

E- Discussion

E1- Relationship to background research:

The findings from this research that trigrams in an organised list will be recalled better than those in a disorganised list have supported the evidence of Millers theory. Miller (1956) found that the magic number 7 ± 2 can be increased using the method called chunking. This would relate to this piece of research as the amount of individual letters remembered was a lot bigger than the value 7 ± 2 . Participants in the organized condition on average recalled about twenty one letters, and in the disorganized condition they recalled about nine letters. This supports Millers view; that more items can be remembered if they are recalled in “chunks”.

This experiment can be extended to investigate the theory of expert chess players having better chunking abilities than novice players (Chase and Simon (1973)). The expert chess players could recall more information about the relationship of chess pieces than those of amateur chess players, the expert’s could recall up to 30 pieces of information, compared to only seven pieces for amateur players. This links to my experiment because using the technique chunking on an organised and disorganised list of words, led to an improvement in the number of trigrams recalled in the organised condition rather than the disorganised condition. In the organized list around 21 individual letters were recalled, compared to only 9 in the disorganized list. This supports Chase and Simons view that chunking can lead to better recall.

My experiment was based on a previous study by Bowers in 1969; the results produced are similar to those obtained by Bowers.

Table comparing the result of my study and Bowers study:

	This Study		Bowers Study	
	Average words recalled	% of Words	Average words recalled	% of Words
Organised	7.1	71%	16.9	65%
Disorganised	2.9	29%	4.94	19%

The results are quite similar although the results above have a higher percentage of words recalled for both the organised and disorganised list compared to Bowers results, however this is due to the fact that more words were involved in Bowers list: - 26 compared to the 10 words used on my list. This will have had an affect on memory as the participant is challenged to remember more words. Bower used a theme of minerals; whereas in my experiment it involved a mixture of random trigrams.

This could have affected the ability to recall; especially if Bowers' participants had greater knowledge than others. However this problem did not occur in my experiment as it was not based around one particular theme. On the whole my results are similar to those obtained by Bowers.

E2- Strengths and Weaknesses of the investigation:

A strength of this investigation was the method used. This was a laboratory experiment. This method was very reliable and accurate as it allowed manipulation and full control over the variables (i.e. whether the participant is given the organised or disorganised list of trigrams). Therefore the results which were obtained were reliable, and the experiment could be easily replicated by another researcher.

A strength of this experiment was that ethics was taken into consideration as informed consent was used to gain approval from the participant, to take part in the experiment. Participants were told they were taking part in a psychology experiment. Also confidentiality was abided by as well as all participants had the right to withdraw their results at any time, also none of their personal details were taken such as names and address.

A weakness of this experiment could be the design; as an independent groups design was used; there may have been individual differences between participants. As those participants in the organized condition may have been more intelligent than those in the disorganized condition; this could have led to them recalling more trigrams than those in the disorganized condition.

E3- Consideration of alternative method:

An alternative method could be used to test the affect of organisation on memory recall rather than an experimental method. A field experiment can be used so the test can be carried out in a natural setting. The new test can be carried out in school; for example a teacher can carry out an examination on students by testing a group of students to remember a list of abbreviations. This would be testing the ability to recall organized trigrams. Another classroom could be asked to play a game; where their partner gives them three random letters; if they answer a question wrong in a quiz they must recall the three letters they were told at the beginning. A new disorganized trigram would be used every time a question was answered incorrectly. This would then allow you to test the ability to recall disorganized trigrams.

An advantage of this over the other method is that it would be carried out in participant's everyday settings; therefore it would be more realistic, which would give the experiment more ecological validity.

This method will also reduce demand characteristics. Students will believe that this is a real test, and therefore they will pay attention and take the task seriously. Although they will not know it is a task into memory; they will believe it is an important test.

This method would be relevant for the aim and hypothesis of the study, as it would show if there is a clear difference, in the organized and disorganized trigrams recalled and it would also improve the reliability of the results.

E4- Application of findings and suggestion for future research:

In conclusion, this investigation has found that 16-18 year olds on average recall more trigrams from an organised list than a disorganised list. This research has proven that chunking and organization does increase the capacity of short-term memory. Therefore a link can be made to the real world for example if someone has to remember security numbers or phone numbers. Short codes can be chunked into one unit, although longer series of numbers like phone numbers may be chunked into two or three sections.

This will help to aid recall, also chunking and organisation can help with revision. For example, by revising from notes arranged in an organised style this should organise the data in the brain and encourage better recall in exams and therefore good exam results.

This research can also be applied when people do daily shopping. For example items of a similar nature can be chunked together into one group, e.g., peas, cabbage and broccoli could be chunked under a vegetables group, so that they can be remembered as one chunk rather than three individual units. This research can be applied to future research by investigating if using chunking technique for exam revision can aid better recall thus better exam results. For example teachers could hold revision session's using call cards which are chunked into small amounts of detail for the student to remember. They can then test to see if students with revision aids did better than those without.