Kate Richardson

IDN 530: Web Design for Instruction

Final Project Paper

7 August 2020

The Speaker's Toolkit is an instructional website with the purpose of teaching the International Phonetic Alphabet (IPA) and the fundamental concepts of articulatory phonetics. Three modules comprise the course content. The first is a pretraining module that teaches prerequisite terms and concepts, and the second and third modules teach the major components of the IPA (vowels and consonants, respectively).

Following user-centered design principles, the website is designed to be straightforward and intuitive. The homepage describes the purpose of the website and provides insight into the many potential uses for knowing the IPA, in order to bolster user motivation from the outset. The user is then directed straight to the "learn" homepage, which links to the modules that host the content. Below each module is link to a page where they may practice what was learned in that module. These "practice" pages are highly interactive embedded Quizlet flashcard sets. Each page of the website includes a navigation bar in order to facilitate seamless website navigation.

The modules themselves follow instructional design best practices that maximize cognitive processing, most notably Mayer's Multimedia Principles of Design. For example, the module content follows the *segmenting* principle by only displaying one main concept per screen. The content takes up most of the screen space on the webpage, and extraneous material is kept to a minimum. By employing these techniques, the user's attention is more directed. The segmenting principle is further applied by allowing the user to self-pace; they may proceed through the pages at their own speed depending on their cognitive capacity at the time of learning. The presentation of the content also relies heavily on the *signaling* principle, which says that users learn best when the most relevant information is signaled in some way, such as by

highlighting or spotlighting. Many pages in the Speaker's Toolkit blur those portions of the visual that are not relevant to the immediate instructional concept being presented; however, keeping the blurred image in the background helps the learner contextualize the concept by also conveying information about its relative location in the visual. The module content occasionally includes auditory information in conjunction with the visuals (such as the sounds that the IPA symbols represent) to maximize processing by employing both the auditory and visual channels simultaneously. For further explication regarding application of Mayer's multimedia principles, please refer to the "*About the site*" page accessible from the navigation bar.

After completing all the modules, the learner should be able to perform the instructional objectives enumerated on the homepage. However, there is much room for improvement on the website that would further propel the learner towards more complete mastery of the objectives. For example, an interactive IPA chart for both review and reference could reinforce recognition of concepts and symbols that were covered in the modules. Including more auditory information, particularly by including more short audio clips that demonstrate correct articulation of the phonemes, would take advantage of the multimedia capabilities of the website to teach the IPA symbols. Additionally, opportunities to practice transcription, probably in the form of quizzes and concept checks, would demonstrate mastery of the IPA chart and lead to better fulfillment of the transcription-related objective. A section of the site that tests transcription skills and provides immediate feedback based on user input would help the learner put the knowledge they have gained into a more applicable context.

To take the website to the next level, Speaker's Tookit 2.0 would include modules that are customizable depending on the user's native and target languages or dialects. The site could teach language-specific pronunciation skills, even making use of speech processing technology

to evaluate audio input from the user and measure progress in target pronunciation skills over time.

Even if these advanced functionalities were added, the user would still need to know the basics covered in the existing modules. In this way, the website may serve as a launching pad for those users eager to improve their pronunciation skills and conceptual knowledge. It is also a launching pad in the sense that there is much room for development and expansion of instructional material. The site was designed in a way that allows for easy expansion and integration of new features, so these additions may be implemented as the developer expands her skills.