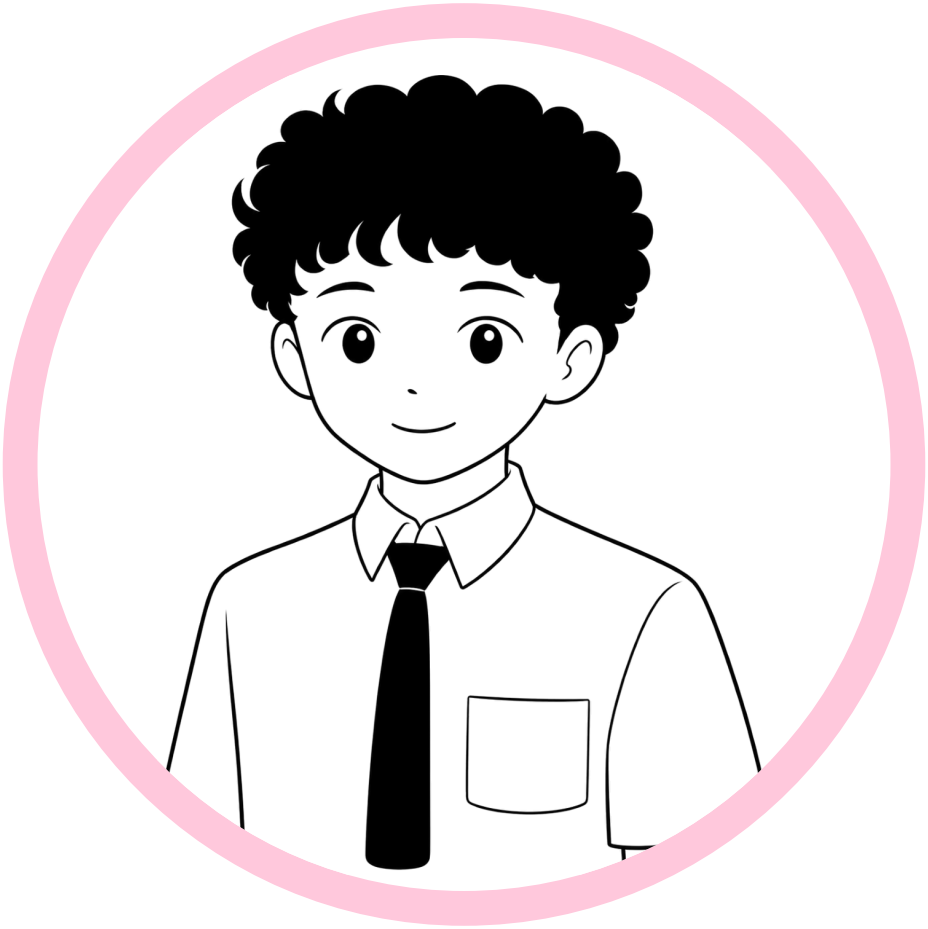
AQA A-LEVEL PSYCHOLOGY · 7182

PSYCHOLOGY



MARK SCHEME

3.1.2 FORGETTING

SCORE	PERCENTAGE
/68	%

STEMUP

These questions belong to AQA, not to us.

The examination questions, mark schemes and examiner reports in this pack were written and published by AQA. They are past assessment materials, reproduced here so that students can revise from them.

What we do not own

STEMUP is not affiliated with AQA and does not own, and makes no claim to own, any of the question, mark scheme or examiner report material in this pack. AQA has not endorsed, approved or been involved in the production of it. AQA and the qualification titles used here belong to their respective owners and appear for identification only.

Where to find the originals

AQA publishes its past papers, mark schemes and examiner reports free of charge. Always check the current specification at aqa.org.uk before you revise, because content and wording can change between series.

If you hold the rights to any material in this pack and would like it amended or removed, contact admin@stemup.co.uk and we will act on it.

Q1.

[AO2 = 4]

1 mark for Sarah (will perform worse).

Plus

Up to 3 marks for the explanation of the difference in performance.

3 marks for a clear and detailed explanation of why Sarah would perform worse / Toby would perform better.

2 marks for a less detailed explanation of why Sarah would perform worse / Toby would perform better.

1 mark for a muddled or limited explanation of why Sarah would perform worse / Toby would perform better.

Possible content for explanation:

- Sarah learnt and recalled in a different environment / context
- the cues present when learning the psychology material in the classroom would not have been present at recall in the lecture theatre for Sarah
- the absence of the cues meant that Sarah did not have any triggers to aid her recall and this caused retrieval failure
- using research evidence to support the explanation of why Sarah's performance is likely to be worse, e.g. Godden & Baddeley (1975) or Abernethy (1940)
- better students might refer to the encoding specificity principle.

Credit other relevant points that are applied to the stem.

[4]

Q2.

(a) **[AO1 = 2 AO2 = 2]**

Level	Mark	Description
2	3-4	Knowledge is clear and accurate. Application is effective. The answer is coherent, with appropriate use of specialist terminology.
1	1-2	Knowledge is limited / muddled. There is some appropriate application. The answer lacks clarity. OR either knowledge or application at Level 2.
	0	No relevant content.

<u>Retrieval failure</u> (focus here must be on forgetting)

- Forgetting is due to the absence of cues
- Lack of external contextual cues – where environment for learning and recall is different (e.g. different room)

STEMUP.CO.UK

- Lack of internal contextual cues – where physical state for learning and recall is different (e.g. mood)

Possible applications:

- Aaron is not in the same context as when he learnt the material for his Spanish exam – 'an unfamiliar room'
- Aaron is not in the same physical, emotional state as when he learnt the material – 'full of nerves'

Full application marks can be awarded for one of the above in detail.

OR

Interference

- when two memories conflict / confuse / become mixed up with each other
- more likely when material is similar (creates response competition)
- proactive interference – when an older memory disrupts a newer memory
- retroactive interference – when a newer memory disrupts an older memory

Possible applications:

- Aaron has mixed up / confused words from another subject which has caused him to forget
- interference is likely in this case because French and Spanish are similar

4

(b) **[AO3 = 4]**

Level	Mark	Description
2	3-4	Evaluation is relevant, generally well-explained and focused on the chosen explanation of forgetting. The answer is generally coherent with effective use of specialist terminology
1	1-2	Evaluation is relevant although there is limited explanation and / or limited focus on the chosen explanation of forgetting. Specialist terminology is not always used appropriately or is absent.
	0	No relevant content.

Retrieval failure

Possible evaluation points:

- use of evidence, e.g. Godden and Baddeley suggests that retrieval failure/absence of cues is a valid explanation of forgetting
- application of explanation, e.g. improving memory using mnemonics, category headings
- context has to be very different in real-life to have any effect
- context effect only occurs when memory is tested in particular ways – free recall vs recognition

Accept other valid points.

STEMUP.CO.UK

OR

Interference

Possible evaluation points:

- use of evidence from lab studies, e.g. McGeoch and McDonald and real-life, e.g. Schmidt supports the effects of interference
- application of explanation, e.g. avoiding similar material when revising for exams
- use of artificial materials in lab studies, e.g. recall of word lists
- deliberate attempt to induce interference in lab studies, e.g. by limiting time between learning and recall
- evidence suggests interference can be overcome using cued recall
- interference tends not to occur with experts

Accept other valid points.

Note: If the explanation evaluated is NOT the explanation outlined in part(a), no credit. If part(a) is blank, but an explanation is clearly identified in part(b), part(b) can be marked across the scale.

4

[8]

Q3.

[AO1 = 6 AO3 = 6]

Level	Marks	Description
4	10 – 12	Knowledge of interference as an explanation for forgetting is accurate and generally well detailed. Evaluation is effective. Minor detail and/or expansion is sometimes lacking. The answer is clear and coherent. Specialist terminology is used effectively.
3	7 – 9	Knowledge of interference is evident but there are occasional inaccuracies/omissions There is some effective evaluation. The answer is mostly clear and organised. Specialist terminology is mostly used appropriately.
2	4 – 6	Limited knowledge of interference as an explanation for forgetting is present. Focus is mainly on description. Any evaluation is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions. Or knowledge at Level 4 can be awarded 6 marks.
1	1 – 3	Knowledge of interference as an explanation for forgetting is very limited. Evaluation is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

STEMUP.CO.UK

Possible content:

- Interference is where two lots of information become confused in memory
- Proactive interference is where old learning affects recall of new information
- Retroactive interference is where new learning affects recall of old information
- Newer information may overwrite earlier information
- Interference is more likely to occur when the two pieces of information are similar/response competition
- The impact of passage of time/intervening events on forgetting

Credit other relevant material.

Possible evaluation points:

- Use of research evidence to support or contradict the role of interference
- Loss of information may only be temporary, therefore interference is not a true explanation for forgetting
- Issue of validity ' evidence that interference can explain forgetting frequently comes from artificial laboratory experiments using artificial tasks, so interference may not occur to the same extent in more real-life settings and scenarios, so challenging interference as an explanation of forgetting
- However, everyday/real life situations have shown interference can explain forgetting, eg Baddeley and Hitch (1977); Schmidt et al (2000)
- Practical applications, e.g. revision strategies
- Alternative explanations can be used to critique.

Q4.

[AO1 = 6 AO2 = 2 AO3 = 4]

Level	Marks	Description
4	10 – 12	Knowledge of two explanations for forgetting is accurate and generally well detailed. Discussion is mostly effective. Application to the stem is appropriate, with clear links between the explanations and the stem content. The answer is clear, coherent and focused. Specialist terminology is used effectively. Minor detail and / or expansion sometimes lacking.
3	7 – 9	Knowledge of two explanations for forgetting is evident. Discussion is apparent and mostly effective. There are occasional inaccuracies. Application to the stem is appropriate although links to explanations are limited / absent. The answer is mostly clear and organised. Specialist terminology is mostly used appropriately. Lacks focus in places.
2	4 – 6	Knowledge of two explanations is present. Focus is mainly on description. Any discussion is of limited effectiveness. Any application to the stem is partial. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions. **OR** one explanation answered at Level 3 or 4.
1	1 – 3	Knowledge of explanation(s) is (are) limited. Discussion /

STEMUP.CO.UK

		application is very limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used. **OR** one explanation answered at Level 2.
	0	No relevant content.

Possible content:

- Interference is an explanation for forgetting – two sets of information become confused.
- Proactive interference is where old learning prevents recall of more recent information.
- Retroactive interference is where new learning prevents recall of previously learned information.
- Retrieval failure is where information is available but cannot be recalled because of the absence of appropriate cues.
- Types of cues that have been studied by psychologists include context, state and organisation.
- Cues improve recall if recall is in same context as learning, if the person is in same bodily state as when material was learned, if the organisation gives a structure which provides triggers, eg categories.

Application:

- French and Spanish are similar types of material which makes interference more likely.
- Recalling French word for ‘chair’ is proactive interference.
- Martin’s mum gives him cues (first letter) which can then be used for him to access the material he has failed to retrieve.

Possible discussion:

- Use of evidence to support or contradict explanations.
- Credit evaluation of evidence where used to discuss explanations.
- Question of whether interference involves over-writing of other information.
- Role of similarity in interference and response competition.
- Issue of accessibility versus availability.
- Semantic memory more resistant to interference than other types of memory.
- General implications for revision and other situations.
- Relevant links to memory theory: eg stage at which interference might occur in the multi-store model.

Credit other relevant information.

Q5.

[AO1 = 6]

Level	Marks	Description
3	5 – 6	Knowledge of retroactive and proactive interference as explanations for forgetting is clear and generally well detailed. The answer is generally coherent with appropriate use of terminology.
2	3 – 4	Knowledge of interference as an explanation for forgetting

STEMUP.CO.UK

		is evident. The answer lacks clarity in places. Terminology is used appropriately on occasions.
1	1 – 2	Knowledge of interference as an explanation for forgetting is limited. The answer as a whole lacks clarity and has inaccuracies. Terminology is either absent or inappropriately used.
	0	No relevant content.

Content:

- Interference where two lots of information become confused in memory
- Proactive interference is where old learning affects recall of new information
- Retroactive interference is where new learning affects recall of old information
- Newer information may overwrite earlier information
- Interference occurs more when the two lots of information are similar
- Interference is less likely to occur when there is a gap between the instances of learning

Credit other relevant information.

Q6.

(a) **[AO2 = 2]**

1 mark for naming the mean.

Plus

1 mark for justification: the mean is the most sensitive method as it takes all the scores in each data set into account OR there are no anomalous results / outliers / freak scores in either set of scores, so the mean will not be distorted.

(b) **[AO2 = 4]**

Full credit can be awarded for answers based on the mean or the median.
A maximum of **2 marks** can be awarded for answers based on the mode.

Using the Mean

- **For 4 marks**, the **mean** is accurately calculated for both conditions (Group A = 5.6, Group B = 12.5) and calculations are included for both groups, ie totals in both conditions divided by 10 (number of scores).
- **For 3 marks**, there are two correct means and one set of calculations or vice versa.
- **For 2 marks**, there are two correct means and no calculations, **OR** one correct mean with calculations **OR** two sets of calculations but no correct mean.
- **For 1 mark**, there is one correct mean or one set of calculations.

STEMUP.CO.UK

Using the Median

- **For 4 marks**, answers for each condition are correct (Group A = 5.5, Group B = 12.5) and for each condition scores are arranged in ascending order with middle values indicated.
- **For 3 marks**, there is one correct median and two sets of scores correctly arranged as calculations, or vice versa.
- **For 2 marks**, there are two correct medians and no calculations, or one correct median and one set of scores correctly arranged as calculations.
- **For 1 mark**, there is one correct median or one set of scores correctly arranged as calculations.

Using the Mode

- **For 2 marks**, there are correct modes for each group (Group A = 4, Group B = 11 and 14).
- **For 1 mark**, there is one correct mode.

(c) **[AO2 = 2]**

1 mark for stating that this is due to retroactive interference.

Plus

1 mark for either of the following explanation / elaboration points:

- because the material is similar in both conditions
- new / recently learnt / acquired information has disrupted / interfered with / affected the recall of old / previously learnt / acquired information
- response competition has occurred.

Q7.

[AO1 = 3]

Possible content:

- forgetting occurs in the absence of appropriate cue/prompts/triggers/clues/'tip-of-the-tongue' forgetting
- **context dependent** – being in a different place may inhibit memory
- **state dependent** – being in a different mood/state of arousal may inhibit memory
- **category dependent** – lack of organisation may inhibit memory
- credit reference to the encoding specificity principle
- credit explanation if embedded within an example

1 mark for naming types only

2 marks only if answer is couched in terms of 'remembering' rather than forgetting

Credit other relevant material.

Q8.

STEMUP.CO.UK

Please note that the AOs for the new AQA Specification (Sept 2015 onwards) have changed. Under the new Specification the following system of AOs applies:

- AO1 knowledge and understanding
- AO2 application (of psychological knowledge)
- AO3 evaluation, analysis, interpretation.

(a) **[AO3 = 1]**

One mark for the independent variable.
Likely answers: the context of recall / whether participants recalled the words in the same room or a different room / the classroom or the school hall.
Reference to both conditions might be implicit rather than clearly stated.

(b) **[AO3 = 1, AO2 = 2]**

AO3

Award one mark for stating the likely outcome.
Likely answers: Participants who learned and recalled in the same context are likely to recall more words than those who learned and recalled in different contexts / there will be a higher mean number of words recalled in Condition 1 than Condition 2.
Accept alternative wording.

AO2

Award up to two marks for explanation of the likely outcome based on knowledge of retrieval failure as an explanation for forgetting. Credit reference to environmental cues / context triggering recall; the absence of cues / context in Condition 2.

For two AO2 marks there must be some reference to condition two's participants failing to retrieve / recall information.
Credit use of evidence and / or use of an example as part of the discussion.

(c) **[AO3 = 2]**

Award up to two marks for an explanation of how random allocation to one of the two conditions might have been carried out. Two marks for a full explanation, one mark for a brief / vague answer.
Possible answer: All participants' names / numbers are placed into a hat / lottery system / computer (1) the first name drawn is assigned to condition one, the next to condition two / the first twenty are allocated to condition one, the second twenty to condition two (1).

(d) **[AO3 = 2]**

Award up to two marks for an explanation of how participants could be matched and then allocated to the two conditions for a matched pairs design.
Possible answer: Participants are paired on some relevant variable (eg memory ability, IQ, age, etc.), (1) and then one from each pair is allocated to each condition (1).
Answers based on the use of identical twins can get full marks as long as there is some reference to the idea that twins are likely to have a similar level of recall.

STEMUP.CO.UK

Q9.

Please note that the AOs for the new AQA Specification (Sept 2015 onwards) have changed. Under the new Specification the following system of AOs applies:

- AO1 knowledge and understanding
- AO2 application (of psychological knowledge)
- AO3 evaluation, analysis, interpretation.

(a) Up to 2 marks for knowledge of interference as an explanation of forgetting.
Likely points: the theory suggests that forgetting is a result of disruption / confusion of one memory by other information (1); more likely to occur when memories are similar (1). There are two types – **retroactive** where recent information learned disrupts recall of previously stored information (1) and **proactive** where what we have already stored disrupts current learning (1).
Credit explanation if embedded within an example. One mark for naming two types only.
Credit other valid points.

(b) **[AO1 = 2]**

Up to 2 marks for a description of the procedure / method of a relevant study. This must include detail of the conditions / variables / task.
Likely studies: Schmidt et al 2000 (street names and house moves) Baddeley & Hitch 1977 (rugby players, injury and number of teams played), Keppel and Underwood 1962 (trigrams), Jenkins and Dallenbach 1924 (recall after period of being awake / asleep).

(c) **[AO1 = 1, AO2 =2]**

AO1

1 mark for a limitation of the interference theory of forgetting. Likely answers: many of the studies on which the theory is based are laboratory based.
Difficulty of distinguishing effects of interference from other forms of forgetting.
Unsure of the mechanisms involved in interference / how and why it occurs.

AO2

Up to 2 marks for discussion of the limitation identified.

Possible answer: studies that support interference tend to laboratory based (1) where participants are required to learn similar material in a very short time-frame (1) making it more likely that interference will occur (1).

STEMUP.CO.UK

Q1.

This is an example of a question where students could benefit from developing their ability to "use knowledge of explanations of forgetting". It appears to be an area in which they struggle. Using their knowledge requires them to select appropriate studies and / or theories to explain what is going on in the scenario. Some students simply described in great detail relevant studies or theories, but without any reference to either Sarah or Toby. Other students described what was going on in the scenario, almost re-writing it, but without any reference to relevant research. The question also asked which student is likely to perform worse in their final exam. Many students failed to state this, even though their knowledge was evident, thus failing to get full marks for this question. Better answers were able to include reference to the encoding specificity principle.

Q2.

Whether the answer referred to interference theory or to contextual cues part (a) was done well. With interference some answers missed the key element of ‘similarity of material’, but virtually all could apply the explanation to Aaron’s performance in the exam.

In part (b) students performed reasonably well, but context-dependent retrieval failure was clearly easier to evaluate in terms of accessible research studies. Studies on interference effects tend to be more methodologically complicated and some answers became bogged down in confused detail. Although not necessary for the top band, some answers evaluated the studies used e.g pointing out that some studies on context are highly artificial.

Q3.

Most students could describe retroactive and proactive interference, even if the name and the actual description were muddled. They understood that sometimes old material interferes with new, and sometimes it is the other way round. Answers were often illustrated with good examples. Students were also able to comment on the fact that similarity of material is also important in interference. However, students appeared to find the evaluation more difficult. Once again students wasted time by giving lengthy and detailed descriptions of studies, without using them effectively. For evaluation of an explanation, it is the findings of a study that are relevant and whether or not they support or challenge the explanation. The study by Baddeley and Hitch using rugby players was often cited, but few students understood exactly how it supports interference.

One way of evaluating an explanation is to consider alternative explanations. This is not the same as merely describing alternative explanations in detail. Yet again, it is how such material is used that determines its effectiveness. Some students confused interference with retrieval failure. They appeared to understand retrieval failure as being an aspect of interference and wrote at length about context-dependent or state-dependent forgetting, which was not creditworthy.

Q8.

(a) Most students were able to state the independent variable, though some incorrectly emphasised the location in which words were ‘learnt’ rather than the location in which they were ‘recalled’.

(b) Most students were able to state the likely outcome, that participants in Condition 1

STEMUP.CO.UK

would outperform those in Condition 2, and could link this effectively to the notion of context cueing recall. However, for full marks the 'retrieval failure', experienced in Condition 2, and the reason for it, had to be discussed. This final requirement eluded many students who focused on 'recall' rather than 'retrieval failure'.

(c) Answers to this question often lacked precision, for example, it was necessary to 'put the names of **all** the participants in a hat'. It was also necessary to describe how the selection for conditions 1 and 2 would be made, and this information was often vaguely expressed or absent.

(d) Most answers gave a reasonable basis for 'matching' such as 'IQ', but failed to deal with the issue of 'pairs' and how to allocate them to the different conditions.

Q9.

(a) Many students scored both marks for this question and the most popular route was to define the two types: proactive and retroactive (though occasionally, these were the wrong way round). Many explanations used words which did not clearly express the direction of the effort, such as 'old memories get mixed up with new'. Whereas, the expression 'old memories disrupt / interfere with new memories' makes this clear. As in previous series, the concept of 'interference' was sometimes confused with more general forms of 'distraction', such as extraneous background noise.

(b) Many students did not make it clear what separated the two conditions in their chosen study, or offered vague or muddled procedural details. Of the more successful answers, many students described the Baddeley & Hitch (1997) rugby players investigation.

(c) This was one of the more poorly answered questions on the paper. Typically, students preferred to focus on the artificiality of the evidence supporting interference. However, this point was rarely developed beyond a single statement such as, 'studies lack ecological validity'. Those who did explore this issue in more detail pointed to the fact that (laboratory) studies are so designed to try and deliberately induce interference within short, compressed time-frames, thus reducing the validity of the evidence.

STEMUP.CO.UK