Exercise walk-through

2.5
Learning and cognition

International Baccalaureate · IB Diploma · Psychology · SL

Context 4: learning and cognition

- In **classical conditioning** , a neutral signal is paired with something that already causes a response, until the signal alone causes it (Pavlov's dogs learned to salivate at a sound).
- In **operant conditioning** , behaviour that is followed by a reward becomes more frequent (Skinner).
- **Social learning** theory (Topic 1) adds that we also learn by watching others.
- Roediger and Karpicke (2006) had students learn short texts.

Sources for this lesson (2)

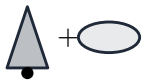
- A. Beck, *__Depression__: Causes and Treatment* (1967); G. Brown and T. Harris, *Social Origins of Depression* (1978).
- J. Darley and B. Latané, "Bystander intervention in emergencies", *Journal of Personality and Social Psychology* (1968); S. Milgram, "Behavioral study of obedience" (1963).
- H. Roediger and J. Karpicke, "Test-enhanced learning", *Psychological Science* (2006).

Common errors (2)

- Calling the **Strange Situation** culture-free; the share of each **attachment** type differs between countries.
- Saying Milgram showed that people are cruel; he showed how far ordinary people obey an authority in a particular situation.
- Mixing up **classical conditioning** (learning by association) and operant conditioning (learning by consequences).

Exercise 2.1

2.1 Distinguish between **classical** and **operant** conditioning. [2]



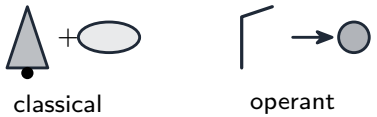
classical



operant

Exercise 2.1

2.1 Distinguish between **classical** and **operant** conditioning. [2]



2.1

classical: learning by association: a neutral signal is paired with something that already causes a response; operant: learning by consequences: behaviour that is rewarded becomes more frequent

Exercise 2.2

2.2 Identify the type of learning in each case:

(a) A child feels afraid at the sound of the dentist's drill after a painful visit. [1]

(b) A student hands in homework on time more often after the teacher praises her. [1]

(c) A boy starts to say "thank you" after he sees his older sister praised for it. [1]

(a) drill (b) praise (c) a model

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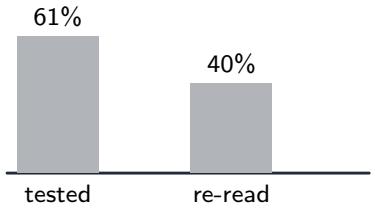
(a) classical conditioning

(b) operant conditioning

(c) social learning

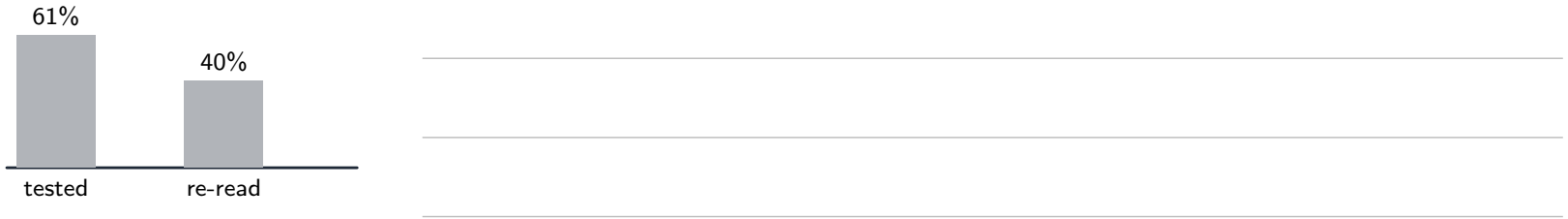
Exercise 2.3

2.3 *(Paper 1 Section A.)* Describe **one** study of the testing effect. [4]



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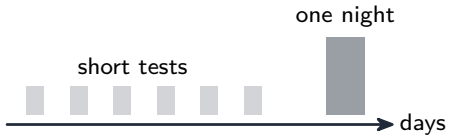


2.3

Roediger and Karpicke (2006); students learned short texts: one group read the text four times, another read it once and tried to recall it three times; after one week, the testing group recalled 61 % of the ideas, the re-reading group 40 %; practising recall strengthens memory more than re-reading

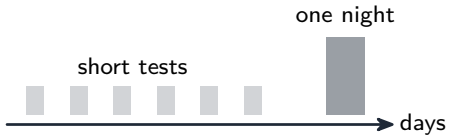
Exercise 2.4

2.4 *(Paper 1 Section B, learning and cognition.)* A teacher wants her students to remember 200 new words for an exam in two weeks. Most students plan to re-read the list many times the night before. Using research, explain what the teacher should advise. [6]



Exercise 2.4

2.4 *(Paper 1 Section B, learning and cognition.)* A teacher wants her students to remember 200 new words for an exam in two weeks. Most students plan to re-read the list many times the night before. Using research, explain what the teacher should advise. [6]



2.4

award up to [6]: the testing effect: recalling information strengthens memory more than re-reading; Roediger and Karpicke (2006): after a week, testing gave 61 % recall against 40 % for re-reading; so students should test themselves, e.g. word cards or short quizzes, not just re-read; spacing: short sessions over the two weeks work better than one long session the night before; re-reading feels easy, so students may think they know the words when they do not; a limit: the study used texts and one week; word lists for an exam may differ, but the advice fits the evidence

Exercise 3.1

3.1 *(Paper 1 Section C.)* "The best way to learn is to test yourself." Discuss this claim with reference to the concept of **measurement**. [15]



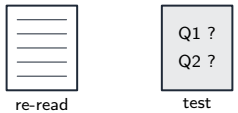
re-read



test

Exercise 3.1

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3.1

Mark with the markbands: [13-15] focused on the claim, accurate knowledge, evidence used to build an argument, the concept used to evaluate throughout, a supported conclusion; [10-12] mostly focused, evidence used, some evaluation through the concept; [7-9] relevant knowledge but mostly description; [4-6] limited knowledge, little evaluation; [1-3] little that is relevant. Points that may be included: testing effect: Roediger and Karpicke (2006): 61 % against 40 % recall after one week; measurement: learning measured as the percentage of ideas recalled from short texts after a fixed delay; a clear, comparable measure, but it covers recall, not understanding or applying knowledge; the delay matters: re-reading can look as good on an immediate test, so the time of the measure changes the result; spacing also improves long-term recall, so how and when we test both matter; Sparrow et al. (2011): what we remember depends on whether we expect to look information up later; lab texts and university students may not represent every subject or learner; conclusion: strong evidence that self-testing beats re-reading for recall; "the best way" needs measures of understanding and real exams