

The problem I am investigating is whether having a target line on the ground will effect the distance the students from the year 9 maths class will jump. This will exhibit that the participants prefer to have a set goal which is a good direction in fueling ambition. ①

I think that the students will jump further with a line on the ground as a target to reach.

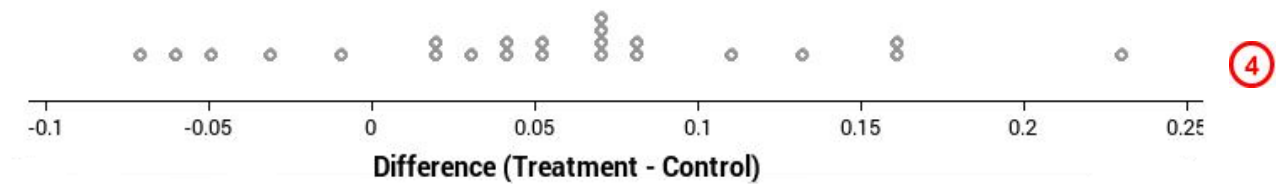
We will do the experiment outside on the area of grass behind A4. Because we are going to ask all the participants to jump with bare feet grass will be better to jump on than the concrete. We will have a line on the ground as a start line. This will be a piece of tape pinned at either end so it stays in the same position. Each student will stand with both feet behind the line and be asked to jump with two feet as far as they can. We will tell them they can bend their knees and swing their arms but their feet have to be beside each other and not one forward and one back and they have to land on both feet. Once we have explained the rules for the jump we will give the instruction 'Try and jump as far as you can.' I will be at the start line making sure the take off is correct and the other people in my group will mark the landing point and measure the distance of the jump. A tape measure will be used and we decided to measure to cm. ②

The treatment is the target line. We will mark out a line 2.3 metres away from the starting line. It will be also pinned at either end so it cannot move. The instructions for the second jump will be the same as the first jump but this time there is the target line to aim for. Before the class do the second jump we will remind them about the rules for the jump.

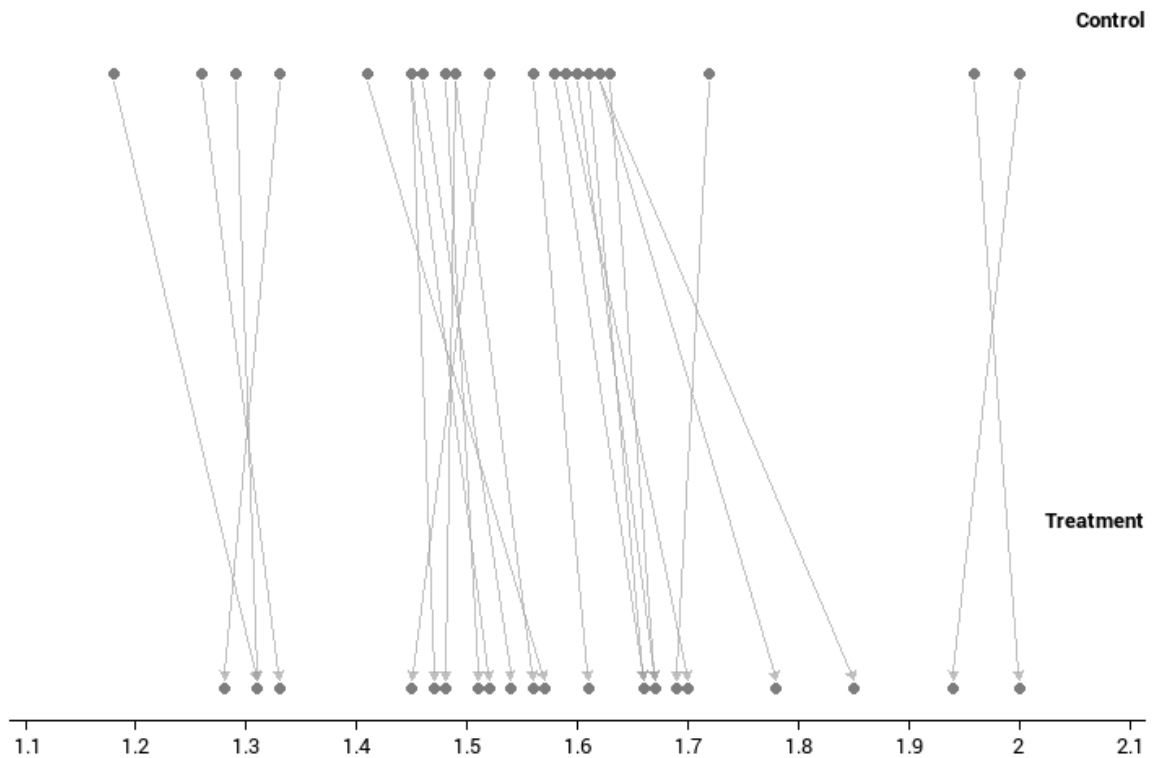
Control (no line)	Treatment (line)	Difference
1.52	1.45	-.07
1.46	1.54	.08
2.0	1.94	-.06
1.26	1.33	.07
1.56	1.61	.05
1.96	2.0	.04
1.63	1.67	.04
1.59	1.70	.11
1.49	1.48	-.01
1.62	1.85	.23
1.72	1.69	-.03
1.58	1.66	.08
1.45	1.52	.07
1.45	1.47	.02
1.18	1.31	.13
1.41	1.57	.16
1.33	1.28	-.05
1.48	1.51	.03
1.49	1.56	.07
1.61	1.66	.05
1.60	1.67	.07
1.62	1.78	.16
1.29	1.31	.02

③

Dot plot of differences between control and treatment



Line graph of jumping to target measurements done in metres



In the table most of the differences are positive and on the dot plot there are five differences that are negative meaning five people jumped shorter than their first jump without the line and their differences ranging from 1 cm to 7 cm. On the line graph most of the arrows go across to the right meaning the treatment jump with the target line was further than the control jump without the line.

The data implied that I was correct with what I thought that the students from the year 9 class would jump further when there was a line on the ground as a target to reach. 18 of the 23 students jumped further so having the line on the ground did seem to effect the distance the class jumped.