

Application Skills

Guide to develop AO2 skills in
preparation for exam questions

Apply Your Knowledge



INTRODUCTION

Assessment objectives (AOs) are set by Ofqual and are the same across all AS and A-level Psychology specifications and all exam boards. The exams will measure how students have achieved the following assessment objectives.

This guide helps you develop the skills to ensure you meet the assessment objective criteria. It will focus on AO2 skills.

AO2:

Apply knowledge and understanding of scientific ideas, processes, techniques and procedures:

- in a theoretical context
- in a practical context
- when handling qualitative data
- when handling quantitative data.

AO2 skills require you to apply your knowledge and understanding to given stem scenarios or situations. You must use the information cited in the stem to help guide your reasons. You can make reference to the stem by quoting parts which are relevant to your answer and give examples to show your knowledge. Often the clues are given in the stem – underline what you think they are before you begin. AO2 content could be in any topic question including research methods.

This guide will show you examples of exam questions along with their mark schemes, highlighting how you can maximise your AO2 marks. The examples come from AQA, Pearson Edexcel and Cambridge OCR.



EXAMPLES

Look at the responses given, can you see how it answers the question?

Short Answer Questions

Sam has started to have short-term memory problems. He forgets things he has just read but remembers what people have just said to him.

Explain how functional magnetic resonance imaging (fMRI) might be used to study Sam's memory.

[6 marks]

Marks for this question: AO2 = 6

Level	Marks	Description
3	5–6	Application of knowledge of how fMRI might be used to study Sam's memory is clear and has some detail. The answer is generally coherent with appropriate use of specialist terminology.
2	3–4	Application of knowledge of how fMRI might be used to study Sam's memory is evident but lacks clarity. Specialist terminology is used appropriately on occasions.
1	1–2	Very brief and/or muddled application of knowledge of how fMRI might be used to study Sam's memory. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible content:

- fMRI could be used to map Sam's brain activity/localisation of function
- Sam would be asked to carry out short-term memory/cognitive tasks while in an fMRI scanner
- eg ask Sam to read a list of words/letters (accept other visual STM tasks) and recall them immediately
- eg play Sam a list of words/numbers and recall them immediately
- the fMRI detects changes in blood oxygenation/flow and produces a 3D image of the activity in different parts of Sam's brain
- when an area of Sam's brain is more/less active it consumes more/less oxygen and more/less blood flows to that area
- this would show where Sam's brain is active/inactive during the visual STM task
- reference to comparing brain activity during different STM tasks.

Credit other relevant content.

All the marks allocated are for application to Sam and how fMRI's might be used to study his memory. The question requires knowledge of the use of fMRI scans for memory particularly for cases of STM loss as in Sam's.

Academic journals suggest conflicting findings about the effectiveness of online learning. A researcher designed an experiment to measure the effectiveness of online learning compared with face-to-face learning.

The researcher placed an advert in an online forum asking for student participants for a memory experiment.

30 university students contacted the researcher and they were divided equally into two groups. Both groups learned the same topic.

Group 1 had 3 hours of online learning.

Group 2 had 3 hours of face-to-face learning.

At the end of the session, each participant completed a multiple-choice test scored out of 20 to measure how much they had learned about the topic.

The researcher chose to use a non-directional hypothesis for this study.

Explain why a non-directional hypothesis is appropriate in this case.

[2 marks]

Marks for this question: AO2 = 2

Award one mark for each of the following bullet points:

- there were conflicting findings (in previous research) / research does not provide clear findings (so it should be non-directional)
- the researcher cannot predict the outcome of the experiment.

Note – For full marks to be awarded there must be explicit reference to the type of learning (face-to-face/online)

As this question requires a response from the information in the stem, it can only be AO2. Most research methods questions will be giving credit for AO2 unless in some cases where they ask you to define or evaluate, which could be AO1 or AO3. Accessing mark schemes online will help you differentiate these questions.

Write an appropriate hypothesis for this study.

[3 marks]

Marks for this question: AO2 = 3

3 marks: for a clearly stated and appropriate non-directional hypothesis with both the IV and DV operationalised: There will be a (significant) difference in the multiple-choice test scores between students who complete online learning and those who complete face-to-face learning.

2 marks: a clear non-directional statement which has both the IV and the DV but only one variable operationalised **OR** for a non-directional statement with both the IV and the DV operationalised that lacks clarity.

1 mark: for a non-directional statement with the IV and the DV but neither is fully operationalised.

0 marks: for expressions of aim/questions/correlational hypotheses **OR** statements with only the IV or DV **OR** only one condition of the IV present **OR** for a directional hypothesis.

Note - Credit can be awarded for an appropriate null hypothesis.

AO2 marks are allocated in this question as the response can only come from information provided from the stem scenario. Information from the stem must be clearly outlined in your answer.

Lisa conducted an experiment to investigate whether socio-economic status had an effect on developing a mental disorder as part of her studies for a Master's degree.

She gathered her participants from the nearest town and divided them into two conditions:

- Condition A: from a lower socio-economic group
- Condition B: from a higher socio-economic group.

There were 13 participants in condition A and 21 participants in condition B.

Lisa then asked a qualified psychiatrist from the hospital in the town to interview her participants and tally how many had a mental disorder and how many did not have a mental disorder.

(a) Identify the independent variable (IV) and the dependent variable (DV) in Lisa's experiment.

(2)

AO2 (2 marks)

One mark for identifying the independent variable (IV).
One mark for identifying the dependent variable (DV).

For example:

Independent variable (IV).

- Whether the participants were from a lower socio-economic group or a higher socio-economic group (1).
- The socio-economic groups of the participants either higher or lower (1).

Dependent variable (DV).

- If the psychiatrist diagnosed the participants as having a mental disorder or not having a mental disorder (1).
- whether the participants have a mental health disorder or do not have a mental health disorder (1).

Answers must relate to the scenario.

Generic answers score 0 marks.

Look for other reasonable marking points.

As the IV and DV are in context to the stem scenario this question is assessing AO2 marks.

(b) Lisa used a random sampling technique to gather her participants.

Describe how Lisa may have used a random sampling technique to gather the participants for her experiment.

(2)

AO2 (2 marks)

Up to two marks for a description of how Lisa would use a random sampling technique in relation to the scenario.

For example:

- Lisa would have collected all the names of people from the nearby town, and she could put into a computer database (1). She would then use a random number generator to select participants and then allocate them to the two socio-economic groups (1).
- Lisa could have got all the houses in the town from the local council and split them into the two socio-economic groups (1). She could put all the houses in a hat and picked out the houses until she has 13 for groups A and 21 for group B (1).

Answers must relate to the scenario.

Generic answers score 0 marks.

Look for other reasonable marking points.

This question is asking specifically how Lisa could have used random sampling to gather her participants. It wants suggestions of how Lisa could do this in relation to the situation in the stem. The context from the question must be in your answer. This is all AO2.

Extended Answer Questions

Leoni struggles to process information during lessons at college. She finds it difficult to note down information from the board before the teacher moves on to a new topic. Leoni gets embarrassed when she is asked a question by the teacher as she is unable to give an answer quickly.

At home, Leoni forgets to complete tasks that her parents give her. Her mum had asked her to go to the shop for ten items for making dinner, but Leoni forgot two of the items.

Leoni is also learning to drive but is finding it very hard to manage to respond to what she sees in the driving environment and change gears at the same time. Her driving instructor gives her directions about where to turn, but Leoni often misses the turn as she struggles to process the directions of left and right fast enough.

Discuss how the working memory model (Baddeley and Hitch, 1974) can explain Leoni's processing of information.

You must make reference to the context in your answer.

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer		
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments, but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures) (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

This question allocates marks for both AO1 and AO2. This response will only focus on the AO2 marks.

AO2

- Leoni may be struggling with delays in the CE function of delegating to appropriate subsystems, resulting in her taking longer to take in the visual input from the board and write this down.
- Asking a question to Leoni requires her to hold the verbal question she's asked while also processing auditory recall of an answer, so she may have slower processing speeds in the phonological loop.
- When Leoni forgets things from the list of shopping items, it may indicate that she is unable to subvocalise the list of food items in order to maintain them through articulatory rehearsal.
- The dual task of spatial processing during driving, of changing gears and taking directions to turn left or right, whilst also visualising the roads and other cars, may overload the capacity in Leoni's VSS causing her to miss the turns in the road.

Look for other reasonable marking points.

This response requires a direct link back to the stem scenario with Leoni. Each point you make must be related to this stem. It also needs to be clear that you are linking your knowledge of the WMM of memory directly to this situation. Quote information from the stem.

Nina is the manager of a pre-school playgroup for children aged 2–5 years. She is concerned that young children have too much 'screen time' (i.e. playing on electronic devices) so wants to use play to aid their development.

Outline at least one play strategy a psychologist might suggest to Nina to use with the children at her playgroup to help develop their perception. **[10]**

AO2 (10 marks)

Candidates need to apply their knowledge and understanding of at least one play strategy to develop perception in young children.

Suggestions may refer to:

- Application of sensory integration therapy, developing visual form constancy (e.g. through use of shape sorters or structured block play) or auditory perceptual constancy (e.g. through listening to music), etc.
- Social learning theory, classical conditioning or operant conditioning (positive and/or negative reinforcement) could be applied.

Answers could focus in depth on one suggestion or refer to a range of suggestions.

It is important that suggestions are **related to the context of the question** and are suggestions that a psychologist might potentially make (so should therefore be within ethical and legal guidelines).

Other appropriate responses should be credited.

All the marks allocated in this 10-mark question are AO2. It is asking for strategies/ practical suggestions based on the stem scenario. These suggestions must relate directly to the context in the question. It also wants to see knowledge of how the suggestions could be used, you need to apply your knowledge of the topic to this scenario.

A relationship psychologist studied what people say about themselves in descriptions on dating websites. Here is one description.

"My name is Joy. I am a teacher and I have a degree in economics. I live in Essex. I cycle to work because I care about the environment. I enjoy walking and like to cook in my spare time. I am looking for a partner who enjoys good food and is good at doing repairs around the house because I'm not very practical."

Discuss the filter theory of romantic relationships. Refer to Joy in your answer.

[16 marks]

Marks for this question: AO1 = 6, AO2 = 4, AO3 = 6

Level	Marks	Description
4	13–16	Knowledge of filter theory is accurate with some detail. Application is effective. Discussion is effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively.
3	9–12	Knowledge of filter theory is evident but there are occasional inaccuracies/omissions. Application/discussion is mostly effective. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is used appropriately.
2	5–8	Limited knowledge of filter theory is present. Focus is mainly on description. Any application/discussion is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1–4	Knowledge of filter theory is very limited. Application/discussion 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.

This question has AO1, AO2 and AO3 marks. This response will focus on the AO2 marks.

Possible application: AO2

- Joy gives details of her work as a teacher and her economics degree because she would be more attracted to people of similar social demography and filter out those whose backgrounds are too different – demographic first level filtering
- Joy states she lives in Essex to filter out any potential partner who lived too far away as proximity would be important for any face-to-face meeting – demographic first level filtering
- Joy cycles because she cares about the environment – an attitude she might expect a potential partner to share because it is important to her – attitude second level filtering
- Joy says she likes walking and cooking as she wants to filter out anyone whose attitudes/interests are different – attitude second level filtering
- Joy is looking for someone who enjoys food because she cooks, and someone who is good at doing repairs around the house to make up for her lack of practical skill – complementarity third level filtering.

All of the 4 marks for AO2 require application to the stem scenario with Joy. Each point is giving a specific example of how the filter theory may relate to Joy.

A psychologist observes 3-year-old Leela playing at home. Leela spends most of her time dressing up and playing with the toy kitchen. She ignores her brother's toys like his toy cars and garage. Later, the psychologist asks Leela about nursery school. Leela tells the psychologist all about the girls and the games the girls play, but she hardly ever mentions what the boys do.

Discuss gender schema theory. Refer to Leela in your answer.

[16 marks]

Marks for this question: AO1 = 6, AO2 = 4, AO3 = 6

Level	Marks	Description
4	13–16	Knowledge of gender schema theory is accurate with some detail. Application is effective. Discussion is effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively.
3	9–12	Knowledge of gender schema theory is evident but there are occasional inaccuracies/omissions. Application/discussion is mostly effective. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is used appropriately.
2	5–8	Limited knowledge of gender schema theory is present. Focus is mainly on description. Any application/discussion is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1–4	Knowledge of gender schema theory is very limited. Application/discussion 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.

This question has AO1, AO2 and AO3 marks. This response will focus on the AO2 marks.

Possible application: AO2

- Leela is three years old so will have developed a gender identity of herself as a girl, and along with that, is developing a 'girl' schema
- her 'girl' schema consists of all the knowledge she has of girls that she has acquired over three years
- at home, Leela plays mostly with toys that fit with her 'girl' schema, such as dressing up and the toy kitchen, ignoring the other toys like the toy cars and garage
- Leela talks mainly about the girls' nursery games as she pays more attention to 'girl' behaviour because she is actively trying to expand her girl schema or in-group knowledge
- Leela says little about what boys do because she disregards information of the out-group.

All of the 4 marks for AO2 require application to the stem scenario with Leela. Each point is giving a specific example of how gender schema theory may relate to her.

PRACTICE

Access past exam papers online to practice your AO2 skills. Do not forget to meet the criteria you must;

‘Apply knowledge and understanding of scientific ideas, processes, techniques and procedures; in a theoretical context, in a practical context, when handling qualitative data or when handling quantitative data.’

REMINDER

AO2 skills require you to apply your knowledge and understanding to given stem scenarios or situations. You must use the information cited in the stem to help guide your reasons. You can make reference to the stem by quoting parts which are relevant to your answer and give examples to show your knowledge. Often the clues are given in the stem – underline what you think they are before you begin. AO2 content could be in any topic question including research methods.

