Complete the table: MSM stores

handout number 2.3

Activity type Consolidation

This table can be filled as part of class note taking or used as a starter activity to check what has been remembered.

The way that it is filled is particularly useful though in terms of illustrating progress (something that Ofsted has valued!). It is therefore useful to do it first here.

First ask students to fill in what they can alone. Then ask them to swap pens and discuss with a partner, adding details in the new colour. Finally they can add in a third colour any extra points from class discussion.

Practical use

Class exercise: initially individual then paired

Additional notes

Enables the teacher and student to see the areas that they need to work on. They can then be encouraged to do similar elsewhere in the course. For example, when recalling details of key studies. The process of considering what is known alone and what can be added with the help of others is useful in other topics and also makes a good recap activity …write down what you know about research designs … or ethics. The colours clearly show progress!

Answers

	Sensory register	Short-term memory STM	Long-term memory LTM
Coding	Modal specific Echoic, iconic, etc.	Mainly acoustic	Semantic
Capacity	High capacity	7 ± 2 items	Unlimited
Duration	Less than half a second	Less than 30 seconds unless rehearsed	Unlimited

The serial position curve

handout number 2.4 a,b,c,d

Activity type Practical

This activity provides an experience of a psychology investigation and the handout is designed to provide the key details that students need to complete it. It is a replication of Glanzer and Cunitz's (1966) study on the serial position curve and usually produces data that forms a beautiful U-shaped graph! The study requires participants to listen to a set of 20 random words presented to them orally. They are then asked to recall them in any order and the positions of the words remembered are noted, e.g. Participant 1 remembered words number 1–5, 15, 17–20. The results are usually that the first few words are remembered because they have been transferred to LTM and the last remain in the STM and so are also better remembered. It can therefore be used to support the existence of separate stores.

The activity is quickly delivered once the planning has been done. If the students work in groups they can collect larger amounts of data, increasing the likelihood of that lovely curve. There are some great templates online for research posters (see link below). Crucially doing research posters tends to take up less time than full-blown reports (added bonus is they could brighten up your classroom displays too) and this is the way that much research is now disseminated in academia.

Students who work quickly can be asked to complete the reflection sheet (2.4d).

Occasionally the curve will have an anomaly because a word in the middle is rather memorable. This is a perfect opportunity to discuss extraneous/confounding variables!

Ethics – Please print out the handout 'Practicals and ethical issues' (see Supplementary materials) for students and ensure that they incorporate all considerations into their design.

Practical use

A group-based practical that demonstrates the separate stores of the MSM.

Additional notes

Useful link about using posters to summarise research and indeed some free templates here http://colinpurrington.com/?s=poster+design#templates

There are additional materials that can support this activity

Ethics Approval form – Handout 0.1

Consent form – Handout 0.2

Answers

Some suggested answers to the reflection sheet are given here

1. Why was it important to write standardised instructions? To ensure that all participants were told the same thing and to avoid extraneous variables or investigator effects.
2. Why was it valuable to carry out a pilot study? What did you discover? To ensure as far as possible that the words are equally memorable. To check that instructions are clear, etc. Here they may note amendments made.
3. What might this data tell us about memory? Given that the STM is limited in duration why might people remember the early words well? Why might they remember the later words well? Because the first few words have been transferred to LTM and the last few remained in STM.
4. What might this data tell us in terms of the multi-store model? It supports the existence of two separate stores with different durations.
5. What are the strengths of this study? Control of variables, informed consent can be given, no harm likely…may be mentioned.
6. What are the limitations of this study? Task is artificial and may not generalise to memory in real life, population validity, etc.
7. Any other comments? Students may comment on particular sets of results that are unusual.

Blooming the MSM!

handout number 2.5

Activity type Evaluation

Encouraging deeper understanding through questioning is often a target in classrooms. Here Bloom's taxonomy is used directly to encourage thinking about the MSM. It could usefully be done prior to completing an essay that requires an outline and evaluation of the model and as such the worksheet forms some basic notes for it.

Students work through the levels of Bloom's taxonomy increasingly considering more complex aspects of the concept.

Practical use

To encourage deeper levels of understanding of the MSM in preparation for being able to fully evaluate it.

Can be used in a differentiated way so students are completing only certain levels.

Additional notes

Encouraging students to know about the different levels of understanding through Bloom's taxonomy can also lead to them asking more searching and useful questions. They could consider where on the taxonomy most of their questions are posed. Then they could set themselves the target of asking more questions of higher level. This certainly requires a deal of insight but can be extremely useful in progressing understanding.

Some useful questions stems are available online, e.g. https://tpri.wikispaces.com/ Sample+ Question+ Stems+ Based+on+Revised+ Bloom's+Taxonomy

Answers

Knowledge – here they may refer to the sensory register, STM and LTM.

Comprehension – they could, for example, follow information through from the senses, through the sensory register and suggest if we pay attention to it, it will be transferred to the STM where if rehearsed it could pass to the LTM.

Application – whether they know about the serial position curve or not they may well be able to work out that the first few have been transferred to LTM and the last few remain in the STM.

Analysis – whereas encoding in the STM is largely acoustic, encoding in the LTM is mainly said to be semantic. Both the capacity and duration of the STM are limited whereas the capacity and duration of the LTM are believed to be almost limitless.

Synthesis – a difficult one but this gets them thinking about what might interfere with the memory storage, e.g. other materials, not understanding the material that is trying to be remembered.

Evaluation – they should be expected to say something about what they think it does well and where problems remain.

MSM Quiz

presentation 2.6

Activity type Quiz

The PowerPoint quiz is on the basic concepts of the MSM. It is intended primarily to be given by PowerPoint but the questions (and answers) are shown below if it is preferred to give it verbally.

The PowerPoint is illustrated and some questions have clues in pictorial form to make it more fun than a test.

Practical use

Class exercise

Answers

1. Which two psychologists devised the multi-store model of memory?
   Answer: Atkinson and Shiffrin
2. The sensory register contains five stores. Name the one that receives sound.
   Answer: echoic
3. The sensory register contains five stores. Name the one that receives visual information.
   Answer: iconic
4. What is the key process required for information to travel from the sensory register to the short-term memory store?
   Answer: attention
5. Information can remain in the short-term memory store for quite a long time if we keep repeating it to ourselves. What type of rehearsal process is this?
   Answer: maintenance rehearsal
6. What type of coding is used in the short-term memory store?
   Answer: acoustic
7. What is the main type of coding used in the long-term memory store?
   Answer: semantic
8. Who conducted a study of long-term memory of classmates from 50 years ago?
   Answer: Bahrick *et al.* (1975)