

Memory recall and recognition for a common object essay sample



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The aim of this study was to investigate the accuracy of long term memory for a common object and more precisely to examine the differences between memory recognition and recall. Six participants took part in the experiment, three were assigned to the recognition task and three to the recall. The recognition group were required to answer yes or no to a series of questions relating to specific features of a N. Z. 50 cent coin they were also asked to rate how confident they were that their answers were correct. The recall group were asked to draw the features of both sides of the coin. The hypotheses that the recognition group would score higher than the recall group was supported as was the theory that the heads side of the coin would prove easier for both groups to remember than the tails side.

It was concluded that deep processed memories, as in the way that certain distinguishing features of a coin or other everyday familiar objects are easier to retrieve than details of the same object that do not hold as much relevance and thus shallowly processed within the memory.

Most of us can recognise everyday objects, people we have met or other everyday aspects involving memory with little or no thought at all. However when required to remember specific details of an item that most would be extremely familiar with it becomes apparent that memory is not as simple as one may think. A series of studies conducted by Nickerson and Adams (1979) asked how detailed and accurate is ones memory for a common object.

Using the visual details of the US penny, their experiment showed that among their participants, those in the group assigned to memory recognition were superior to those assigned to memory recall. However despite the superiority even the recognition success rate was not 100% which could be

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considered surprising when it can be safely assumed that most if not all of the participants involved in the study would of most likely been extremely familiar with this object, however when asked to recall or recognise certain features of the coin they were unable to remember many of them.

This experiment partly replicated the study conducted by Nickerson and Adams (1979), a New Zealand 50 cent coin was utilised as the stimuli. Acknowledging the two memory tests and each side of the coin as the variables being examined the aim was to explore the accuracy of long term memory. An additional aim was to compare the effectiveness of recall and recognition in retrieving long term memory for a common object. It was hypothesised that the participants would fare much the same as those in previous studies and that they would find it difficult to recall or recognise certain visual details of the coin. Furthermore it was expected that the participants assigned to the memory recognition task would achieve higher results than those assigned to the recall task and that the details of the heads side of the coin would be easier to remember than those of the tails side.

Method

Participants

There were six participants who were selected for this experiment, these consisted of family members of the experimenter and family friends. Their age ranged from 12 to 40 and there were four males and two females.

Materials

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The equipment consisted of six work sheets, three sheets for the recall task which contained four circles for the heads side of the coin and four circles for the tails, and three sheets which contained 16 questions and an answer confidence rating scale for the recognition task. On each sheet was a space for the participant to record their sex and age.

Procedure

Three of the participants were randomly assigned to the recall task, this required them to draw from unaided memory the features they believed to be on each side of the 50c coin. The participants were given the opportunity to complete four practice versions of each side of the coin and to indicate which was their final choice. The remaining three participants were also from memory, required to answer a series of yes or no questions relating to features that might be on the coin, in addition they were asked to rate from high, medium or low how confident they were of their answers

Results

Analysis of the recognition task involved recording the participants answers that were correct and rated with a medium to high level of confidence, onto a table. For the recall task the participant's correct answers were recorded onto a separate table. This data was then converted to percentage form for both the recall and recognition tasks, and for the heads and tails sides of the coin and entered onto a third table. The mean percentage score was then calculated resulting in the final score.

As was expected the results indicated that the scores for recognition were higher than that for recall. The overall mean percentage being 91.5% for the recognition and 78% for the recall as shown in Table 1. Figure 1 shows the overall percentage. This difference was true for both the heads and tails sides of the coin. It was also apparent that memory for both of the groups was predominate for the heads side of the coin than it was for the tails side.

Surprisingly only one participant in the recall group correctly recalled the 50c icon on the tails side of the coin and for the recognition group only one participant remembered to include the mountain while this feature was included by all of the recall participants, additionally of interest was the fact that the participant from the recognition group rated their incorrect response choice as high while the majority of this particular participants other answers while correct were only rated medium.

Discussion

As was expected the results show that it appears to be easier to recognise features of an everyday object such as the 50 cent coin utilised in the experiment than it does to recall them. This could be due to the fact that the process for recognition involves memory prompts while the strategy for recall relies directly on how the visual information has been previously stored in the memory. The results also found that for both the recall and recognition groups memory was more accurate for the heads side of the coin, with all of the recognition participants getting the details correct, than it was for the tails side. However the difference was not of any particular significance as there was only one recall participant who omitted a vital

detail and as was with the recognition participants all other features were present and correctly placed.

This could be due to the fact that the heads side is the same across all coin currencies, with exception to the reversal of Elizabeth II and New Zealand on earlier coins. Additionally, the memory difference could be due to a profile being easier to remember than whatever may be featured on the tails side of the coin.

The findings of this experiment are hardly surprising as they are consistent with the findings of the previous studies conducted by Nickerson and Adams (1979). Given that the 50 cent coin is a common item that all of the participants would be familiar with, it would be feasible to expect a 100% accuracy rate in all areas of the task. The fact that this was not the case would suggest that explicit memory for recalling a common object from long term memory is not quite as reliable as recognising visual cues in order to retrieve the same information. The dominance of memory recognition could be due to the fact that the process involves the aid of prompts in order to jog the memory, while memory recall on the other hand offers no such cues and so retrieval is based solely on how deeply the information has originally been processed (Matlin, 2005). According to Matlin, (2005) deeper levels of processing produce better retrieval so this may also explain why certain features of the coin that immediately distinguish it from others and identify it as a 50 cent are easier remembered than those of less identifiable importance.

While this experiment verifies previous studies, there are a number of confounding variables that should be considered. For one, the sample size was extremely small and thus not very representative of the population as a whole. Three of the participants were of a young age and so it is feasible to assume that they may have more exposure to the lower currency of money than would the older participants. Furthermore as is stated in Matlin (2005) studies show that adult memory is generally not very reliable when retrieving explicit memories and so this would suggest that a child would be more likely to have success with such tasks, for these reasons we would need to consider whether the vast age difference between the participants had an impact on the findings of the experiment.

References:

Matlin, M. W. (2005). *Cognition* (6th ed.). New York: Wiley.

Nickerson, R. S., & Adams, M. J. (1979). Long term memory for a common object. *Cognitive Psychology*, 11, 287-307.