

Problem:

Does setting a target distance for people to take one hop towards effect how far the people hop, compared to if there was no target

Hunch :

We think that a target will make a difference to how far people, by making them hop further than people who weren't given a target because, we think that people with a target are more motivated to beat the distance 1.6m target we have set.

Plan:

We will conduct this experiment on Mrs - - year 11 girls form class. the experiment will be two independent group comparisons. The two independent groups comparison, there must be a random allocation to the two groups in an attempt to make the comparison fair.

We will randomly select to two groups by first cutting up the class role (students names) and putting each individual students name into a ice cream container. One person will have their eyes shut and will individually draw names out of the icecream container, every secon name drawn out will be put into group 2. The othr names will be in group one. this keeps the experiment fair and not bias as we have randomly allocated two groups. Group one will have no target but group two will have a set target of 1.6metres.

Bring both the two groups outside the classroom and cover the entrance of the door with a person covering the door so they are unable to see inside, well students are outside a tape measure is set up and a start point for where the students hop from is marked.

Individually students will be called into the class from group one which is the group with no target. They will give us their name ,we will direct them to the starting point, which is 0cm where their tip of their right foot must touch and tell them to use their right foot to take their hop with, they cannot take a run up. they are to hop as far as they can in one hop. Their distance will be recorded nxt to their name. After the student has hopped they will be lead out into a separate room where the window will again be covered so they will not put off or communicate with other students who are yet to participate in this experiment.

Once all group one has hopped and their names are recorded, we will then out a piece of tape across the tape measure at 1.6m as that is our target

Individually we will then call in each member of group two, show them the start of the hop line and tell them that we want them to try hop using their right foot and just taking one hop to try and reach the target. We will tell them that they cannot run up and they must start with the tip of their right foot on 0cm.

After each student from group 2 has individually been called in told the instruction and done their hop, we will record their results of the length they have hopped in cms next to the students name. After the student has hopped we will take them to the backroom so they cannot see the people who are yet to hop. we will repeat this process for all of group 2, once everyone has hopped we will bring them out and thank them for completing our experiment

Treatment: control

Group 1 - no target

.53  
90.2  
1.02  
1.13  
1.23  
1.29  
1.41  
1.41  
1.46  
1.48  
1.52



Control Treatment

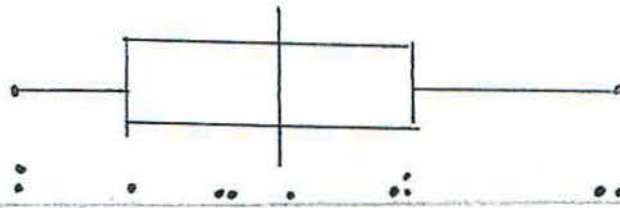
Group 2 - 1.6 target

90.5  
90.5  
1.10  
1.21  
1.22  
1.32  
1.45  
1.46  
1.46  
1.73  
1.75

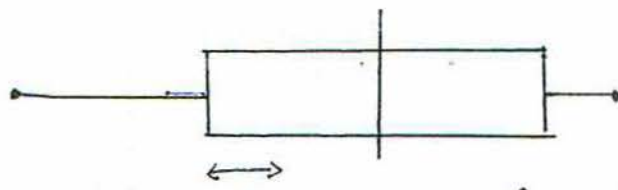


APPROVED

Treatment  
Control  
Group 2



Control  
Treatment  
Group 1



0 .50 80 1.0 10 20 30 1.40 1.50 1.60 1.70 1.80 1.90 2 metres.

	Control	Treatment.
Minimum	= 0.58	= 0.5
Max	= 1.52	= 1.75
Median	= 1.29	= 1.32

Analysis:

- Shift.
- Variation ?
- Shape
- max & min
- median
- Outliers.

Conclusion:

Experiment what may  
Wrong. Could've improved.  
Final result.  
confirm.



Analysis.

From the diagrams I have drawn from our experiment to find out if hopping with a set distance effects how far you jump compared to hopping with a target distance.

From the my data class graph I can see that Group 2 is shifted slightly further up the scale compared to Group 1 who had no set target distance box and whisker on the graph. It is 10cm more varied along the graph compared to the Group 2. Both box & whiskers are quite symmetrical with only a slight difference in each middle 50%. The median at Group 1 is 1.32m whereas the median at Group 2 is 1.29m. There is a 3cm difference between these two medians.

~~There is only one outlier in Group 1.~~

To make a decision on whether students/people hop further compared to those without a target the middle 50% at each box width must not lie within the others middle 50%. So because at this in my graph each group is within one another's middle 50%. I am unable to make a call to whether or not people jump further with or without a target distance.

Discussion.

~~That~~ this experiment may not be so accurate as when doing the experiment we did not stress to the 2nd group that they must pass the target distance which we displayed with a ruler. But told them like the first group to jump hop as a star. They could with their right foot. Next time we should specify that they must try to beat our set target. Also we should have defined our starting point, so because they didn't quite know where it was, also to get them to stay in place while we take the correct measurements so they can be more accurate, because they would hop and move straight after they had landed.

Also the size of our experiment was quite small. So it may only give us an idea of whether students jump further with or without a target distance. To get more steady results we would need to conduct this experiment on

another few groups of students. We should also take into account that this experiment was only conducted on year 11 girls in the morning. So we cannot say that these results cover the entire population of students as we have not conducted this experiment at boys who may have hopped more or less than our results and year 11 students may not be so happy to jump hop early in the morning compared to a younger group of girls, say in year 9. So this data only represents a fraction of year 11 girls. So in my future experiments I would need to take all these things into account when I am writing up my experiment to change and define my results.