



**CALIFORNIA STATE SCIENCE FAIR  
2017 PROJECT SUMMARY**

<b>Name(s)</b> <b>Bradley L. Shannon</b>	<b>Project Number</b> <b>J0719</b>
<b>Project Title</b> <b>Dart Frenzy</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment is to determine if a video game simulation improves how a person plays darts in real life.</p> <p><b>Methods/Materials</b> Wii , Wii remote, Dart Rage video game for simulation, Darts, Dart Board, Tape Measure, and iPhone. Human test subjects practiced with real or simulated darts and improvement was measured based on beginning and ending set of throws. Data was measured on distance from bullseye.</p> <p><b>Results</b> Test subjects who practiced with real darts improved more than the Dart Rage test group from distances of 6 and 8 feet. The test subjects practicing with Dart Rage improved more from the distance of 10 feet. On average the test group practicing with real darts got closer to the bullseye by .63 of an inch from 6 feet, .78 of an inch from 8 feet, and .86 of an inch from 10 feet. On average, the test group practicing with Dart Rage got closer by .3 of an inch from 6 feet, .4 of an inch from 8 feet, and .98 of an inch from 10 feet. Overall the group practicing with real darts improved the most.</p> <p><b>Conclusions/Discussion</b> Both test groups did show improvement and this supports my hypothesis. Also, the group practicing with real darts improved more than the group practicing with Dart Rage, which doesn't support my hypothesis. Additionally, my predictions were much greater than the actual results. For the test subjects practicing with real darts they only improved 0.28% from 6 feet, 8.54% from 8 feet, and 0.51% from 10 feet, which does not support my hypothesis of a 20% improvement. For the group practicing on Dart Rage they actually did worse by -2.39% from 6 feet, -11.23% from 8 feet, and -48.43% from 10 feet, which does not support my hypothesis of a 40% improvement. Because the females improved more than males in both test groups, my hypothesis wasn't supported. This experiment showed when developing a simulation, male and female skill level and interest should be considered. Also, that a simulation should very closely resemble the actual event or action for it to be an effective tool for learning.</p>	
<b>Summary Statement</b> Practicing with simulation for darts did not show the improvement expected, but a more realistic simulation tool would have had a greater effect on the results.	
<b>Help Received</b> None. I performed and executed this experiment by myself.	