Speech Technologies and Their Applications in Mobile Learning

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October 2013
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Outcome:

To identify how selected speech technologies can be utilized to enhance teaching and learning using mobile devices.
Speech Technologies

1. Text-to-speech (TTS)

2. Automatic speech recognition (ASR) - speech-to-text
Speech Recognition

- Mobile audio search engine
- Voice command and control
- Dictation
- Note-taking
- Transcription of voicemails
- Voice typing
- Voice translation
- Accessibility and inclusivity
Text-to-Speech

- Reading back emails, messages, posts, notes
- Books read to the user (Kindle)
- Voice command and control
- Audio dictionaries
- Accessibility and inclusivity
- MALL and literacy (Roux et al, 2010)
Mobile-Assisted Language Learning

• Mobile-Assisted Language Learning
  – reading and speaking
  – dictation
  – communication, facilitation and feedback
  – pronunciation practice (speech verification)
  – speech analysis and language learning software (Godwin-Jones, 2009)
  – vocabulary practice (Kumar et al, 2012)

• Phonetics and phonology (Linguistics)
  – speech signal processing (DSP)
  – patterns recognition (AI)
Other Advantages

• Voice-based tools - assistive technology
• Individualized attention
• Enforced feedback
• Learner-centered: own pace, preferences, autonomy
• Repetition and rehearsal
Voice Recognition Mobile Apps Examples

- ChaCha Answers
- Google Mobile Apps
- Vlingo
- DriveSafe.ly Pro
- Dragon Downloadable Apps
- Jibbigo Voice Translation
Limitations

• Limited success with spontaneous, natural foreign accented speech
• Type of mobile device
• Usability: tools
• Usability: context
• Usability: data consumption
Thank you!

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References:

