

Multimedia Instructional Unit Design:

Listening For Literacy

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This unit is intended to introduce text-to-speech technology to a broad audience, but especially to those who work with individuals with special needs. Due to the range of the learners, they are supposed to be of varied knowledge levels. To help maximize their learning, my design used the multimedia principles of Mayer (2009) based on the cognitive theory of multimedia learning.

#### **Multimedia Principles Used in Design**

In the general unit design, I followed the personalization principle by using the words “you” and “I” instead of only a formal passive voice, and the voice principle by narrating with a friendly human voice. While my voice was added, my image was not, so as to not distract (image). Also, adhering to the coherence principle, I avoided including extraneous audio/visuals that could depress learning. Following the segmenting principle, I split the unit into manageable sections and allowed learners to control pacing by clicking on onscreen buttons (e.g. “Next”). Using the pretraining principle, I included introductory sections to familiarize learners with text-to-speech technology and reasons why it is beneficial. Once the basics of TTS were presented, I directed learners to information presented in a multimedia manner concerning three specific TTS tools (what they are & why they are special). Then, learners were taught how to acquire and use each tool. I followed the multimedia principle of including relevant graphics by adding screenshot images of the acquisition process, accompanied by key words placed near each image (spatial contiguity) with arrows pointing out parts of the images referred to (signaling). I followed the segmenting principle by presenting the steps in a sequential style rather than all at once. I also used relevant graphics in the form of videos to demonstrate how to use each tool. I narrated the videos as they played (modality & temporal contiguity), and did not include redundant text (redundancy). In the assessment sections, I grayed out nonessential material during feedback to help direct learners’ attention (signaling). Adhering to these multimedia principles should help the learners to reduce extraneous processing, manage essential processing, and foster generative processing, thereby enhancing their learning.

References

Mayer, R. E. (2009). *Multimedia learning* (2nd ed.). New York, NY: Cambridge University Press.