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Authoring system for online speech drills customizable to learners' needs

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We are developing a language-independent authoring system for teachers to construct listening and speaking drills integrated with technologies such as speech analysis, assessment, recognition, and synthesis. With this system, teachers can prepare online drills composed of various tasks customizable flexibly to the objective of the class and learners' needs in the class. The tasks implemented so far are reading aloud, repeating, paraphrasing, shadowing, script-shadowing, explanation, and overlapping. In any task, learners' oral responses are automatically processed to be visualized and/or scored using word-based transcription, phone-based transcription, rhythm, intonation, listening fluency, etc. Teachers can use these results selectively as encouraging feedback for their learners.

For learners who want to improve their listening skills, shadowing tasks are suited, where learners shadow input speech without referring to any text. Shadowing speech is analyzed to visualize listening disfluency measured while shadowing. With this visualization, learners can check what kind of inputs tend to cause listening disfluency.

For learners who want to improve their prosodic and segmental aspects of pronunciation, overlapping tasks may be preferable. The rhythm and intonation patterns of a learner's speech are visualized and compared to the corresponding model patterns. Also, his/her pronunciation is examined and compared to the model via word-based or phone-based transcription. All or some of them will be used as feedback to learners.

The authoring system has been already introduced to create daily aural/oral drills for university students, which has been very well received and found to be effective to improve the students' oral proficiency. In the presentation, the authors will demonstrate how to construct some listening drills and speaking drills. They would also like to receive any request from teachers to make this system meet educational and practical needs better. This system will be made publicly available in the future.

Keywords

Authoring system, online drills, speech technologies, listening and speaking

Primary author: Prof. MINEMATSU, Nobuaki (The University of Tokyo)

Co-authors: Prof. NAKANISHI, Noriko (Kobe Gakuin University); Mr INOUE, Yusuke (Carriage Inc.)

Presenters: Prof. MINEMATSU, Nobuaki (The University of Tokyo); Prof. NAKANISHI, Noriko (Kobe Gakuin University)

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