Listening and Language Learning: Challenges for the Digital Age

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Once upon a time (about 1989 actually)…

…there was a handsome prince who had a Macintosh Plus.

One day, he discovered it could talk.
Outline

• Background
• Digital affordances in listening—a basic framework
• Content, tools and strategies
• New roles for developers, teachers and learners
The Digital Age: A Golden Age

- Expansion of digital A/V materials: CD-ROMs, DVDs, and especially, online resources.
- Expansion of access: static and mobile
- Increased presence of comprehension supports—also referred to as “meaning technologies”
But there are challenges…

• Identifying and mastering technologies and tools
• Locating and selecting appropriate digital resources to support language learning
• Adapting or creating effective tasks, activities, strategies, and procedures
• New roles and responsibilities for developers, teachers, and learners
Some Listening Distinctions

- Two-way vs. one-way
- Live vs. recorded
- Authentic vs. created or adapted for language learning (materials and/or task)
- For information, socialization, or entertainment
- For comprehension or language learning
- *My focus is one-way listening of recorded media for language learning*
Approaches to Listening

• Listen and repeat (e.g., ALM—language laboratory technology)

• Traditional 3-part listening lesson (Field 2008)
  1. Preteach vocabulary
  2. Listen + comprehension questions
  3. Language analysis +/- listen and repeat
Approaches to Listening

• “Modern” listening lesson (Field 2008)
  1. Pre-listening
     – Establish motivation/context; activate schemas
     – Teach critical vocabulary
  2. Extensive listening, general Qs
  3. Intensive listening, detailed Qs
  4. Post-listening
     – Functional analysis
     – Additional vocabulary
     – Check transcript
     – (Integrate with other skills)
Approaches to Listening

• Listening strategies--primarily for individual use, but can be modeled in class:
  1. Pre-listening
  2. While listening
  3. Post-listening

• Metacognitive strategies
  1. Planning
  2. Monitoring
  3. Reflection
What about tech & listening?

- Flowerdew & Miller (2005); Field (2008)—limited references to digital technology
- Vandergrift & Goh (2012)—full chapter on listening in multimedia environments
- Plass & Jones model (Jones 2006)—synthesis of Interactionist SLA and Mayer’s Cognitive Theory of Multimedia
Example listening unit

• Advanced Listening and Vocabulary Development

• First day of class:  
  www.stanford.edu/~efs/693b/week1.html
Framework for the affordances of digital technology

- Stimulate informed development
- Aid in recognizing range of options
- Introduce a skill-specific, computer-centered perspective
Computer-centered perspective

Learner → Computer → Learning Objectives

Teacher

Peer

Other

Materials

Learner-centered perspective

Additional stuff → Learner ← Computer → LObj

Teacher

Peer

Other

Materials

Computer-centered perspective

Learner → Computer → Learning Objectives

Teacher → Peer → Other

Materials

Computer Mediation

Computer-mediated listening
(one-way, intentional)

Learner → Computer → Learning Objectives

Materials
Some CM listening affordances

- Archiving & indexing
- Transferring
- Linking
- Time control
- Transforming
Archiving & indexing

Make audio & video content available

- Local, portable, and networked archiving
- Local and networked indexing
- Searchability
Transferring

- Broadcast (webcast)
- Streaming
- Downloading
Linking

- To text (subtitles, transcripts…L1 or L2)
- To pictures/graphics
- To meaning supports (definitions, translations, explanations…L1 or L2)
Time management

• *When* to allow archiving, transferring, linking, etc. (condition or chronology)
• Recording time on task
• Controlling time on task
• Timeshifting
  – Anytime, anywhere availability
  – Standard & enhanced AV controls
  – Speed control
Transforming

- Text to speech: *anything* can be listening
- Speech to text (ASR)
- Speech to graphic (wave form, contour)
- Compression
  - Audio
  - Video
- Change quality/enhance (equalizer, normalizer, etc.)
Think about the power!

- Archiving & indexing
- Transferring
- Linking
- Time management
- Transforming

How can we use this to enhance language learning?

How can we avoid (or limit) mistakes?
Selecting Materials

• General principles
  – Familiar material
  – Interesting material
  – Correctly leveled material: add www.lextutor.ca/vp/bnc to intuition

• Searching
  – Google video search (includes YouTube)
  – Searching for captioned videos with Advanced Search
Materials Selection: A Problem

The kid in the candy shop...

There is a wide range of interesting, authentic online content ideal to support autonomous language learning, but How can learners select materials that will engage them and assist them in their language learning objectives?
A Solution: Curation

• Curation: collection and organization of material with *value added* by an expert: traditionally museums, art galleries, etc.

• Requires human intervention, not just a clever program (Huffington Post vs. Google News)
Curation

Steven Rosenbaum (2011). *Curation Nation* “…the future of online content.”
Curation is not the same as simple aggregation or listing or tagging

“When was the last time you went into a museum and found a pile of unrelated stuff that someone thought was ‘interesting’? That’s not a curated collection, it’s a garage sale.”

Ben Harris-Roxas
(http://www.harrisroxsasheath.com/2012/03/a-curator-is-not-a-digital-dilettante/)
The Museum Analogy

…collection and organization of material with *value added* by an expert…

From Smithsonian *Ocean Planet* Exhibition:
http://seawifs.gsfc.nasa.gov/OCEAN_PLANET/HTML/ocean_planet_overview.html
The Museum Analogy

Curator's Tours

Below are listed a number of special tours of the Ocean Planet Exhibition. These tours are designed for specific age groups, interests and level of detail. Please select the tour you wish to take by clicking on one of the buttons listed below.

- Ocean Planet Preview Tour
- Biodiversity Tour
- Oceans and Africa
- Women and the Sea
- Pollution
- Sea Surprises
Curation in this sense also differs from

- Creation
- Re-creation
- Adaptation
- Sampling
- Synthesizing...
Curator’s role for language learning content

- Collect content (digital materials)
- Organize
- Sequence
- Provide language level information (strong version = ‘systemize’ (Decoo 2010))
- Add pedagogical support (note—this can be wide ranging, just as in a museum)
Ideal Content Qualities

- Freely and legally available
- Likely to be interesting
- Good technical quality
- Stable
- L2 transcripts/captions
- Complementary materials
Example: Curated TED Talks

• Background
  • Advanced listening and vocabulary class: www.stanford.edu/~efs/693b
  • Goal: work on independent projects and continue after course ends

• TED Talks: popular but often frustrating—reflective reports show problems with comprehension due to speech rate, accent, and vocabulary level

• TED project: curate TED talks for independent use (Expert = me)
Process

1. Get TED database
2. Skim for potential themes/candidate talks
3. Gather candidates and analyze transcripts
   • Word for rough speed in words per minute
   • Vocabulary profiler ([www.lextutor.ca/vp/bnc](http://www.lextutor.ca/vp/bnc))
   • Skim transcript for unusual terms, idioms
Process

4. Listen to determine accent and other potential challenges
5. Select final group (4-5 talks) and sequence
6. See www.stanford.edu/~efs/693b/TED1.html

Recent changes

1. TED now does its own curation through Playlists, including ones from celebrities
2. I have acquired a list of candidates from a project assistant
Sample talk (Creativity group)


- length: 3:25
- overall speed (WPM): 135
- vocabulary profile: 3K-92.2%; 5K-95.1%; 10K-98.2%; OL-1.5%
- accent: British standard
- comments: “creativity” is repeated a number of times
TED Integration: 3 collections

• Positive response
  – Helpful
  – More support materials, especially key vocab
  – More needed/wanted

• More planned
  – Netflix collections;
  – Other sources: Stanford’s ecorner; Google Tech Talks…
Related examples

- CLILSTORE Project: audio/video texts are collected and organized by CEF levels and provided transcripts are hyperlinked to various mono and bilingual dictionaries. Exercises are provided using Hot Potatoes. [http://multidict.net/clilstore/](http://multidict.net/clilstore/)


Online tools and resources

• Text support
  – Transcripts
  – Captions/subtitles

• Online glossing and dictionaries

• Media players (try [www.videolan.org/vlc/](http://www.videolan.org/vlc/))
  – Playbar/pause/jump controls
  – Play speed
  – Graphic equalizers
Windows Media Player

Play Speed Control (80% normal)

Graphic Equalizer, optimized for speech
SLA Theory and Computer-Mediated Listening

Chapelle (2003): Links CALL with SLA

• Extends human-human theories (interactionist, sociocultural, and depth of processing) to human-computer

• Input enhancement
  – Salience (e.g., highlighting, repetition)
  – Input modification (glossing/dictionaries, text support, translation)
  – Elaboration
Multimedia model

Plass & Jones (Jones 2006)

• Blend of Mayer’s Cognitive Theory of Multimedia and Interactionist Perspective of SLA

• Links principles of Mayer with SLA; e.g., contiguity principle
Research Directions

• Text support: captions/subtitles
  – Captions are generally helpful for comprehension & vocabulary (Vandergrift & Goh 2012)
  – Individual control better than teacher or program control (Danan 2004)

• Text support: transcripts
  – Students use them when present (Liou 1997)
  – Students prefer captioning (Grgurovic & Hegelheimer 2007)
Research Directions

• Glossing: links to transcript
  – Pictorial & text about equal (Jones 2004)
  – Text & picture beats text only (Chun & Plass 1996)
  – Video glossing sometimes better, sometimes not (Al-Seghayer 2001; Plass et al. 1998)
  – Text glossing may be better for subsequent production (Jones 2004)

• Online dictionaries linked to listening transcripts: not well-studied yet
Instant online dictionary

Answers plug-in for Firefox: http://www.answers.com/main/firefox_plugins.jsp

See also WordWeb and built-in function for Safari on Macs
Research Directions

• Speech rate
  – Early studies showed no consistent advantage for slowed speech (Blau 1990; Rader 1991 (cited in Zhao 1997))
  – Some advantages depending on speed selected (McBride 2007)
  – Significant advantage if learner-controlled (Zhao 1997)

• Room for additional research and development on effective use of all these
Simple Listening Model

Objectives of directed listening activities

• Improve comprehension

• Increase language knowledge
  – Phonological
  – Lexical
  – Grammatical
  – Discourse

• Improve processing speed, capacity, and accuracy
Working with dedicated sites

- Typical lesson structure
- Or, change programmed order
- Hide choices on MC questions
- Slide window down to hide captions
- Use for dictation (oral or written)
- Main point: Teachers & students can exploit material to suit different objectives
Hiding captions

www.englishbaby.com
Hiding captions

www.englishbaby.com
Changing Roles

- Developer Roles
- Teacher Roles
- Learner Roles
Developer Role

• Consider SLA research-based guidelines
• Lead learners to most promising paths (figure them out first)
• Offer *useful* functionality
  – Longer playbars
  – “Back 2 seconds” button
  – Variable pauses (no one has done this yet)
  – Speech rate control
• Provide integrated learner training
Teacher Role

• Curate material wisely
• Discover/develop and model effective strategies & train students in their use
• Releasing control to students while finding ways to hold them accountable
• Preparing students for that control
TESOL Technology Standards: Design, Implementation, Integration (2011)

- Learner Standards, Goal 3
  - Language learners effectively use and critically evaluate technology-based tools as aids in the development of their language learning competence as part of formal instruction and for further learning.
Changing Student Role

• Understand how to set objectives
• Know what’s allowed by the application
• Distinguish listening for comprehension from listening for language learning
• Learn to effectively use
  – Media player controls
  – Meaning technologies of all types
• Basically, develop autonomy
Learner training

• Even advanced students need direction
  – Technical training – how
  – Strategic training – what & when
  – Pedagogical training – why

• Training occurs through
  – Class modeling
  – Student exploration; collaborative debriefings
  – 1-1 meetings

See www.stanford.edu/~edfs/callcourse/CALL7.pdf
Closing Comments

• We truly are in a golden age for listening, but we aren’t doing enough with it yet
• We need to study and understand
  – Content curation and systemization
  – New roles for developers
  – New roles for teachers
  – New roles for learners

Selected References


References


