

Orthography-induced Transfer in L2 Phonological Acquisition of Spanish

Yasaman Rafat, PhD
Western University

Research questions

- Does exposure to orthographic input promote L1-based phonological transfer, leading to non-target-like productions in English-speaking learners of Spanish?
 - Do condition of learning and production and grapheme-to-phoneme (in)consistency modulate the rate of orthography-induced transfer?
- Example: Spanish <zafero> [safero] → L2 [zafero]

Methods

Participants:

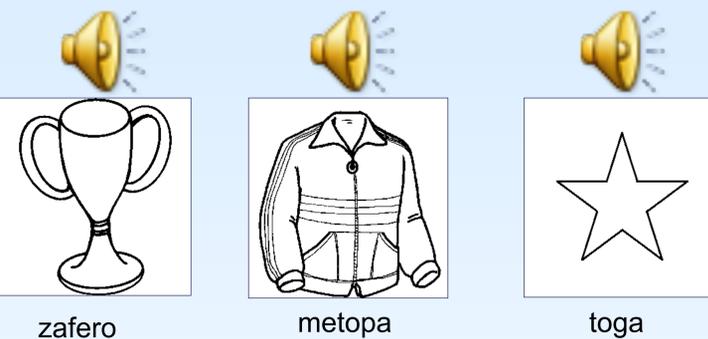
- 40 mono-lingual novice adult English-speaking learners of Spanish

Conditions:

- Orthography at learning and production, (2) Orthography at learning only, (3) Orthography at production only and (4) No orthography

- Images and auditory input were presented at learning

Condition 1: Learning



Condition 1: Production



Stimuli:

- 108 Spanish words
- Different grapheme-to-sound correspondences:
 - Example: <z>-[s]
- Same grapheme-to-sound correspondences:
 - Example: <m>-[m]

Results

- Exposure to orthographic input triggers transfer leading to non-target-like productions
- The factor condition was highly significant: ($\chi^2(df = 3) = 243.73, p = .000$).

Figure 1

Effect of Condition on Transfer

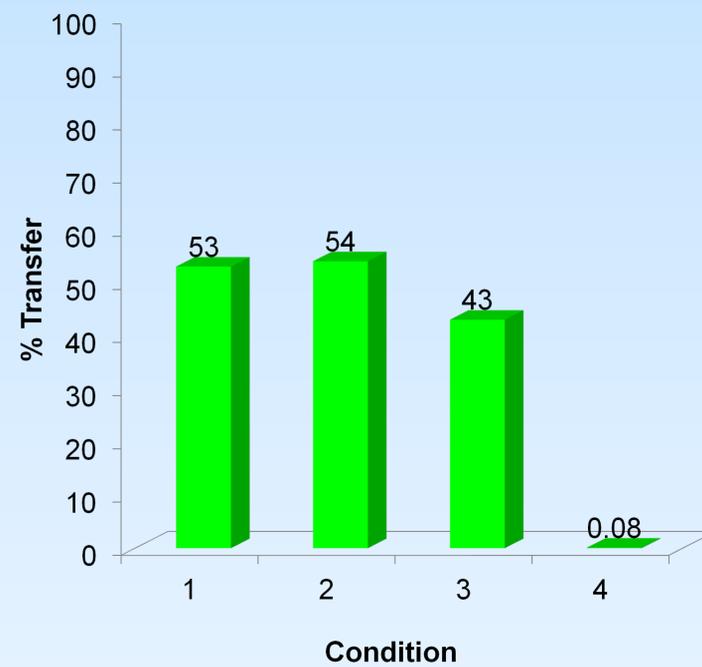


Table 1

Mann-Whitney Test Results : Effect of Condition on transfer

Condition	U	z	p
1 & 2	57722.50	-.95	.950
2 & 3	52086.00	-2.95	.003
3 & 4	1325.50	-6.00	.000
2 & 3	49981.50	-2.99	.003
2 & 4	24781.50	-13.94	.000
3 & 4	29866.00	-12.19	.000

Results (cont'd)

- The factor grapheme-to-sound (in) consistency was highly significant
- Individual grapheme-to-sound correspondences that differ between English and Spanish resulted in different rates of transfer ($\chi^2(df = 5) = 177.35, p = .000$)

Figure 2

Effect of Individual Grapheme-to-sound Correspondences on transfer

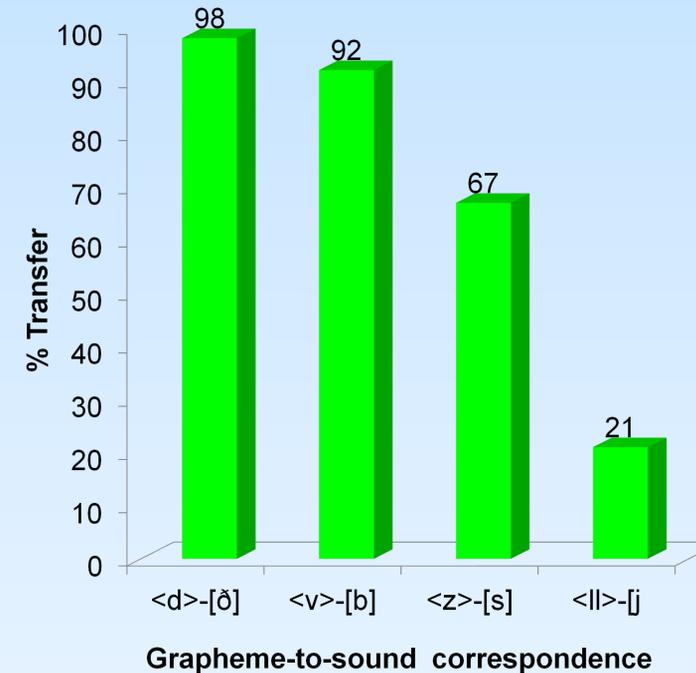


Table 2

Mann-Whitney Test Results : Pair-wise Comparisons of Grapheme-to-sound Correspondences

Spanish grapheme-to-sound correspondence	U	z	p
<v>-[b] & <d>-[ð]	1177.00	-.44	.661
<v>-[b] & <z>-[s]	496.50	-6.01	.000
<v>-[b] & <ll>-[j]	337.50	-9.32	.000
<d>-[ð] & <z>-[s]	508.00	-5.9	.000
<d>-[ð] & <ll>-[j]	345.00	-9.26	.000
<z>-[s] & <ll>-[j]	1189.50	-5.41	.000

Discussion

- Exposure to orthographic input can hinder L2 phonological acquisition
- The condition of learning and production affects the rate of orthography-induced transfer leading to non-target-like productions

Proposal:

- The rate of phonological transfer depends on the degree of salience of the phonetic/acoustic difference between the L1 and L2 sounds; the larger the phonetic/acoustic difference, the more salient the difference and the lower the rate of transfer
- Considering that orthography-induced transfer is also present in advanced learners, exposure to orthography affects the establishment of underlying L2 categories

Conclusions

- Shows that exposure to orthography at learning and/or production can hinder L2 phonological acquisition
- Calls for the incorporation of the role of orthography in the future models of L2 phonological acquisition

Selected References

- Steele, J. (2005, June). Assessing the role of orthographic versus uniquely auditory input in acquiring new L2 segments. *Temes rencontre internationaux du reseau français de phonologie, Aix-en Provence, France.*
- Young-Scholten, M. (2002). Orthographic input in L2 phonological development. In P. \ Burmeister, T. Piske & A. Rohde (Eds.), *An integrated view of language development: Papers in honor of Henning Wode (pp. 263-279). Trier: Wissenschaftlicher Verlag Trier.*

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