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# Experimental Investigation of a Class Demonstration's Impact on Student Learning, Engagement, and Enjoyment.

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## Background and Motivation

**The McGurk Effect is a robust audiovisual illusion that occurs when visual speech information alters the auditory perception of an incongruent speech sound.**

**Our aim was to assess student's learning, engagement, and enjoyment after an interactive McGurk Effect Demo that was presented at last year's NITOP DEMO DEMO.**

**This demonstration can be used for multiple learning objectives across different topics. For this particular experiment we wanted to help students:**

1. Understand and remember the difference between sensation and perception
2. Distinguish between Top Down and Bottom Up processing
3. Experience the multisensory nature of perception

## Methods

**96 Introductory Psychology Students completed the following procedures:**

**Prestest:** Students completed multiple choice and short answer questions assessing the above learning objectives

### Demonstration

**Phase 1 and 2:** Testing the McGurk Effect in front of the class with two volunteers

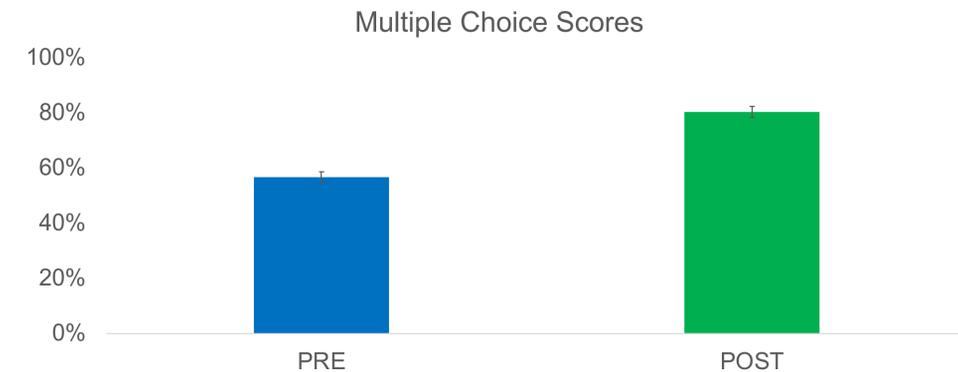
**Phase 3:** Testing the McGurk Effect with nearby classmates

**Phase 4:** Critical thinking class discussion questions

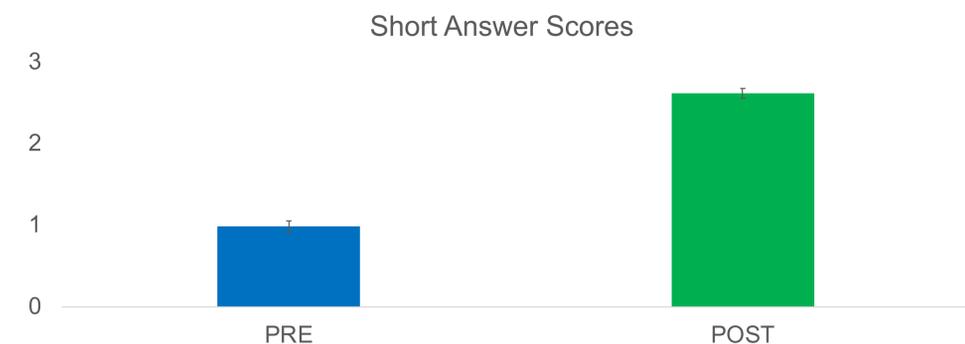
**Posttest:** After a three day delay the same multiple choice and short answer questions about core sensation and perception concepts in Introductory Psychology were given. Students were also asked about their subjective experience and evaluation of the demonstration.

## Results

**1. Performance increased on multiple choice questions pre-demo ( $M = 57\%$ ,  $SD=17\%$ ) to post-demo ( $M = 80\%$ ,  $SD=18\%$ ) ( $t(95) = 10.79$ ,  $p < .001$ ;  $d = 1.10$ ).**



**2. Performance increased on short answer questions pre-demo ( $M = .99$ ,  $SD=.66$ ) to post-demo ( $M=2.6$ ,  $SD=.58$ ) ( $t(96) = 20.10$  ,  $p < .001$ ;  $d = 2.05$ ).**



**3. Additionally, the subjective questionnaire showed that on average 89% students agreed the demonstration was clear, engaging, and useful (average mean rating = 5.46 out of 7)**

## Take Home Message

**We found evidence that our interactive demonstration of the McGurk Effect was effective at increasing student learning, engagement, and enjoyment. We are happy to share it with you.**