Week one task

Alan Baddeley was a pioneering psychologist who help discover the nature of working memory. One thing he did was examine the load various tasks placed on working memory; in fact, because of this expertise, he was consulted when the postcode system was designed, the particular mixture of letters and numbers is particularly easy to remember.

In

`www.lancaster.ac.uk/staff/towse/rgpage.html`

his use of random digit generation to assess cognitive load is described. It is hard to produce random sequences of digits, so quantifying how random a sequence is quantifies how hard a working memory task is.

The idea of this task is to try a simple version of this. Ask the student to write down a sequence of digits at a rate of one digit a second for two minutes, you will need to use a stop watch and say 'now now now . . .' at that rate. Next, give them a random five digit number to remember and try the same thing again. Now, ask them to work out the frequency of each digit in the two streams and hence an estimate of $H(X)$. Are they different?

It would be interesting to collect all the answers you get from the participants and then do a Wilcoxon signed-rank test to see if they are different.