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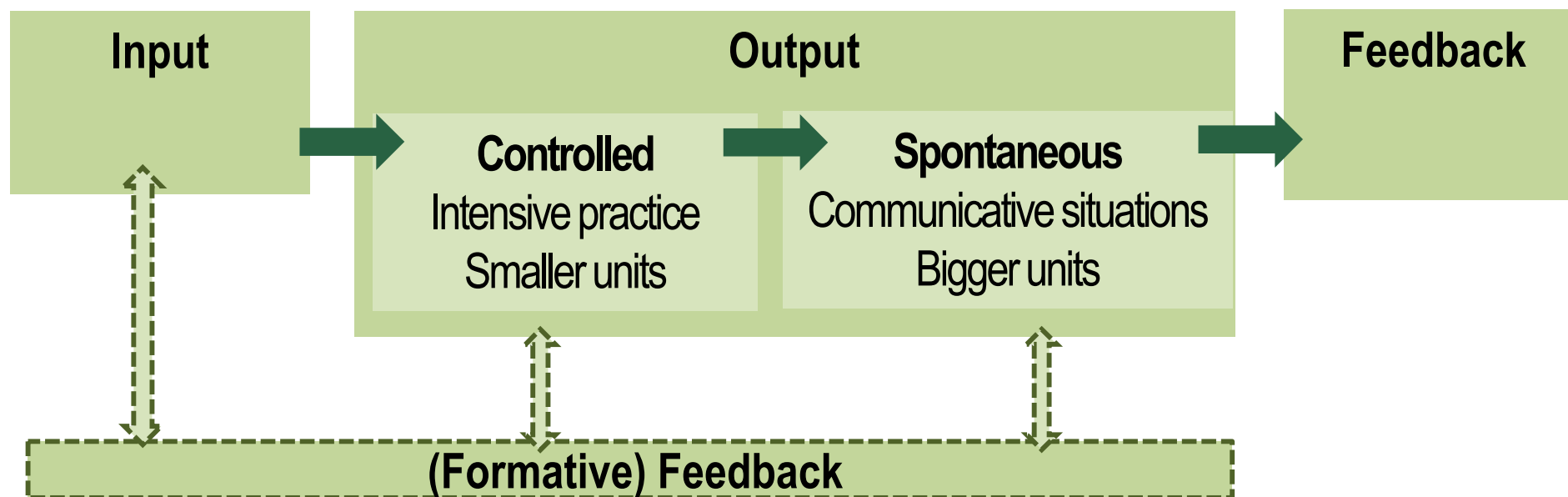


E.g. Yates (2002), Kissling (2018)

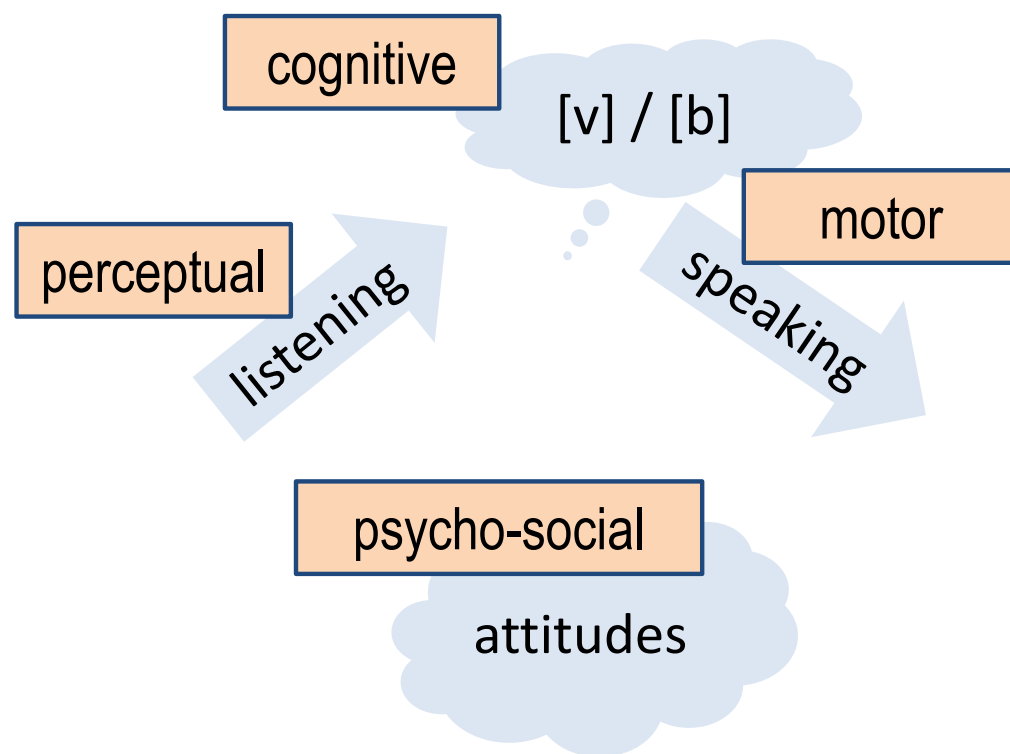
“Adults will not necessarily be able to learn an intelligible pronunciation in English without consistent, focused support and instruction. When this is given they can make progress, although it will be slow.”

(Yates 2002: 4)

## 2. How can they improve their pronunciation?



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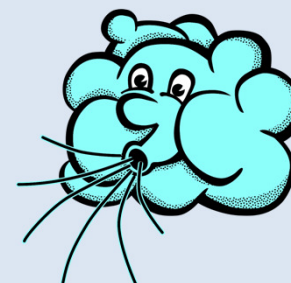


Several modalities  
(perceptual, visual, kinesthetic)

[b] *bomba*, 'bomb', *bum*



[v] *vento*, 'wind', *vvvvuuuu...*



Grant (2014)

## 2. How can they improve their pronunciation?

### Implicit approach

- ✓ discrimination
- ✓ imitation

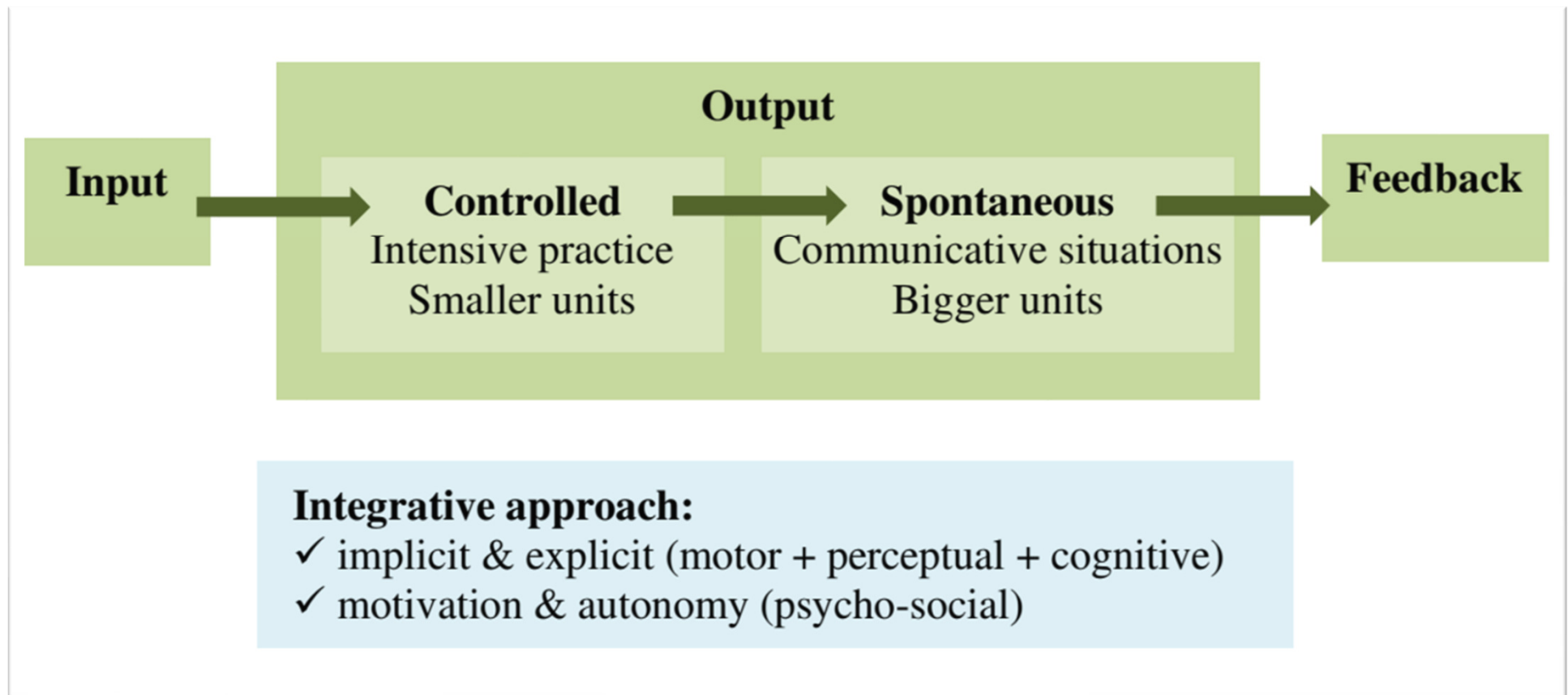
### Explicit approach

- ✓ explanation on sounds
- ✓ analysis of speech problems

Integrative approach: ✓ implicit } (motor + perceptual + cognitive)  
✓ explicit }  
✓ motivation and autonomy (psycho-social)

## 2. How can they improve their pronunciation?

### A Framework to Pronunciation Teaching (see Castelo, 2022a)













Adapted from Castelo (2017)

Mainly inspired in Flege (1995), Ellis (2005), Hişmanoğlu (2006), Wei (2006), Best & Tyler (2007), Celce-Murcia et al. (2010), Saz et al. (2010), Hashemian & Fadaei (2011), Wrembel (2011), Derwing & Munro (2014), Grant (2014), Moyer (2014), Alves (2015).

## 2. How can they improve their pronunciation?

Input	Output		Feedback
	(controlled)	(spontaneous)	
<p>Perceptual tests (discrimination and identification)</p> <p>Audios/videos for global, selective or detailed comprehension (diversified, motivating, authentic materials)</p>	<p>Production of specific words/sentences for automatic speech recognition</p>	<p>Production of spontaneous output for automatic speech recognition (e.g. descriptions)</p> <p>Communicative activities/tasks to complete with peers / in tandem</p>	<p>Perceptual tests (discrimination and identification)</p> <p>Production for automatic speech recognition</p> <p>-----</p> <p>Peers Teachers</p>
<p>Shadowing                      Mirroring</p> <p>Imitation of models for speaking (production from text-to-speech converters)</p>			
<p>Metalinguistic explanations</p> <p>Questionnaire promoting autonomy, metacognition</p> <p>Tutorials on pronunciation learning</p>			

### 3. Which free digital resources can they use?

- ✓ Online dictionaries with audio (and phonetic transcription) 
- ✓ Online automatic translator with audio and automatic speech recognition 
- ✓ Online text-to-speech converters  
- ✓ Online speech-to-text converters 
- ✓ Websites with audios or articulatory movements related to IPA symbols  
- ✓ Audios / videos (including songs, subtitled or not, fast or slow) 
- ✓ Websites dedicated to explicit and implicit approaches to pronunciation 
- ✓ Mobile applications to learn vocabulary, language or pronunciation
- ✓ Discrimination tests with automatic feedback 

### 3. Which free digital resources can they use?

#### YouTube videos / series / podcasts / songs

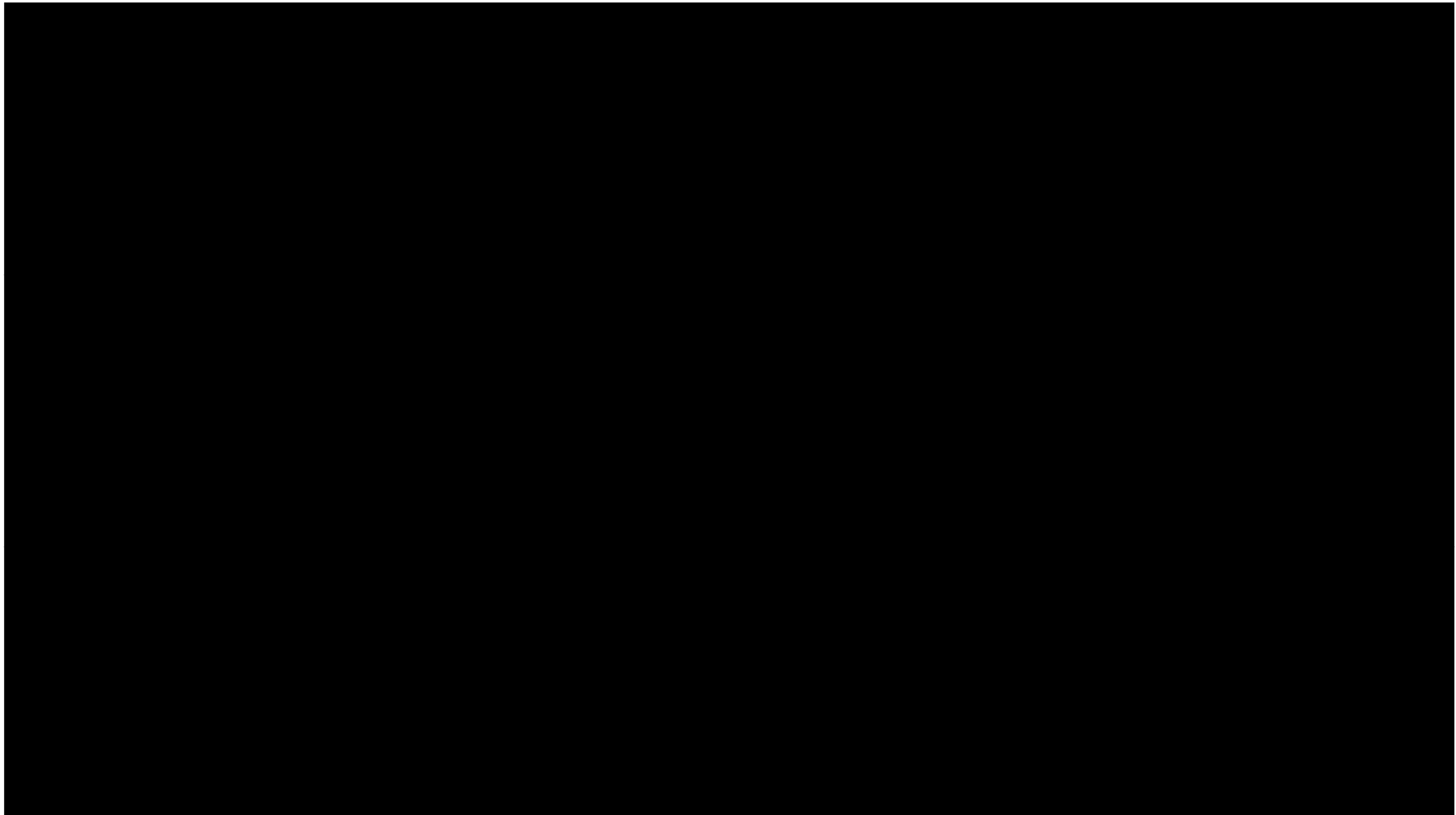
- ✓ **Videos** → shadowing, mirroring (input + controlled output), +-subtitled (general language skills, culture, motivation, hobby)
- ✓ **Audios** → shadowing (input + controlled output)
- ✓ **Songs** → input, singing (controlled output), choice according to the target-sounds

### 3. Which free digital resources can they use?

Example | French **nasal vowels**

**La Tendresse – Symphonie confinée (2020)**

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



### 3. Which free digital resources can they use?

#### Example | French nasal vowels

[õ] [ã] [ẽ] (no distinction [ê]/[œ])

[...] On peut vivre sans la gloire  
Qui ne prouve rien  
Être inconnu dans l'histoire  
Et s'en trouver bien  
Mais vivre sans tendresse  
Il n'en est pas question  
Non, non, non, non  
Il n'en est pas question

Quelle douce faiblesse  
Quel joli sentiment  
Ce besoin de tendresse  
Qui nous vient en naissant  
Vraiment, vraiment, vraiment

[...] Mais vivre sans tendresse  
Le temps vous paraît long  
Long, long, long, long  
Le temps vous paraît long

Dans le feu de la jeunesse  
Naissent les plaisirs  
Et l'amour fait des prouesses  
Pour nous éblouir  
Oui mais sans la tendresse  
L'amour ne serait rien  
Non, non, non, non  
L'amour ne serait rien

Quand la vie impitoyable  
Vous tombe dessus  
On n'est plus qu'un pauvre diable  
Broyé et déçu  
Alors sans la tendresse  
D'un cœur qui nous soutient  
Non, non, non, non  
On n'irait pas plus loin [...]

### 3. Which free digital resources can they use?

#### Online courses

✓ **MOOCS**

- ✓ **Tutored online courses** → e.g. “Portuguese Live” at Universidade Aberta (free for Ukrainian refugees; comparatively much less expensive in other situations)



#### Pronunciation

- Metalinguistic explanations with audios
- Listening exercises (discrimination, general, input)
- Dictation exercises (input)
- Repetition (controlled output)
- Communicative tasks (spontaneous output)


### 3. Which free digital resources can they use?

## PRONÚNCIA E ORTOGRAFIA | Consoantes *f, s, ch, v, z, j* (1)

<p>filme [f] </p> 	<p>sete [s]  massa cabeça cinco [C antes de E, I] máximo</p> 	<p>chá [ʃ]  xaile este [S em fim de sílaba] adeus [S em fim de palavra] rapaz [Z em fim de palavra]</p> 
<p>vinte [v] </p> 	<p>zero [z]  Brasil [S entre vogais] exame</p> 	<p>janela [ʒ]  página [G antes de E, I] Lisboa [S em fim de sílaba]</p> 

na.

adaptado a partir de Castelo (2021: 39)

Muito bem, ! Agora o R está bem!

# 3. Which free digital resources can they use?

The screenshot shows a web browser window with the URL `elearning.uab.pt/course/view.php?id=12497&section=10`. The browser's address bar and tabs are visible at the top. Below the browser, the course page header includes the Universidade Aberta logo and navigation links: [Página principal](#), [Painel do utilizador](#), and [Unidades curriculares](#). A user profile picture and a [Modo de edição](#) toggle are also present.

The main content area features a large banner with the course title **PORTUGUÊS de Viva Voz** and the Universidade Aberta logo. A progress indicator shows **Progresso global % 49**. Below the banner, there are two menu items: [NOTÍCIAS | News](#) and [TEM DÚVIDAS? | Any questions?](#).

At the bottom, there are four course unit cards:

- INTRODUÇÃO | Introduction** (with a sunset background image)
- 1.ª SEMANA | Vamos começar! | Let's start!** (with a blue patterned background)
- 2.ª SEMANA | À espera no aeroporto | Waiting at the airport** (with a blue patterned background)
- 3.ª SEMANA | Cumprimentar | To greet** (with a blue patterned background)


### 3. Which free digital resources can they use?

#### Online different tools

**Dictionaries with IPA** <https://www.collinsdictionary.com/dictionary/french-english/peine>


# peine


[pɛn  


Word Frequency 

#### FEMININE NOUN

1. (= *affliction*) sorrow ♦ sadness

faire de la peine à qn  to upset sb

*Ça me fait de la peine de la voir pleurer.*  It upsets me to see her crying.

comme une âme en peine  like a lost soul

2. (= *effort*) trouble

### 3. Which free digital resources can they use?

#### Online different tools

Perceptual tests English Accent Coach (Thomson, 2018)

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


Example

English [d] / [ð]

The screenshot shows the homepage of the English Accent Coach website. At the top, there is a blue header with the logo 'ac English Accent Coach' and 'Version 2.3'. A welcome message 'Welcome, adelinacastelo!' and a 'User Menu' link are visible. Below the header is a navigation bar with buttons for 'Home', 'Tour', 'Play', 'About', 'FAQ', and 'Your Progress'. The main content area features a 'Welcome to English Accent Coach!' message and a list of interactive buttons: 'Play Vowels', 'Play Consonants', 'Play Echo', 'Learn Vowels', 'Learn Consonants', and 'Take EAC Tour'. To the right, there is a vowel chart diagram with a callout box for the vowel [æ], providing examples ('had', 'man', 'grass'), a simplified description ('Jaw slightly more open and tongue slightly lower than for [e] unrounded lips'), and a technical IPA description ('Unrounded, near open, near front vowel').

### 3. Which free digital resources can they use?

[← Previous](#) *Consonant Sounds* [Next →](#)



Click the symbols in the grid above to hear sample sounds.

*I've practiced enough. Let me play!*

**ð** Examples: *the*  
*this*  
*mother*

**Simplified description**  
Tongue tip just behind but not touching top teeth (in some case may slightly protrude between teeth). Noisy air escapes during production. Vocal folds vibrating.

**Technical IPA description**  
Voiced dental fricative

[Consonants Summary](#)

### 3. Which free digital resources can they use?

The image displays two overlapping screenshots of the 'English Accent Coach: Consonants!' interface. The background screenshot shows the settings menu with the following options: 'Word Count' set to 'Standard (100)', 'Select Level' set to 'Level 1', 'Sounds' set to 'd' and 'ð', and 'Attempts Allowed' set to '1 (Recommended)'. A 'Begin' button is partially visible. The foreground screenshot shows a playback window with a 'Start Over' button, a power icon, and a progress bar. The current level is 'Level 2a - initial consonant + æ, a', and the progress is '13 of 100'. The playback controls show 'd' and 'ð' icons, a '51' counter, and a pause button.

### HVPT: High-Variability Phonetic Training

(ex. Thomson, 2011; Barriuso & Hayes-Harb, 2018; Oliveira, 2020)

# 3. Which free digital resources can they use?

## Online different tools

### Text-to-speech converters

<https://voicemaker.in/>

TEXT

The screenshot displays the Voicemaker.in web interface. At the top, there are navigation buttons: 'Pauses', 'Emphasis', 'Speed', 'Pitch', 'Volume', and 'Say as'. The main text input area contains 'Selamat sore'. Below the text is a 'Play the Text' section with a progress bar showing 00:02. The settings panel includes:

- AI Engine:**  Standard TTS,  Neural TTS
- Language and Regions:** Indonesian
- Voices:**  David, Male (Premium),  Henry, Male (Premium),  Putri, Female (Premium),  Salsabilla, Female (Premium),  Ardi, Male (AI3 Premium),  Fitri, Female (AI3 Premium)

At the bottom right, there is a speaker icon, a 'CONVERT TO SPEECH' button, a 'DOWNLOAD MP3' button, and 'Audio Settings' with a plus sign. The sample rate is noted as 24000Hz.

### 3. Which free digital resources can they use?

Online different tools

Speech-to-text converters

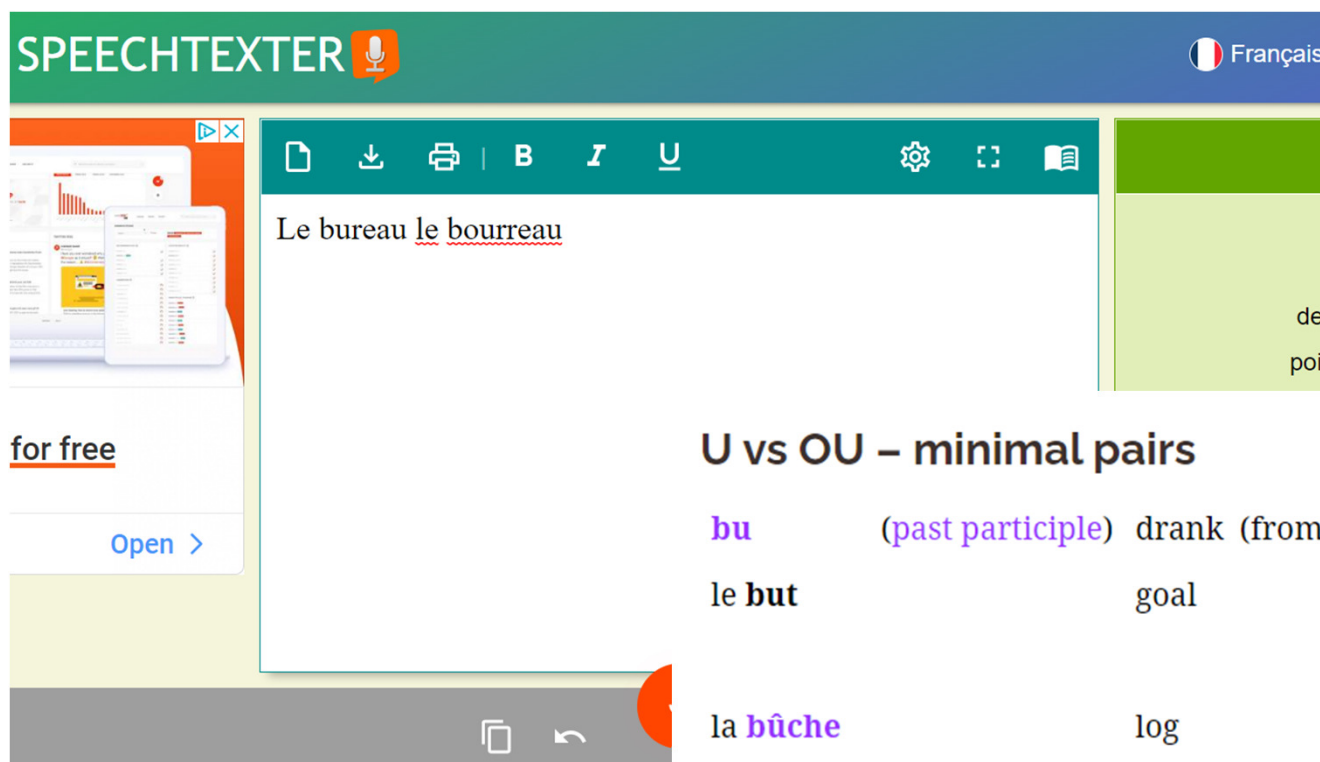
The screenshot displays the SPEECHTEXTER website interface. At the top, the logo 'SPEECHTEXTER' is visible on the left, and a language selector 'Bahasa jawa' is on the right. The main content area features a text editor with a teal header bar containing icons for file operations (document, download, print) and text formatting (bold, italic, underline). The text 'Selamat sore' is entered in the editor. Below the text, a word count indicator shows '2 words'. On the left side, there is a sidebar with a preview of a document and a button labeled 'Open >'. At the bottom, a navigation bar includes icons for home, back, a prominent red microphone icon, forward, and search.

# 3. Which free digital resources can they use?

## Example | French [u] / [y]

### Online different tools

### Speech-to-text converters / mobile apps with ASR



Liakin et al. (2015)

- Words / minimal pairs: bourreau [u] / bureau [y]
- Sentences with target sounds

### U vs OU – minimal pairs

bu	(past participle) drank (from boire)	la boue	mud
le but	goal	le bout	tip
la bûche	log	la bouche	mouth
la bulle	bubble	la boule	ball
le bureau	desk, office	le bourreau	torturer*

### Explanations on pronunciation

<https://www.lawlessfrench.com/pronunciation/ou-vs-u/>

### 3. Which free digital resources can they use?

#### Mobile applications

#### Positive impact

#### on general pronunciation of words

Castelo (2021b)

	Pre test	Post test	Difference
App + Class (6 words)	56%	74%	*
App-only (6 words)	49%	65%	*
Class-only (6 words)	52%	60%	ns
<b>Total (18 words)</b>	<b>52%</b>	<b>66%</b>	<b>*</b>

<b>1. Do you agree with the sentences? (1 totally disagree – 5 totally agree)</b>	
↓ <b>Mode</b> = 5 (always)	↓ <b>Mean</b>
1.1. The design and images are pleasant.	4.00
1.2. It is easy to use.	3.92
1.3. It is interesting and stimulates the desire to continue using.	4.08
1.4. The images and information on the words are clear.	3.92
1.5. I have learned much by using this app.	3.92
1.6. It is useful to learn vocabulary.	4.08
1.7. It is useful to learn pronunciation.	4.00
1.8. It is useful to develop listening comprehension.	4.00
↓ ( <b>Absolute Frequency</b> )	
<b>2. What did you learn with the app?</b> Vocabulary (10), pronunciation (5)	
<b>3. Strengths of the app</b> Convenience (5), content (4), simplicity (2)...	
<b>4. Shortcomings of the app</b> Few vocabulary (3), images (2), dictation (2), none (2)...	
<b>5. Suggestions to improve the app</b> More vocabulary (4), images (2), none (2)...	
<b>6. Approximately how much time did you use the app per day?</b> 6-10min (4) 11-20min (3) 21-30min (5)	

### 3. Which free digital resources can they use?



#### Mobile applications

#### How to choose apps for pronunciation

#### Framework for Assessment of App's Usefulness in Pronunciation Learning

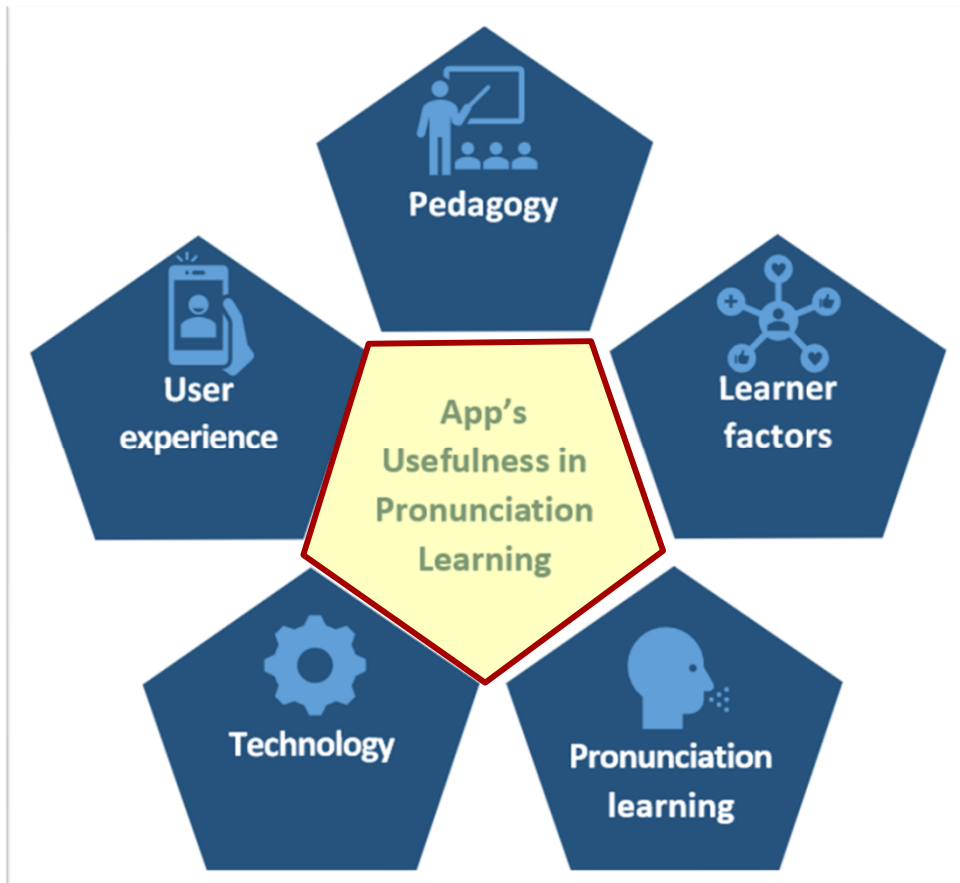
5 Criteria (◆):

- 4 criteria for general properties
- 1 criterion for pronunciation-specific properties, assessed according to 5 subcriteria (★)

4 general criteria	x 5 stars max. each ☆☆☆☆☆	= 20 points max.
5 specific subcriteria	x 5 stars max. each ☆☆☆☆☆	= 25 points max.
	Maximum total score	= 45 points max.

(Castelo, 2022c – based in Castelo, 2017; Kukulska-Holmes, Norris & Donohue, 2015; Rosell-Aguilar, 2017; Castelo, 2022a)

### 3. Which free digital resources can they use?



#### ◆ Pedagogy

Does it offer **quality** of content, **progress** tracking, adequate **scaffolding, differentiation**, a meaningful **multimodality**, and **engaging** activities?

#### ◆ Learner factors

Does the app promote **motivation** through **gamification**, **authenticity**, adaptation to **learners' mobility and goals**?  
Does it foster the learner's **autonomy** and **reflection** on her/his learning process?

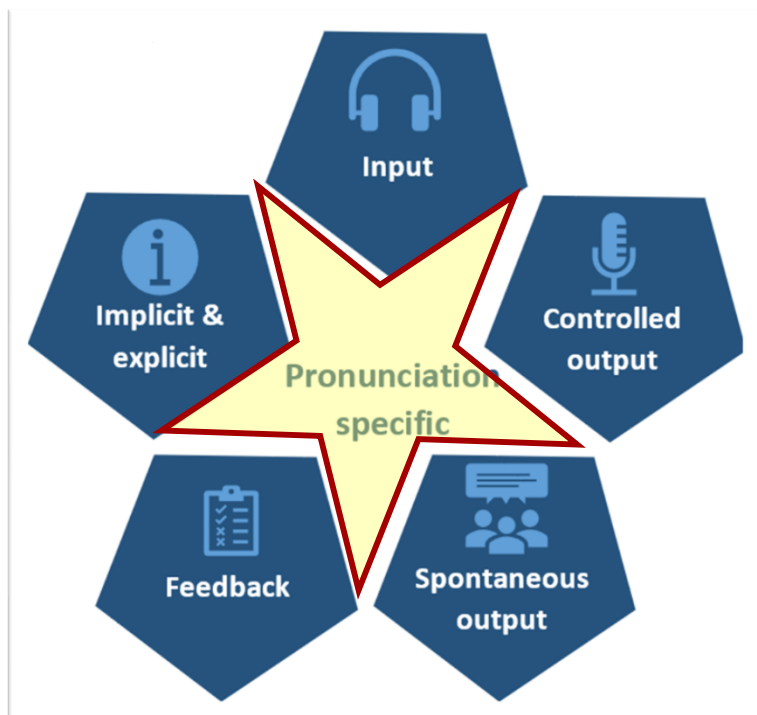
#### ◆ User experience

Does the app foster **interacting** with contents, peer **collaboration, sharing** content and **badging**? What is the cost of using the app in terms of **payment**, seeing **ads**, and **registering**?

#### ◆ Technology

Does the app offer an uncluttered and multimodal **interface**, an intuitive **navigation**, clear **instructions**, a **help** section, and **stability**? Does it really favour **seamlessness**?

### 3. Which free digital resources can they use?



#### ► Input

Do learners receive much input, having more **practice/rehearsal**? Does the input show **quality** (e.g., natural) and language **variety**?

#### ► Controlled output

Does the app offer many opportunities for more **practice/rehearsal** in controlled output?

#### ► Spontaneous output

Do learners have (m)any opportunities for more **practice/rehearsal** in spontaneous output? Are they encouraged to seek other users' **collaboration** for completing **dialogic** speaking activities?

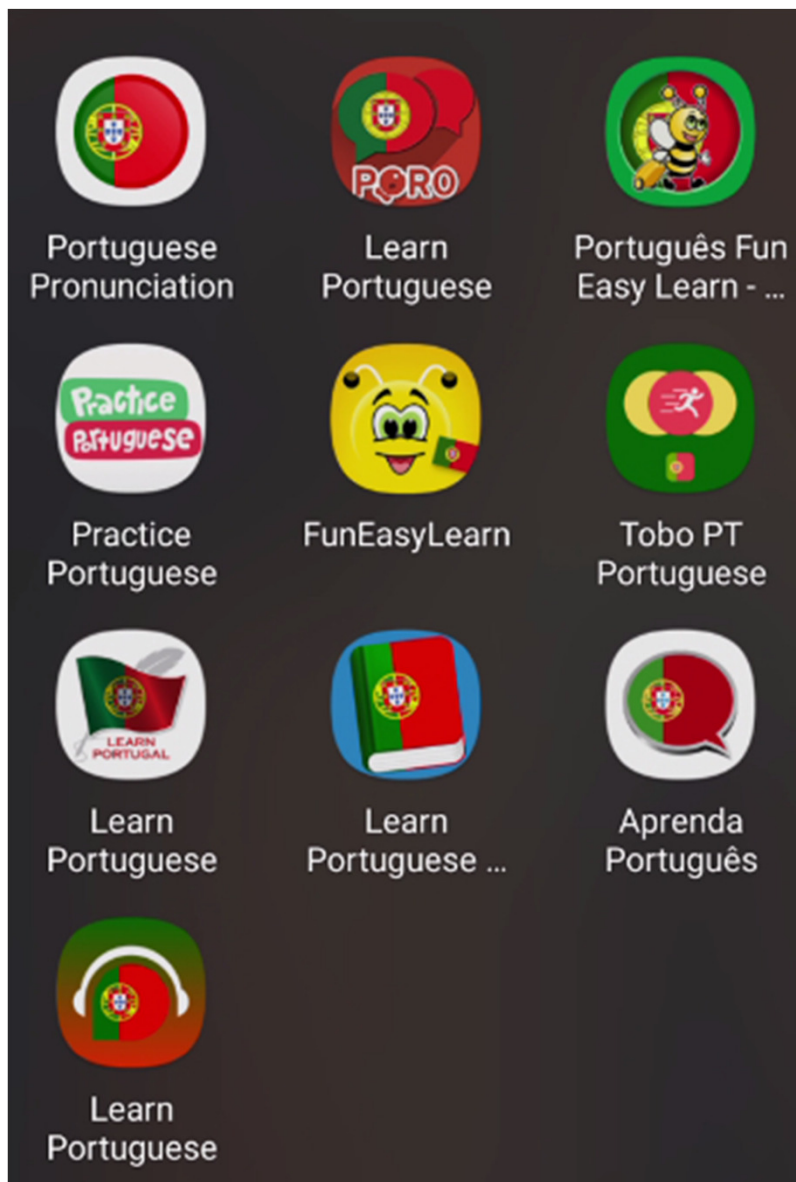
#### ► Feedback

Does the app offer much **automatic** feedback on input and output activities to check the improvement on the **outcomes**? Is there both an adequately **informative** automatic speech recognition (**ASR**) system and **peer** feedback?

#### ► Implicit & explicit





Does the app foster **implicit** learning, offer **explicit teaching** on pronunciation topics, and encourage **reflection** on the target pronunciation system and **inquiry** about phonetic diversity?

### 3. Which free digital resources can they use?



1. Portuguese Pronunciation (az-20 Apps, webdevite@gmail.com)
2. Poro: Learn Portuguese (<http://porostudio.com/>)
3. Português Fun Easy Learn – 5000 Phrases v.3.0.0 (<http://www.funeasylearn.com/>)
4. Practice Portuguese (<https://www.practiceportuguese.com/>)
5. FunEasyLearn v.6.9.3 (<http://www.funeasylearn.com/>)
6. Tobo PT Portuguese – vocabulary (<https://toboapp.com/>)
7. Learn Portuguese (ASI Edu, asi.vusta@gmail.com)
8. Learn Portuguese (<https://appoxis.com/>)
9. Aprenda Português (LEARN LANGUAGES, <https://www.diloyasoftware.com/>)
10. Learn Portuguese – conversation practice (ivoca.io, nhang.tini@gmail.com)

### 3. Which free digital resources can they use?

	5 	3 	1 	10 
Pedagogy	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆	★ ☆ ☆ ☆ ☆	★ ★ ★ ☆ ☆
Learner factors	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆	★ ☆ ☆ ☆ ☆	★ ★ ★ ☆ ☆
User experience	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆	★ ☆ ☆ ☆ ☆	★ ☆ ☆ ☆ ☆
Technology	★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ☆ ☆ ☆	★ ★ ★ ☆ ☆
Pronunciation learning				
▶ Input	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆	★ ★ ☆ ☆ ☆	★ ★ ☆ ☆ ☆
▶ Controlled output	★ ★ ★ ★ ☆	★ ★ ★ ★ ☆	★ ☆ ☆ ☆ ☆	★ ★ ★ ★ ☆
▶ Spontaneous output	☆ ☆ ☆ ☆ ☆	☆ ☆ ☆ ☆ ☆	☆ ☆ ☆ ☆ ☆	☆ ☆ ☆ ☆ ☆
▶ Feedback	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆	☆ ☆ ☆ ☆ ☆	★ ★ ★ ☆ ☆
▶ Implicit & explicit	★ ★ ☆ ☆ ☆	★ ★ ☆ ☆ ☆	★ ☆ ☆ ☆ ☆	★ ☆ ☆ ☆ ☆
Total average	<b>2,9</b>	<b>2,9</b>	<b>1</b>	<b>2,2</b>

### 3. Which free digital resources can they use?

#### Mobile applications

#### How to use

Example | Spanish [r] / [r] / [x]

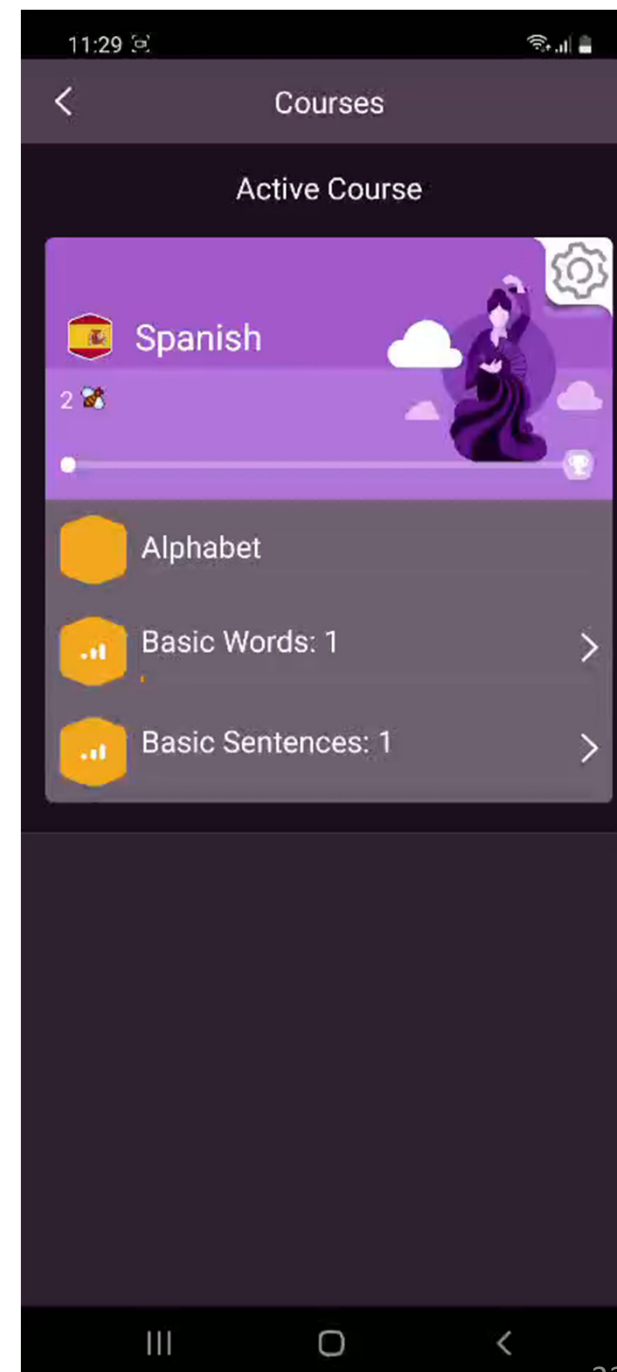
#### App FunEasyLearn

<https://pt.funeasylearn.com/>

✓ Choice of relevant words  
(themes, target-sounds)

✓ Activities/exercises repetition, with feedback:

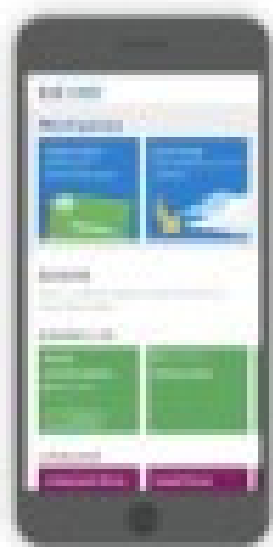
- Input
- Controlled output (ASR) } words & sentences



### 3. Which free digital resources can they use?

Example | English [i] / [ɪ], word stress

Blue Canoe <https://BlueCanoeLearning.com/>



#### Color Vowel® System

Tap the Color Vowels to hear the sound.



GREEN TEA



PURPLE SHIRT



BLUE MOON



SILVER PIN



a CUP of  
MUSTARD



WOODEN  
HOOK



GRAY DAY



ROSE BOAT



RED PEPPER



OLIVE SOCK



TURQUOISE  
TOY



BLACK CAT



WHITE TIE



BROWN COW



Today



Browse



Color Vowel

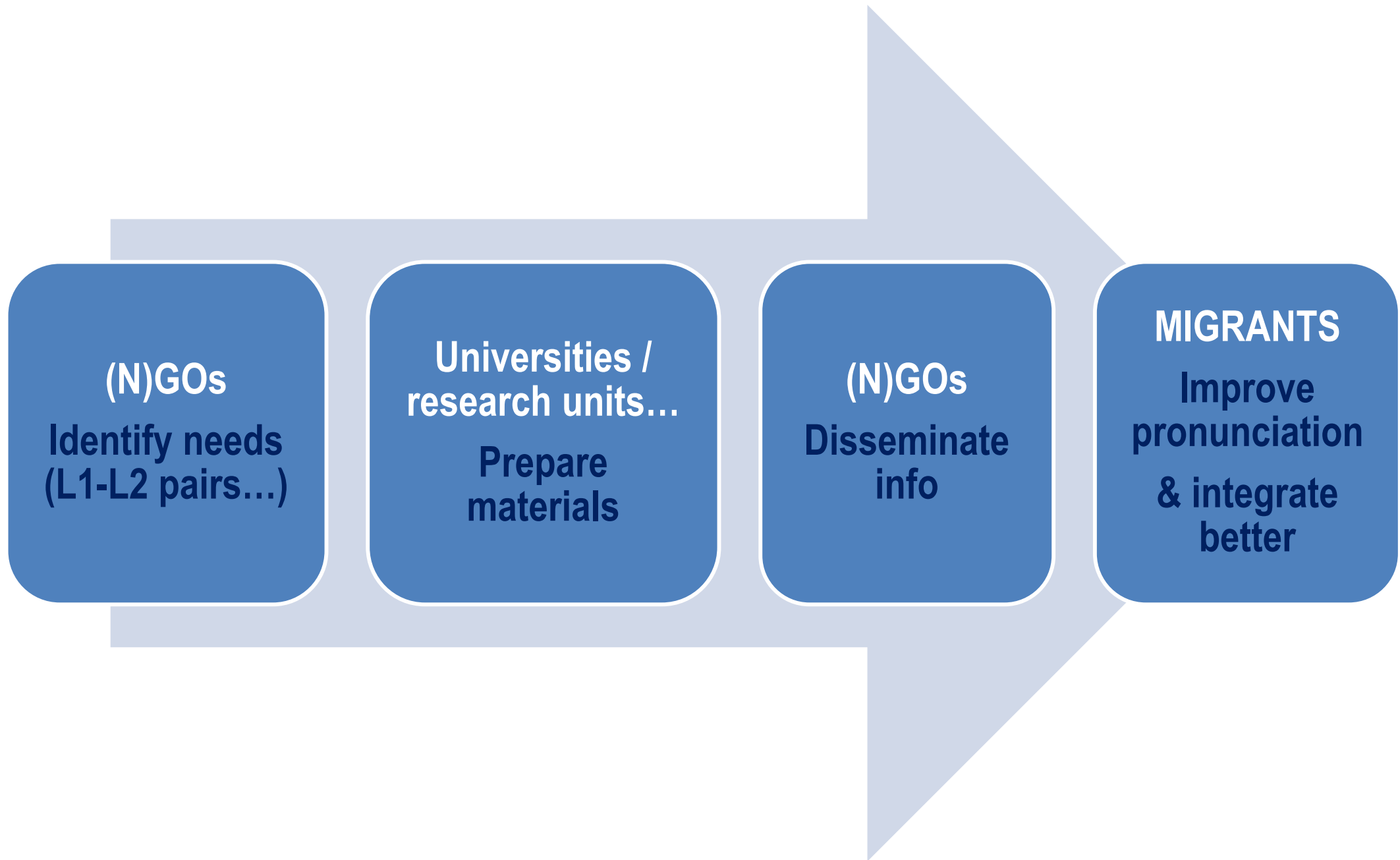


Dictionary



Mor33

## 4. How can we reach out to migrants and help them?



## 4. How can we reach out to migrants and help them?

**Universities /  
research units...**

**Prepare  
materials**

**Possible actions from easiest and cheapest to most sophisticated:**

- ✓ Flyer(s): Create simple infographics to show how to improve pronunciation (general ideas)
- ✓ Flyer(s): List/choose available relevant resources for a specific L1-L2 pair
- ✓ Flyer(s): Propose simple guidelines/instructions to use those resources effectively
- ✓ Flyer(s)/booklet(s): Create pedagogical activities based on those resources
- ✓ Website: Prepare a website for organising and disseminating all the relevant resources
- ✓ Website: Create new resources
- ✓ Website/video(s): Create small tutorial videos
- ✓ LMOOC/Virtual class: Create an LMOOC or a virtual class for migrants' collaborative learning

## 4. How can we reach out to migrants and help them?

**(N)GOs**

**Disseminate  
info**

### **Possible actions:**

- ✓ Website(s) / social groups:

Provide the migrants with the relevant information (flyers, links to appropriate websites)

- ✓ Physical site(s):

Hand out hardcopies of flyers/booklets

- ✓ Website(s) / physical site(s) / social groups:

Foster the creation of collaborative learning groups

## References

Alves, U. K. (2015). Ensino de pronúncia na sala de aula de língua estrangeira: questões de discussão a partir de uma concepção de língua como sistema adaptativo e complexo. *Revista Versalete*, 3 (5), 392-413.

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**Thank you!**

**Questions? Suggestions?**