



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

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| <b>Name(s)</b><br><b>Trang T.D. Dinh</b>   | <b>Project Number</b><br><b>J0310</b> |
| <b>Project Title</b><br><b>Semantic Encoding vs. Acoustic Encoding</b>   |                                       |
| <b>Abstract</b><br><b>Objectives/Goals</b><br>The objective of the experiment was to see whether the usage of acoustic or semantic encoding would be best in memorizing a number of unrelated items in a short amount of time.<br><b>Methods/Materials</b><br>I had 110 students, ranging from 7th-8th grade, and randomly splitted them into two groups, Group A and Group B. I tested Group A using acoustic encoding. First, I gave Group A the 1st board with 20 unrelated items and asked them to remeber as many items as possible in a time interval of 20 seconds. That was the pretest. Then I gave them a tape recorder with numerous random items repeated out-loud over and over. The point of this was to prime up Group A to use this acoustic encoding method in their second board. Then the 2nd board was brought out and Group A was asked to do the same thing in 20 seconds, except this time Group A was remembering the items by saying them out-loud. That was the posttest. For Group B, the group using semantic encoding, I gave them the same tests. The only thing was that between the pretest and the posttest I taught Group B a memory technique using semantic encoding. The memory technique envolved linking all the different items into one story. So in their posttest board, Group B subjects were remebering the items by linking the 20 different items into one story.<br><b>Results</b><br>For Group A, using acoustic encoding, there was really no difference between the numbers of items remembered between the pretest and the posttest, 0.09. However, Group B had an average of 4 items remembered more in the posttest then in the pretest, which is quite significant.<br><b>Conclusions/Discussion</b><br>My conclusion is that semantic encoding allows one to remember more in a longer amount of time then acoustic encoding does. That's because semantic encoding allows information to slid into the long-term memory from the short-term memory. |                                       |
| <b>Summary Statement</b><br>My project is about semantic encoding and acoustic encoding and which one is better at allowing a person to remember more information.   |                                       |
| <b>Help Received</b>   |                                       |