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Interactive web-based review units for phonetics and phonology

Motivation:

Problems:

- **Foundational skills** in phonetics and phonology are covered in the **basic module**.
- Skills are built progressively, but **students often forget skills** from the basic module
- **Significant time required to review** foundational skills in intermediate/advanced courses

Concepts: Web-based interactive learning units

Added values:

- **More contact hours** through flipped classroom teaching or self-paced learning
- **Review what only is needed.**

Goals and target groups:

The English Linguistics basic module (~300 students per semester), and intermediate/advanced courses (~120 students per sem.) on phonetics/phonology.

Learning objectives:

- Name parts of the **vocal tract**
- Categorize English **consonant** and **vowel** sounds
- Apply phonetic **transcription**.
- Define **phonemes**, apply **diagnostic tests**
- Name parts of the **syllable**
- Apply the theory on **syllabification**
- State the purpose of **feature theory**

Implementation

- **Tools and environment:** Moodle with HP5 plugins
- **Design:** Multiple units: each is self-contained and is set up as follows: an **intro quiz**, **interactive content** and an **outro quiz**
- **Tested:** The basic module, an intermediate module and two advanced modules.

Results and outlook

Challenges: 1) **open-source** content, 2) **response rate** with formal course evaluation, 3) **dissemination**, 4) **Moodle discontinuation** at HHU

Project evaluation:

- **Overall positive:** 1.7/5 for "I would recommend the e-learning offering to other students."
- **Quiz quality** can be improved, with a rating of 2.3/5 for "The quizzes at the beginning and end of each unit helped identify what to focus on."
- Feedback **aligned with project objectives**

Acknowledgements

The project was funded by E-Learning Förderfonds at Heinrich Heine University Düsseldorf in 2022
We thank Dr. Christian Uffmann for kindly sharing his course materials with us

Illustration: Interactive Content

Click on the place of articulation of the sounds /k/ and /g/.

front central back

high

mid

low

IPA transcriptions: /k/, /g/, /k/, /g/, /k/, /g/, /k/, /g/, /k/, /g/

Move the IPA transcriptions to their counterparts written with letters! Try to read the text out loud without a mistake.

Beware of heard _____, a dreadful word
That looks like beard _____ and sounds like bird _____
And dead _____: it's said like bed _____, not bead _____
For goodness sake, don't call it deed _____!
Watch out for meat _____ and great _____ and threat _____
They rhyme with beat _____ and straight _____ and debt _____

Take a look at the following rule:

German final devoicing:
[-son] → [-voice] / ##

Earlier, we said that features are summarized in a feature matrix. In this rule, there are two feature matrices, one before and one after the small arrow. Starting with the first matrix.

[-son]
+ voice

Across

2 the concrete realization of a phoneme is called: (5)

5 [l] (at the beginning of syllable) and [ɫ] (at the end of syllable) are in... (13,12)

7 A subfield of linguistics that deals with sound patterns is... (9)

Down

1 aspirated [pʰ] like in "pin" and unaspirated [p] like in "clap" are... (10)

3 You can choose to say [clap] while your friend says [clap] because [p] and [pʰ] are in... (4,9)

4 pair /ks/ and chair /tʃeɪ/ form a... pair. (7)

6 The minimal pair tail [test]-fall [fɛl] shows that /t/ and /f/ are different... (6)

Course evaluation: Rating questions

The e-learning offering is reasonably embedded in the overall concept of the course. | mw = 1.8 | s = 0.7 | n = 9

The e-learning offering is presented in a comprehensible manner. | mw = 1.8 | s = 0.7 | n = 9

The e-learning offering is designed in an interesting way. | mw = 2.1 | s = 0.8 | n = 9

The e-learning offering is well structured. | mw = 1.9 | s = 0.8 | n = 9

The e-learning offering is clearly arranged. | mw = 1.8 | s = 0.7 | n = 9

The e-learning offering is easy to use. | mw = 1.7 | s = 0.7 | n = 9

Overall, the e-learning offering provides very good support for learning. | mw = 2 | s = 1.1 | n = 9

Through the e-learning offering, I have acquired competencies that are helpful for my studies. | mw = 2 | s = 1.1 | n = 9

Through the e-learning offering, I have acquired competencies that are helpful for later professional life. | mw = 2.7 | s = 1.1 | n = 9

The e-learning offering enables me to organize my own learning process individually in terms of time and content. | mw = 2 | s = 0.9 | n = 9

The e-learning offering supports me in managing my own learning schedule. | mw = 2.6 | s = 0.9 | n = 9

The e-learning offer has a positive effect on my motivation to learn. | mw = 2.7 | s = 1.2 | n = 9

The e-learning offer is full of variety. | mw = 2.4 | s = 0.9 | n = 9

The e-learning offer is fun. | mw = 2.3 | s = 1.4 | n = 9

I liked the technical implementation of the e-learning offering very much. | mw = 2.1 | s = 0.9 | n = 9

The e-learning offering ran smoothly from a technical point of view. | mw = 1.7 | s = 0.9 | n = 9

I would recommend the e-learning offering to other students. | mw = 1.7 | s = 0.9 | n = 9

The review units complemented overall concept of the course (which course?). | mw = 2.3 | s = 1.2 | n = 9

The review units were a useful component of this course. | mw = 1.8 | s = 0.7 | n = 9

The use of the review units had a positive effect on my motivation to learn. | mw = 2.2 | s = 1 | n = 9

Overall, the review units were a very good support for learning. | mw = 1.4 | s = 0.5 | n = 9

I have carefully used the exercises in the review units. | mw = 1.9 | s = 0.8 | n = 9

The quality of the review units (presentation, visuals etc.) was appropriate for the learning purpose. | mw = 2.1 | s = 0.8 | n = 9

The duration of the review units was often too long. | mw = 3.2 | s = 1.2 | n = 9

The quizzes at the beginning and end of each unit helped identify what to focus on. | mw = 2.3 | s = 1 | n = 9

The access to the review units was possible at any time without major problems. | mw = 1.7 | s = 0.9 | n = 9

Course evaluation: Open set questions

What did you particularly like about the e-learning offering?

"Self-paced reviewing of material, catch up on the things you need to and being able to focus on individual weaknesses"

"Easy to use, accessible at any time, gave a good and quick review of contents from the basic module that I needed for this course"

For what makes learning complicated?

What suggestions do you have for improving the e-learning offering (why)?

"To expand the e-learning offering to the other topics of the course"

"Eventuell mehr Zusatzmaterial. Es gibt für Phonetics and Phonology zwar auf Moodle etwas, allerdings nicht für Morphology oder Syntax."

"implement it more into the course as a form of mandatory exercise. Being a student myself I know that we sometimes need a little outside pressure to do the things that are good for us :)"

For more about the project: scan/click on QR codes

Project report

<https://doi.org/10.31234/osf.io/74x6p>

Material availability

Open Science ORCA.NRW Framework

