Question: Does the time between seeing some objects effect the number of objects that are remembered? ①

For my experiment I am going to take photographs of 10 objects and print them in black and white onto a single page. I am going to use a class of 30 year 10 students for the experiment. They will need to have a piece of blank paper and a pen.

Each student will be shown the page of photographs and have one minute to look at the objects. I will then take the page away and get them to list all the objects that they can remember. I will give them ② two minutes to do the list. I will then wait 10 minutes and ask them to list the objects they can still remember.

I will give them two minutes to do the second list. I will then count the number of objects they remembered at the beginning and then count the number of objects they remembered after 10 minutes.

I want to see what happens to the number of objects that are remembered from listing them straight after they have been seen and then listing them after a 10 minute wait so I am going to find the difference between the number remembered at the beginning and the number after 10 minutes.

Student number	Objects remembered at the beginning	Objects remembered after 10 minutes	Difference in # of objects remembered
1	9	7	2
2	9	7	2
3	10	8	2
4	8	7	1
5	9	5	4
6	7	5	2
7	7	4	3
8	9	6	3
9	10	7	3
10	10	9	1
11	9	5	4
12	8	7	1
13	7	3	4
14	7	4	3
15	8	7	1
16	7	4	3
17	8	5	3
18	7	4	3
19	9	6	3
20	6	3	3
21	9	6	3
22	9	7	2
23	8	7	1
24	7	5	2
25	10	6	4
26	8	6	2
27	7	4	3
28	9	6	3
29	6	3	3
30	8	4	4

③

Only four students in the class were able to remember all of the objects at the beginning. Every student in the class remembered less objects after the 10 minute wait. The most common difference was three less objects remembered.

Mean for memory at beginning = 8.17 (2dp)
Standard deviation for beginning memory = 1.16(2dp)
Mean memory after 10 minutes = 5.57 (2dp)
Standard deviation for memory after 10 minutes = 1.54 (2dp)

At the start, a student in the year 10 class was able to remember 8.2 objects but after 10 minutes the average had dropped to 5.6 objects. There was more spread in the memory after 10 minutes than there was at the beginning.

Statistics for difference in the memory (At beginning memory – 10 minute memory)

| Min	LQ	Median	UQ	Max	Range	Mean
1	2	3	3	4	3	2.6

Difference in # of objects remembered   Dot plot difference in # objects remembered
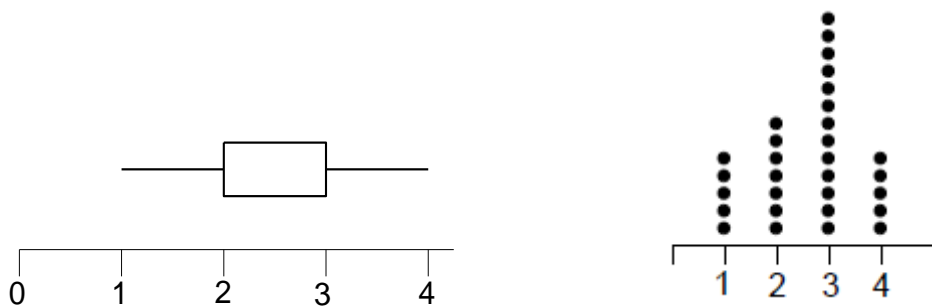
For the students in the year 10 class the smallest difference in memory was 1 (one less object remembered after the 10 minutes) and the largest difference was four as shown on the dot plot. The box and whisker plot shows a range of 3 indicating that there was very little change between the students memory at the start and after 10 minutes.
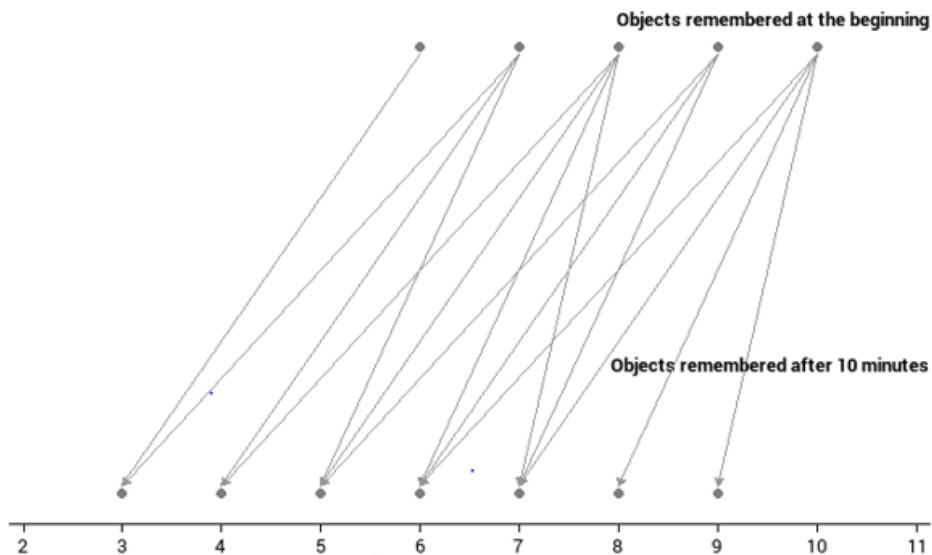
From my investigation I wanted to see if there was any difference in memory over time. Based on my experiment this is the case as all the year 10 students in the class remembered less objects after the 10 minute break so the break did effect the number of objects remembered.