Understanding fingerspelling perception



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ASL fingerspelling is challenging for L2 learners^[1,2]. Student performance on comprehension tasks is better when the fingerspelling signal is modified to mask the transitions (time period between holds), as opposed to the hold (time periods where the entire hand configuration is stable), portion of the utterance^[3].

Methods





Fingerspelling		Pre-, post-, and
identification	Single test to	post-post- test in
task in four	assess in which	the same
conditions:	conditions	paradigm. Pre-
clearA, holds	students would	and post-tests
only,	perform the	separated by an
transitions	best	intervention
only, clearB		program
Stimulus Delivery	PsychoPy	Web-based delivery system

Intervention programs

Explicit training teaches about the structure of fingerspelling, variation frequently found in fingerspelling productions, overall shape

* Students perform better in holds-only condition^[3]

* Additional findings reveal poorer student performance on items with letters with non-default palm orientation e.g., misinterpreting -P- as -K-

* Can students be trained to improve fingerspelling comprehension with an explicit intervention training as has been the case for spoken language-learning^[5,6,7]?

Results: Exp 2

implicit	implicit	implicit	explicit	explicit	explicit
pretest	posttestA	posttestB	pretest	posttestA	posttestB





Fig: Still images extracted from video stimuli used in the pre- and post-tests. (a) unmasked stimuli, (b) transitions masked, (c) holds masked. (d) Movement envelope^[4] schematic of the word S-A-F-E-W-A-Y. (e) Variation in productions of -Y- depending on position in the word, (f) Variation in productions of -E- based on phonetic context, (g) Coarticulation of U-R bigram.



Imf	olici	it t	training	$(re)^{-1}$	teaches	fin	gerspelling
as	it	is	taught	in	studen	ts	textbooks
inc	ludi	ing	product	ion	of doub	le le	etters

- * The patterns of perception are clear: holds-only is significantly better than transitions-only.
- * Words with letters with non-default orientations are perceived less accurately.
- * There is a striking trend of improvement over the course of the semester in the explicit training group that is not seen in the implicit training group.
- * Just as phonetic instruction has been effective in improving English perception^[5,6,7], so too should ASL curricula incorporate this type of formal phonetic instruction.

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