The Impact of Enhanced Subtitles + Grammatical Instruction on L2 Acquisition

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University of Victoria
British Columbia, Canada
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• Subtitles (L2) are good

• Enhanced subtitles are better

• Noticing is key to language learning

• What students notice is dependent on
  ◦ What they already know
  ◦ What they are ready to learn next
- Classroom context
  - Form-focused instruction
- Use of subtitles
- Role of noticing in L2 acquisition
  - Modified vs. unmodified subtitles
- Research questions
- The present study
  - Methodology
- Results of study
  - Discussion
  - Conclusion
- Adding subtitles to videos
  - Some resources
Typical classroom interplay between

Language input

Explicit instruction

Context for this research
• Debate about the “best” way to teach a language

• Research does show that form-focused instruction has a positive effect (Ellis 2001, among many others)

• Can affect pace, but not sequence of acquisition

Focus on Form in L2 Environments
This research focuses more on input.

Language input

Context for this research
• Subtitles can be
  ◦ L1 (translation)
  ◦ L2 (transcription)
    • Sometimes called captions

• L1 subtitles may actually hinder learning (Yoshino et al. 2000, Mitterer and McQueen 2009)
- Facilitate listening comprehension (Yoshino et al. 2000)
- Enhance auditory word recognition (Markham 1999)
- Aid auditory processing development (Mitterer and McQueen 2009)
- Improve oral production (Borrás and Lafayette 1994)
- Lead to vocabulary acquisition (Baltova 1999, Koolstra and Beentjes 1999)

**Use of Subtitles in L2**
Subtitles are good – can they be better?

Language input

Use of Subtitles in L2
Schmidt (1990) makes a strong case for the role of conscious noticing in language acquisition.

“If [input is] noticed, it becomes intake.”

Enhancing noticing is an active area of SLA research.

Current study uses textual features to draw attention to words.
Nada... quería hablarte de un amigo.
Nada... quería hablarte de un amigo.
Will linguistic input which is modified to enhance noticing of a target structure improve acquisition of that structure (in contrast to unmodified input)?
• Spanish Pronominal Object Forms
  ◦ Indirect object forms

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>me</td>
<td>nos</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>te</td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>le</td>
<td>les</td>
</tr>
</tbody>
</table>

◦ Direct object forms

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<td>nos</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>lo/la</td>
<td>los/las</td>
</tr>
</tbody>
</table>
Before (non)finite verb
- S O V
  Roberto me oye.
  Roberto 1\textsuperscript{st}-sing-acc hear-3\textsuperscript{rd}-sing
  Roberto hears me.
- S O Aux V
  ¿Me puedes oir ahora?
  1\textsuperscript{st}-sing-acc can-2\textsuperscript{nd}-sing to-hear now
  Can you hear me now?

After infinitive (attached to verb)
- S Aux VO
  ¿Puedes oírme ahora?
  can-2\textsuperscript{nd}-sing to-hear-1\textsuperscript{st}-sing-acc now
  Can you hear me now?
• However,
  ◦ * S Aux O V
  ◦ * S V O
  ◦ (Although this is canonical for full NP’s)

1. ¿Compraste el periódico?
   buy-2\textsuperscript{nd}-sing det newspaper
   Did you buy the newspaper?
2. No, lo robé.
   No 3\textsuperscript{rd}-sing-acc-masc stole-1\textsuperscript{st}-sing
   No, I stole it.
*3. No, robé lo.
   No stole-1\textsuperscript{st}-sing 3\textsuperscript{rd}-sing-acc-masc
   No, I stole it.
• Participants:
  ◦ 18 Intermediate-level L2 learners
• The Video and Subtitles
  ◦ “¿Lo Conozco?” (http://www.lingus.tv)
  ◦ I used software to add and modify the subtitles
• Testing Instrument
  ◦ Translation exercise designed to elicit the target forms
  ◦ 15 sentences:
    • 5 distractors
    • 3 first person pronouns
    • 1 second person pronoun
    • 2 third person indirect object pronouns
    • 4 third person direct object pronouns
Present Study Design

Pre-test

Input: Unmodified Subtitles

Focus on Form: Grammatical Explanation

Input: Modified Subtitles

Post Test

Delayed Post Test
• Methods of data collection and analysis
  ◦ Test scale based on the typical progression of the acquisition of these structures (Malovhr 2008)
    • i.e. more credit for getting a pronoun wrong than for omitting it entirely
  ◦ Results based on the target construction
    • (1st, 2nd, 3rd IO, 3rd DO, All)
  ◦ Further subdivided results based on
    • The form of the pronoun
    • Its position in a sentence

• Ran independent samples t-tests grouped by condition

**The Present Study**
**Results**

- **p** values for the experimental condition effect on test score improvement
- Top line is pre- to posttest
- Second line is pre- to delayed posttest
- Results for 3rd person indirect object form were most interesting
- Also saw an overall effect on positioning scores

### Form scores (n=18)

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd IO</th>
<th>3rd DO</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>.436</td>
<td>n/a</td>
<td>.020</td>
<td>.280</td>
<td>.964</td>
</tr>
<tr>
<td>2nd</td>
<td>.237</td>
<td>.356</td>
<td>.015</td>
<td>.654</td>
<td>.799</td>
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</tbody>
</table>

### Position Scores (n=18)

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd IO</th>
<th>3rd DO</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>.205</td>
<td>.078</td>
<td>.347</td>
<td>.877</td>
<td>.045</td>
</tr>
<tr>
<td>2nd</td>
<td>.428</td>
<td>.436</td>
<td>.820</td>
<td>.686</td>
<td>.364</td>
</tr>
</tbody>
</table>

### Combined Scores (n=18)

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<tr>
<th></th>
<th>1st</th>
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<th>3rd IO</th>
<th>3rd DO</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>.274</td>
<td>.078</td>
<td>.205</td>
<td>.330</td>
<td>.296</td>
</tr>
<tr>
<td>2nd</td>
<td>.302</td>
<td>.715</td>
<td>.212</td>
<td>.608</td>
<td>.625</td>
</tr>
</tbody>
</table>
Important to understand what’s happening in terms of interlanguage development (Malovhr 2008).

1\textsuperscript{st} and 2\textsuperscript{nd} person forms ➔ 3\textsuperscript{rd} person indirect object forms ➔ 3\textsuperscript{rd} person direct object forms
You can see this in the pretest results. Compare 1st person form (left) to overall form scores.
- Ran tests on filters: How about learners who already knew 1\textsuperscript{st} person (score = 100%)?
- Improvement from pretest to delayed test showed greater significance
- Combined form and position store received an effect from the treatment.
- (Lost significance on position score.)

### Results
Taking it further, what about learners who knew 3rd person indirect object pronouns (score ≥70%)?

For the first time, see significant effect on the improvement for the 3rd person direct object form.

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**Results**

<table>
<thead>
<tr>
<th>Form scores (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
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<td>1st</td>
</tr>
<tr>
<td>-------</td>
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<tr>
<td>.436</td>
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<tr>
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<tr>
<td>n/a</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
This study showed support for hypothesis that using modified input in subtitles can help support grammatical acquisition.
Would be interesting to run a longitudinal study on the development of these forms

Enough research has been done on the order of acquisition of these structures that it would be an ideal topic for student modeling

- Doesn’t make sense to spend time explaining or drawing attention to later forms if earlier forms haven’t been acquired yet.
- Program could adapt instruction and input to learner’s level.

Discussion
• Schmidt (1990) ➔ input must be noticed in order to be acquired
• Malovrh (2008) ➔ clitic pronouns are hard to notice in the input stream:
  ◦ They are inherently unstressed phonologically.
  ◦ They may have multiple form to function associations.
  ◦ Their word order relative to the verb varies.
• Using modified subtitles is a promising way to accelerate the natural sequence of the learning process

Conclusions
Subtitling Videos for Your Classroom

Some Resources
- Find or create video content
- Find or create subtitles
- Embed subtitles
  - *or* use a player that reads subtitles
• Any DVD!

• www.vodo.net
  ◦ Peer to peer documentary website

• www.lingus.tv
  ◦ Spanish language videos

• YouTube
  ◦ Special software is required
  ◦ (but some free sw is available)
Subtitle websites for TV and movies
www.opensubtitles.org
www.subtitlesource.org

This site also contains good info on playing subtitles with videos
Lets you download, then modify subtitles

Find or create subtitles
• Coolest thing ever
• Open Subtitles through OPUS
  ◦ http://opus.lingfil.uu.se/index.php
• Multi-lingual parallel corpus

Subtitle corpus (!)
• Make your own
  ◦ Jubler (Linux, Windows XP, Mac OS X)
  ◦ Aegisub (Windows, Mac OS X, Unix)
    • Main page: www.aegisub.org
    • Docs: aegisub.cellossoft.com/docs/Main_Page
  ◦ Subtitle Workshop (Windows)

• You can also use these tools to enhance existing subtitles
- **Embed subtitles**
  - Requires actually burning a new video
  - Subtitles can’t be removed.
  - Not as flexible, but may be right for research
- **Flash video subtitles**
  - Built-in control for embedding titles
- **BEST! Use a player that reads subtitles**
  - MPlayer OSX Extended (on Mac)
  - VLC (multiplatform)
  - Windows – may need DirectVobSub for Media Player
Viewing the subtitles
Subtitling programs may have a bit of a learning curve

Be sure to use the correct character encoding like UTF-8

You mileage may vary with text enhancing

Might need just right combination of:
- Subtitle format (.ass, .ssa, .srt)
- Player that handles fancy formatting
- Good news – players tend to handle boldface pretty well

A few caveats
Example – Lilah documentary
and I've been doing it for, like

Example – Lilah documentary
and I've been doing it for, like

<table>
<thead>
<tr>
<th>Start</th>
<th>End</th>
<th>Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00:38,449</td>
<td>00:00:41,974</td>
<td>I'm Lilah</td>
</tr>
<tr>
<td>00:00:42,474</td>
<td>00:00:45,939</td>
<td>I've been here</td>
</tr>
<tr>
<td>00:00:46,008</td>
<td>00:00:49,277</td>
<td>I'm a psychic,</td>
</tr>
<tr>
<td>00:00:49,824</td>
<td>00:00:51,272</td>
<td>and I've been doing it for, like</td>
</tr>
</tbody>
</table>

Example – Lilah documentary
<table>
<thead>
<tr>
<th>Name</th>
<th>Date Modified</th>
<th>Size</th>
<th>Kind</th>
</tr>
</thead>
<tbody>
<tr>
<td>.DS_Store</td>
<td>Today</td>
<td>8 KB</td>
<td>Plain text</td>
</tr>
<tr>
<td>Lilah.2009.Xvid-VODO.avi</td>
<td>Yesterday</td>
<td>79.4 MB</td>
<td>AVI Movie</td>
</tr>
<tr>
<td>Lilah.2009.Xvid-VODO.jacache</td>
<td>Today</td>
<td>1.3 MB</td>
<td>Document</td>
</tr>
<tr>
<td>vodo.nfo</td>
<td>Yesterday</td>
<td>4 KB</td>
<td>Document</td>
</tr>
</tbody>
</table>

Example – Lilah documentary
and I've been doing it for, like
• Isabel Mayo-Harp for her in-class support of this experiment
• Stephanie Gabriel for her help with the statistical analysis
• Dr. Trude Heift for her mentorship and guidance
• The Ling 810 graduate students for their advice and moral support!
References


Thank you!

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