THE ROLE OF TECHNOLOGY IN FOREIGN LANGUAGE LEARNING AND TEACHING

David P. Ellis, PhD, PMP
National Foreign Language Center
University of Maryland
SLA - INTERNAL FACTORS

- Age of onset
- Aptitude
- Motivation
- Discipline
SLA - EXTERNAL FACTORS

- Time on task
- Input
  - Observational input
  - Instructive input
  - Interactional input
PRINCIPLES IN FL TEACHING

Areas of General Agreement

- Extensive, comprehensible input
- Extensive interaction
- Developmental sequences
- “Guide on the side” vs. “Sage on the stage”

Areas of Debate

- Inductive vs. deductive teaching/learning
- Implicit vs. explicit feedback
PUTATIVE ADVANTAGES OF TECHNOLOGY

• Dissolution of geographical barriers
• Individualized instruction
• Complementary asynchronous support
• Enhanced motivation
## TECHNOLOGY TOOLS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Tool</th>
<th>Commercial Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminates Geographical Barriers</td>
<td>Web Conferencing</td>
<td>Skype, Apple Facetime, Google+ &amp; Hangout, WebEx, etc.</td>
</tr>
<tr>
<td>Facilitates Asynchronous Learning</td>
<td>Online Course Management Systems</td>
<td>Khan Academy, Moodle, Canvas, Blackboard, eFront, etc.</td>
</tr>
<tr>
<td>Facilitates Individualized Instruction</td>
<td>Online Communication Platforms/Forums</td>
<td>Socrative, Edmodo, Adobe Connect, SharePoint, Padlet, etc.</td>
</tr>
<tr>
<td>Enhances Motivation</td>
<td>Study Games</td>
<td>Minecraft, Quizlet, etc.</td>
</tr>
</tbody>
</table>
# RESEARCH: ONLINE VS. TRADITIONAL

<table>
<thead>
<tr>
<th>Supporting Traditional Learning</th>
<th>Supporting Online Learning</th>
<th>No Significant Difference</th>
</tr>
</thead>
</table>
FINDINGS: ONLINE vs. TRADITIONAL

No Difference
Students’ performance under two conditions was comparable, and their preferences were mixed.

Traditional > Online
- Students were significantly less satisfied with the asynchronous learning experience.
- Students from traditional classroom performed better on answering more difficult questions.

Online > Traditional
- Students in web-based learning conditions performed better on achievement tests.
- Web-based course advantages became greater as students’ comprehension skill increased.
- Interactive e-learning led to better performance and higher satisfaction.
RESEARCH: STRENGTHS & WEAKNESSES

Strengths
• Controlled designs (experimental group vs. control group)
• Random assignment
• Both quantitative (achievement tests) and qualitative (survey) measurements
• Pre- and post-tests

Weaknesses
• Evidence from participant feelings alone is not adequate to support traditional learning
• Inadequate length of treatment
• Failure to go beyond the “no difference” result
RESEARCH: BLENDED VS. TRADITIONAL

• Schilling et al. (2006)
• Zacharia (2007)
• Al-Jarf (2008)
• Means et al. (2013)
FINDINGS: BLENDED VS. TRADITIONAL

- Blended learning group performed significantly better on objective achievement tests
- Results of qualitative measurements also supported blended learning
RESEARCH: STRENGTHS & WEAKNESSES

Strengths
• Controlled design
• Random assignment
• Both quantitative and qualitative assessments
• Pre-post comparisons (some studies also include delayed post-tests)

Weaknesses
• Lack of control for exposure (additional time and resource for experimental group)
• Length of treatment
• No comparison between blended and pure online learning
NEEDED RESEARCH

• What are the internal and external SLA factors leading to mixed results?
• Is blended learning better than pure online learning?
• Should there be differences in terms of instructional method for different age groups?
• What are the advantages and disadvantages of each instructional mode? How can we make best use of them given current technology?
SUGGESTED DESIGN

Target populations
• K-3, 4-6, 7-9, 10-12, college students, and adults

Experimental design
• Group 1: blended; Group 2: pure online; Group 3: traditional
• Random Assignment
• Pre-test; post-test; delayed post-test
• Achievement test: 1) basic knowledge of concepts and facts; 2) deeper understanding of the issues; 3) the ability to analyze and apply what has been learned

Variables to be controlled
• Pre-existing differences: age, aptitude, proficiency
• Length of treatment: at least one full semester
• Exposure: all groups should have same amount of time and resources (e.g., textbooks, supplementary materials, instructors)
PROMISING DIRECTIONS
QUESTIONS?

David P. Ellis, PhD, PMP
dellis@nflc.umd.edu