



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Sarah B. Bellingham	Project Number S0303
Project Title Is a Picture Worth a Thousand Words?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The goal of this experiment was to figure out if students would pick up new vocabulary in a foreign language faster when the vocabulary was associated with a picture, or with a translation.</p> <p>Methods/Materials Methods: 1. Pens, surveys, and envelopes containing flashcards are set out at each seat. 2. Subjects are brought in and seated. 3. Subjects fill out surveys, and surveys are collected. 4. Subjects study flashcards for 7 minutes. 5. Start and stop times are recorded. 6. Tests handed out before the study time is up. They are placed on the far edge of the table in front of the student, facing down. 7. Students put the flashcards back into the envelopes, place the envelopes in front of them at the far edge of the table, and begin taking their test. 8. After about 3 minutes, the students finish the tests and the tests are collected. 9. Subjects then switch rows and repeat steps 4-8 with the opposite set of flashcards. 10. Subjects take the flashcards back out of the envelope in front of them, put them back in order for the next round of testing, and are excused.</p> <p>Materials: 1. Flashcards; 2. Tests; 3. Surveys; 4. Pens; 5. Satellite Clock; 6. Testing space.</p> <p>Results My results showed a large degree of variability in the performance of my subject group, although some trends are clear, for example improved performance with age. Neither picture nor word flashcards could be considered the #best# method of teaching for all students, as 53% of the students scored higher using words, 39% scored higher using pictures, and 8% scored the same on both tests. However, the results also show that some students performed much better with either picture or word associations. This suggests that the optimal sort of teaching styles varies depending on the individual.</p> <p>Conclusions/Discussion Over all, the word flashcards were the most successful for all ages, grade levels, and genders. However, there still was a significant portion of students who learned more quickly with the picture flashcards and a small number for whom it did not matter. The conclusion that can be drawn from this is that both written words and visuals should be used in the classroom to teach foreign languages to instill vocabulary in the students# minds. If teaching were to be conducted individually as opposed to in a group lesson, emphasizing one method more than the other could benefit students.</p>	
Summary Statement This project is about how the presentation of material affects language learning.	
Help Received Father and science teacher proofread; Used a classroom at All Saints' Episcopal Day School; Subjects came from the 3rd through 6th grades of All Saints' Episcopal Day School	