



# CALIFORNIA STATE SCIENCE FAIR 2014 PROJECT SUMMARY

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<b>Project Title</b> <b>Efficacy of Perceptual Modality Test Preparation in Comparison to Universal Design for Learning</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of the current study was to investigate the effectiveness of perceptual modality based test preparation in comparison to that of Universal Design for Learning test preparation. In addition, the study tested the accuracy of students when self-identifying perceptual modality.</p> <p><b>Methods/Materials</b> Over 180 high school student subjects were tested to determine their perceptual modality and placed into one of four divisions: auditory, kinesthetic, print, or visual. Each division received a history lesson, then prepared for an exam with strategies utilizing their own perceptual modality, and was tested on this information. Each division received another history lesson and prepared with the UDL test preparation process, and was tested on this knowledge. In addition, each subject was instructed to identify his or her own perceptual modality.</p> <p><b>Results</b> Over 87% of subjects displayed higher scores with perceptual modality test preparation. The high statistical significance of these results was confirmed by the t-test, with a two-tailed P value less than 0.0001. In addition, over 56% of subjects incorrectly identified their perceptual modality. However, this was not particularly statistically significant, with a two-tailed P value of 0.8159.</p> <p><b>Conclusions/Discussion</b> These results did not support the hypothesis: contrary to the original prediction, the perceptual modality test preparation was significantly more effective and students were not considerably accurate in predicting their own perceptual modality.</p> <p>This study provides crucial information regarding effective test-taking for students: if able to identify their perceptual modality, they can contour study strategies to maximize comprehension and test performance. In addition, the study supports the idea of learning styles; thus educators can use these results to alter their teaching programs to benefit the greatest number of students. Furthermore, the study displayed that students themselves are not the best predictors of their own perceptual modality. Thus, this study provides significant information to the field of cognitive science, supporting the idea that perceptual modality plays a vital role in education and learning.</p>	
<b>Summary Statement</b> The purpose of the current study was to investigate the effectiveness of perceptual modality based test preparation in comparison to that of Universal Design for Learning test preparation & determining accuracy of student PM self diagnosis.	
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