



**CALIFORNIA SCIENCE & ENGINEERING FAIR  
2018 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jasmine E. Elasaad</b>	<b>Project Number</b> <b>J0709</b>
<b>Project Title</b> <b>Effectiveness of Method of Loci on Short-Term and Long-Term Memory</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this study was to determine if the method of loci, a visual-spatial oriented mnemonic device, has an impact on long-term memory. The hypothesis was that the group using the method of loci would recall more words than the rote memorization control group.</p> <p><b>Methods/Materials</b> A total of 134 students in grades fifth, sixth, seventh and eighth were recruited and then divided into two groups: the method of loci experimental group; and the control group. Prior to testing, the method of loci group received training on how to use the method of loci technique to memorize a list of words, while the control group received no training. Both groups were given identical lists of 20 simple nouns and four minutes to study the lists. After the word lists were collected, the groups were subjected to a 1.5 minute period of silence before being tested on their short-term recall ability. Subjects were given two minutes to write down all the words they could remember. All participants were then re-tested one week later for long-term recall of the word list.</p> <p><b>Results</b> For the short-term recall results, the control group recalled a mean of 15.5 words (median 16; mode, 20; range 6-20.) The experimental group using the method of loci recalled 16% more words than the control group, with a mean of 18 words (median 19; mode, 20; range, 11-20). For the long-term test results, the control group recalled a mean of 7.7 words. (median, 7; mode, 5; range, 0-20). The experimental group which had used the method of loci was able to recall a mean of 11.9 words (median, 12; mode, 15, range 1-20) on the long-term memory test. This was a dramatic difference of 54% more words recalled for the long-term test by those using the method of loci.</p> <p><b>Conclusions/Discussion</b> The method of loci is one of the oldest mnemonic devices and employs a spatial skills technique to peg desired words along the route of a memory journey. The results of this study revealed that subjects were able to recall more words when they employed this memory tool. Recall ability was magnified over longer periods of time, suggesting that this mnemonic device would not only be of great use to students, but would be even more valuable for those who need to retain information over a long period of time. Further studies might be beneficial comparing different mnemonic devices to determine which is most effective.</p>	
<b>Summary Statement</b> I tested the effectiveness of the method of loci mnemonic device on students' short-term and long-term recall ability.	
<b>Help Received</b> I received help from the students who participated as subjects in my project and from my science teacher who let me use her classes for testing and gave me guidance.	