2.5 Explanations for Forgetting: Proactive and Retroactive Interference

AQA 7182 · about 55 minutes · Write-in edition

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer all questions. For questions worth 4 marks or more write your answers in full sentences. Time guidance: 55 minutes.

1 Define retroactive interference as an explanation for forgetting in long-term memory, naming which information interferes with which.

(Total for Question 1 is 2 marks)

2 Distinguish between proactive and retroactive interference in memory. Give one clear contrasting sentence for each type and an example of everyday forgetting for each.

(Total for Question 2 is 4 marks)

3 Outline McGeoch and McDonald's (1931) laboratory study into interference using word lists and its main finding about similarity and interference in long-term memory.

(Total for Question 3 is 4 marks)

4 Explain one strength and one limitation of using laboratory word-list studies, such as McGeoch and McDonald (1931), to support interference theory of forgetting.

(Total for Question 4 is 4 marks)

5 Identify one real-world example where proactive interference might impair performance, and explain one practical strategy to reduce its effect.

(Total for Question 5 is 4 marks)

6 Discuss interference as an explanation for forgetting. In your answer include description of proactive and retroactive interference, supporting evidence such as McGeoch and McDonald (1931) and Underwood (1957), evaluation including strengths and limitations, and a conclusion that judges the overall usefulness of interference theory. Refer to research and theory where appropriate.

(Total for Question 6 is 16 marks)

7 Application scenario: In a lab, participants learn List A of nouns until they can recall them, then learn List B of similar nouns and are tested on List A. Most participants show poor recall of List A. Identify which type of interference is illustrated in this laboratory scenario, and explain why, using the terms 'old', 'new', 'proactive', 'retroactive' where appropriate.

(Total for Question 7 is 5 marks)

8 Explain how similarity of material affects interference, referring to evidence from McGeoch and McDonald (1931) and Underwood's review (1957).

(Total for Question 8 is 4 marks)

Mark scheme · 2.5 Explanations for Forgetting: Proactive and Retroactive Interference

Question 1

states that retroactive interference occurs when newer learned information disrupts recall of older information oe	**B1**
makes clear which interferes with which, e.g. new information interferes with old information cao	**B1**

Answer: Retroactive interference occurs when newly learned information interferes with recall of previously learned information.

Question 2

states that proactive interference is when older learning interferes with new learning oe	**M1**
gives an everyday example for proactive interference, e.g. an old phone number making it hard to remember a new phone number oe	**A1**
states that retroactive interference is when new learning interferes with older memories oe	**M1**
gives an everyday example for retroactive interference, e.g. learning a new password causes forgetting of the previous password oe	**A1**

Answer: Proactive interference: earlier learning disrupts later recall, for example an old phone number making it hard to remember a new number. Retroactive interference: later learning disrupts earlier recall, for example learning a new password causing you to forget the previous password.

Question 3

identifies that McGeoch and McDonald used a lab study with participants learning a list of words then a second list oe	**M1**
states that recall of the first list was tested after learning the second list oe	**M1**
reports the main finding that interference was greatest when the two lists were similar in meaning or form oe	**A1**
may state the implication that similarity of material increases retroactive interference cao	**A1**

Answer: McGeoch and McDonald had participants learn a list of words and then learn a second list; when tested on the first list, recall was worse if the second list was similar in meaning or form, implying similarity increases interference.

Question 4

strength: high control in lab studies allows researchers to manipulate similarity and measure effects, providing clear causal evidence for interference oe	**M1**
explains why this matters, e.g. control reduces extraneous variables so a causal link between similarity and interference is more plausible oe	**A1**
limitation: artificial materials and tasks lack ecological validity, word lists are unlike most real-life memory content oe	**M1**
explains consequence, e.g. findings may not generalise to everyday forgetting where memory is richer and uses meanings and contexts cao	**A1**

Answer: Strength: laboratory control allows manipulation of similarity and supports causal claims about interference. Limitation: artificial word lists lack ecological validity, so lab findings may not generalise to complex, meaningful real-life memories.

Question 5

identifies a plausible real-world example, e.g. an experienced taxi driver driving in a new city keeps using the old routes oe	**M1**
explains how prior knowledge interferes with new performance, i.e. older route knowledge disrupts learning the new city's layout oe	**A1**
identifies a practical strategy to reduce interference, e.g. practice in the new environment, use distinctive cues, or consciously rehearse new information oe	**M1**
explains why this reduces interference, e.g. distinctive cues reduce similarity so retrieval competition is lowered, or repeated practice forms stronger new traces oe	**A1**

Answer: Example: an experienced taxi driver struggling to learn routes in a new city because old route knowledge interferes. Strategy: use distinctive landmarks and deliberate practice in the new city, which reduces similarity and strengthens new associations to lower proactive interference.

Question 6

Level 4 Knowledge of interference theory and supporting studies is accurate and detailed. Evaluation is thorough, considering methodological strengths, limitations and alternative explanations, and is used to make a balanced judgement. There is clear, consistent use of relevant research (for example McGeoch and McDonald 1931, Underwood 1957) and theory, and the answer is well organised with effective specialist terminology.	**13-16**
Level 3 Knowledge and understanding of interference and supporting evidence is present with some detail. Evaluation is clear but may miss some depth or some counterarguments. Research is used appropriately to support points, and the answer shows good organisation and terminology.	**9-12**
Level 2 Knowledge of basic concepts of interference is present but limited or partially accurate. Evaluation is superficial or limited in range. Reference to research may be brief or incomplete. The answer has some structure but lacks depth.	**5-8**

Level 1 Very limited knowledge of interference with little or no accurate evaluation. Answers are fragmentary, list-like, or largely irrelevant. Specialist terms used incorrectly or not at all. **1-4**

Level 0 No creditable content. **0**

Indicative content:

- AO1: Definitions of proactive interference (older learning interferes with new learning) and retroactive interference (new learning interferes with old learning).
- AO1: Description of classic supporting lab research, e.g. McGeoch and McDonald (1931) who used two word lists and found recall of the first list declined most when the second list was similar, indicating similarity increases retroactive interference.
- AO1: Reference to Underwood (1957) review showing proactive interference accumulates across repeated prior learning and suggesting a cumulative effect of earlier memories on later learning.
- AO3: Strengths include experimental evidence with controlled manipulations that support causal claims about interference and clear, replicable laboratory paradigms that demonstrate systematic effects of similarity and order.
- AO3: Limitations include ecological validity concerns, because laboratory list-learning tasks use artificial materials that differ from complex real-life memories, and many everyday forgetting instances may involve richer semantic structure and contextual cues.
- AO3: Further evaluation notes that interference is most likely when materials are similar, limiting its generality to cases where similarity and cue competition occur; in other cases retrieval failure or decay may better explain forgetting.
- AO3: Discussion of opposing evidence such as cue-dependency and context effects, showing that reinstating cues can sometimes restore memory despite interference, suggesting multiple mechanisms operate.
- AO3: Consideration of methodological issues such as demand characteristics, short retention intervals in lab studies, and the difference between intentional learning in labs and incidental learning in real life.
- AO3: Integration and conclusion that interference is a valuable, well-supported explanation for some types of forgetting, especially where similar information competes, but it should be seen as one of several mechanisms that together explain the full range of forgetting phenomena.

Question 7

identifies retroactive interference as the correct type cao **M1**

explains that the new list (List B) is interfering with recall of the old list (List A) oe **M1**

uses correct terminology: new information disrupts old information, hence retroactive interference oe **A1**

notes similarity of material increases interference, consistent with McGeoch and McDonald oe **M1**

concise concluding statement that the lab result is interpreted as retroactive interference caused by learning a similar second list cao **A1**

Answer: This shows retroactive interference: learning the new List B disrupts recall of the previously learned List A, and because the lists are similar this increases retroactive interference.

Question 8

states that similarity between old and new material increases the chance of interference oe **M1**

refers to McGeoch and McDonald finding greater forgetting of list A when list B was similar in meaning or form oe **A1**

refers to Underwood's review suggesting many prior similar learnings increase proactive interference oe **M1**

explains the implication that overlapping cues or items cause competition at retrieval, making interference more likely cao **A1**

Answer: Similarity increases interference: McGeoch and McDonald found recall of an originally learned list was worse when a second list was similar, and Underwood's review suggested repeated similar learning accumulates proactive interference, implying similar items compete at retrieval and cause forgetting.