INTRODUCTION
Implementing strategies has been shown to be advantageous in various memory tasks (Turley-Ames & Whitfield, 2003; Bisag & Lutj, 2007). Research has typically shown that strategy training leads to increased memory performance, even in the older population. (Cavallini et al, 2003).

However, there has been relatively little research to determine whether these benefits are apparent when performing more than one task at a time.

Recently, Whiting (2003) conducted a study that examined the effects of an elaboration strategy on dual task performance. The results showed that when participants used an elaboration strategy (generating words), their memory performance increased and the secondary task was less affected than when not using a strategy (reading words).

It remains unclear whether strategy training rather than instruction would increase memory performance without incurring secondary task costs. It may be that effectively choosing and implementing an appropriate strategy may be more resource-demanding, and therefore result in more secondary task costs.

The current study aims to assess whether strategy training can improve memory performance in single tasks, and whether these strategies can be successfully implemented in dual-task conditions.

HYPOTHESIS
It is hypothesised that strategy training will improve participant’s performance in single-task and dual-task conditions, without incurring secondary task costs.

Strategy training enhances memory performance in single task but not in dual-tasking: preliminary results
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METHODS

Design
A Repeated Measures Design was employed
IV - Strategy Training (Yes, No)
DV - Number of words recalled from Word List
DV - RT of correct response for Tones

Participants
13 young adults (aged 18-25) took part in this study.

Materials
Word lists comprising of 18-20 high imagery, high frequency nouns (each 5-7 letters) were used for the primary task.
- High (990Hz) and low tones (440Hz) were used for the secondary task.
- Strategy training was conducted in individual sessions, and focused on various strategies and techniques, including imagery and association. A standard PowerPoint presentation was given to all participants.
- The tasks were conducted on a laptop computer using Super lab.

Procedure
All participants completed the memory task and auditory task separately and then together (dual-task). The experimental group (n=7) then participated in the memory training; whilst the control group (n=6) did not. All participants were then re-tested.

EXPERIMENTAL PROTOCOL

Primary Task
18 words were presented individually for 3 seconds. Following this participants wrote down the number of words they could recall. Number of correct responses was scored (irrespective of order).

Secondary Task
18 tones were presented which were either high or low. Participants had to correctly identify when three high or three low tones were presented consecutively by pressing the spacebar. RT’s for correct identification was recorded.

Dual Task
Participants had to perform both the memory task and auditory discrimination together. Participants had to try and learn the list of words whilst listening to the tones.

Participants were asked to divide their attention equally.

RESULTS

Single-task Performance
Primary Task: Participants in the experimental group significantly increased their scores following training, whereas those in the control condition did not.
(p=0.0335; p=0.221, one-tailed)

Secondary Task:
Primary Task: Participants in both the experimental and control group increased their scores following training however this difference was not significant.
(p=0.1135; p=0.427, one-tailed)

Dual-task performance
Primary Task: Participants in both the experimental condition increased their scores following training however this difference was not significant.
(p=0.0955; p=0.096, one-tailed)

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CONCLUSION
Strategy training in techniques that aid encoding such as using association and imagery can lead to increased performance in memory tasks in single-task conditions, but not in dual-task conditions. However, the result that secondary task performance was not significantly decreased is promising as it shows that such strategies are not putting too much of a demand on resources. It may be that with increased practice/exposure to such strategies, participants would be able to implement the strategies more effectively, even in dual-task situations.

REFERENCES

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