Transcript of video Armspan

http://topdrawer.aamt.edu.au/Statistics/Good-teaching/Data-reduction/Central-tendency/How-long-is-a-piece-of-string

How big is a piece of string? Well, I can estimate it. I think it's about 4 metres.

(Holding a string and estimating its length)

In days gone by, people used to use body proportions to estimate lengths. So in an adult, the distance from your nose to your outstretched hand is a metre; 1, 2, 3, 4, and about 25 cm.

(Estimating length of string by counting the number of times the string reaches from nose to outstretched hand)

So maybe I might say it's 4 m and 25 cm.

(Writing on the board estimated length of the string)

In children and in teenagers, body proportions are different. So for your class, it wouldn't possibly be a metre. So what could you do? Well, why not collect some data for your class. Using a standardised measure, a tape measure, in a consistent manner, measure the distance, the arm span, for all the students in your class and record all that data.

(Asking to collect arm span measurement data in a class)

Why don't you draw a histogram of the data? Because that graph will show you the variations there are in arm spans of students in your class.

(Pasting a histogram of arm spans in a class on the board)

This graph indicates that possibly a real 95 might be the average arm span for students in the class.

(Estimating arm span average of students in a class through identifying the most frequent measurement on the histogram)

Once you've obtained the mean or the average, select a student from your age group from your class and ask them to see how many arm spans they think are in the string.

(Pasting mean and average measurement of arm spans on to the board)

If they say there are 4 arm spans and 9 cm and your average arm span for your class was 94.9 cm, you could estimate the length with 4 arm spans plus 9 cm, you might estimate it's 389 cm.

(Calculating length using total arm spans)

Let's see what this string really measures.

(Disclosing actual measurement of the string and writing it on the board)

Oh! 395 cm. The class didn't do a bad job. What about my estimate? What this tells me is that I probably don't have the average arm span of an adult; it would be a metre for me. Finding an average is a good way to find a centre point for your data.