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The exemplars in this document have been re-typed for ease of reading but are taken from real candidate work and therefore include the original spelling and grammatical errors made by the candidates at the time.

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INTRODUCTION

In order to do well on this paper, it is important that the answer is in context. This means responding to the questions in a way that makes reference to what the research presented in the scenario provided was about. This can be seen time and time again in the candidates who do well on this paper, and is a noticeable omission in those that perform less well. The selected examples presented and discussed below will illustrate this.
Psychologists want to use the investigation method to investigate students’ abilities to resist temptation. They will watch how each student behaves when sitting at a table with a chocolate bar in front of them and told they cannot eat it.

1. Describe and evaluate a suitable procedure for this study.

In order to do well on this question, candidates must ensure they provide a fully replicable account of what has been asked for. In general, it is helpful to try to refer to and include details about who, what, where, when and how the study will be conducted here. If asked to evaluate something candidates should be aware that it is acceptable to discuss both positive and negative evaluation points.

**CANDIDATE ONE**

The variable being observed in this observation is the students’ ability to resist temptation. This could be carried out by the researcher conducting an observation in a school therefore the sample method would be opportunity sampling as the observer will have to observe whichever students are around at the time. The students could sit in the school canteen and event sampling could be used as the observer will record any certain behaviours produced by the students at anytime while the observation is taking place and therefore the observer is unlikely to miss any behaviours carried out by the students (increase reliability)!

The observation method could be a structured observation which is a structured behaviour checklist including all of the likely behaviours that may occur at the time of the observation. The categories could be for example: how many times a student participant looks at the chocolate bar, touches it, how long it takes them to eat it if they do. The observation will be covert so the students will not be aware they are taking part in an observation. Their chocolate bar will be placed in each table in the canteen before the students arrive for break. There will be four observers recording from each corner of the canteen and the observation will last the duration of the break e.g. 30 minutes. In order to make sure the observers all interpret the behaviours of the students resisting to eat a chocolate bar the same, they could conduct a pilot study where they carry out the same procedure but in a smaller setting – this will make sure all the categories are the most common ones for resisting a chocolate bar and increase the validity of the observation and the inter rater reliability.

In order to reduce demand characteristics from the students the observation will be covert for example if the students knew they were being monitored on their ability to resist the chocolate bar they may act in a way they normally wouldn’t e.g. not eating the chocolate bar whereas they would if they weren’t being watched. A problem with this observation is that it may lack ecological validity as the way the ability to resist temptation is using a chocolate bar but there are different levels of temptation. A problem also is that as the observation is covered up ethical issues may arise e.g. consent as the students will not be aware they are taking part in the observation and therefore will not have the ability to withdraw.

The answer above is a good, top band response. It covers all the who, what, where, when and how to enable replication, and refers to a total of five evaluation issues, three of which are in context.

---

1. The 'who' – students in a school.
2. The 'where' – school canteen.
3. Part of the 'how' – event sampling.
4. Evaluation (reliability) comment.
5. The 'what' – behavioural categories outlined.
6. Part of the 'how'.
7. The 'when' – the 30 minutes lunch break (duration).
8. Evaluation (validity) comment in context.
9. Evaluation (strategy to reduce demand characteristics) comments in context.
10. Evaluation (ecological validity) comment in context.
11. Evaluation (ethical issue of consent) comment.
CANDIDATE TWO

First I would go to a secondary school and gather students from many classes e.g. science, English, maths. Around 100, all with the same amount of boys and girls. Then before lunch I would ask them to come in the room and seat on the table containing a galaxy milk chocolate. I would tell them stand by rise presidure that it’s an questionair experiment and tell them that im going to get the questionnaire then… Ask them to wait for ten minutes and then I would leave the room, they would be alone and there would be a hidden camara to observe their behaviour. After 10 mins are over I would ask him/her some questions the Say thank you for your time - then they are debrief.

A strength about this procedure is that it will have a large amount of participants making generalisable only to other students. A disadvantage about this procedure is that participants are lied breaking Informed consent and deception, however at the end they are debriefed.

SECTION A  QUESTION 2

2. What is time sampling?

This question required candidates to provide a clear definition of time sampling. The answer did not have to be in context. However, the use of examples in these AO1 questions is an effective method, and the example provided can be contextualised to the research scenario if the candidate wants to do so.

Time sampling is when the researchers records the behaviour that is occurring at a certain time. For example they may record behaviour every 5 seconds.

An example of a low band, 1 mark response would be...

*Time sampling is recording behaviour at set times*

This response does not make it clear and distinguishable from event sampling.
3(a) What is event sampling?

This question required candidates to provide a clear definition of event sampling. Once again, as in the previous question, the answer did not have to be in context. However, the use of examples in these AO1 questions works well, and the example provided can be contextualised to the research scenario if the candidate wants to do so.

CANDIDATE ONE

Event sampling is when the research records the event every time it occurs for example every time the participant touched their nose.

CANDIDATE TWO

Event Sampling is when participants that are already there in the moment are used e.g. Students in a classroom, research doesn’t look for them they already are in the room.

This answer does not explain what event sampling (of behaviour) is at all, and is not creditworthy.
SECTION A QUESTION 3(b)

3(b) Outline one advantage of event sampling if it were used in this study.

This question required an advantage of event sampling to be outlined in context. Often candidates do not do this, and as a consequence are awarded lower band marks.

CANDIDATE ONE

One advantage of using event sampling in this study is the fact that the observers would gather quantitative data which could be easily compared between each student.

There is no context (nothing that applies the comment to the research conducted) in this answer. But, it does state (and justify) an appropriate advantage, so achieves mid-band marks.

CANDIDATE TWO

One advantage of event sampling is that no behaviours would be missed for example the participant would be watched constantly for 30 minutes and if the behaviour was seen to occur (staring at the chocolate, picking it up and looking at it etc) then it would be recorded everytime it happened during the 30 minutes. This is an advantage as it means the data is more valid as no behaviours of temptation are missed.

In contrast, this candidate has outlined an appropriate advantage, with two, specific contextual links.
4. Outline one disadvantage of having quantitative data in this study.

Good, clear answer in context. Top band.

CANDIDATE TWO

One disadvantage of quantitative data is that it’s very hard to analyse this can be a problem as many researchers may agree on different things. For this study participants may say things which is quantitative data that may mislead the researchers.

This answer contains nothing creditworthy. It is not true to claim quantitative data is “very hard to analyse”. No marks awarded.
 SECTION B QUESTION 5(a)

La la la, la la la la la - can’t get you out of my head. Why is it after hearing a song we sometimes hear it in our head at different times throughout the day? A psychologist investigated using the self-report method. Five males and five females students aged 16-19 years old were played a song with a ‘catchy tune’ through headphones at nine o’clock in the morning. They were then told to keep a diary making a note of when the song came back in their head throughout the rest of the day until 6pm.

5(a) Explain how to calculate the median and state the median number of times that the males reported hearing the song in their head.

This question has two demands (how the median is calculated and what the median is for the males) and clear responses to both are required in the answer.

CANDIDATE ONE

The median is calculated by ordering the numbers from smallest to largest, and counting inwards to select the middle value that lies between the values 4, 8, 12, 16, 17. For the males, 12 is the median number.

Clear and accurate (2 marks).

CANDIDATE TWO

Add the two middle numbers up and divide by two $8 + 23 = 31$

$\frac{31}{2} = 15.5$

Here there is no mention of arranging the data in numerical order, so the answer lacks clarity. 1 mark awarded.
5(b) Why might the median be more appropriate than the mean in this study?

The answer to this question has to demonstrate understanding of the circumstances under which the median is a more sensitive measure of central tendency than the mean, and do so in context.

CANDIDATE ONE

The median might be more appropriate as the median is not affected by extreme times the song was reported being heard in the head and does not artificially inflate the average time song was heard.

Clear answer in context.

CANDIDATE TWO

The median may be a more appropriate measure than the mean as the median does not take into account anomalous values in the calculation, and thus is a more accurate reflection of the middle value.

In contrast, this answer is not in context. It is also a little ambiguous in saying that it "does not take into account anomalous values".
6. Suggest two ways the sample in this study could be improved.

Here candidates needed to provide two clear ways the sample (not sampling method) could be improved. It is a 3 + 3 question, with 3 marks awarded for each suggested way to improve the sample. 2 marks were awarded for a good, clear but general (rather than in context) answer.

CANDIDATE ONE

The sample in this study could be improved by having a larger sample sized, so instead of having 5 males and 5 females you could have 50 males and 50 females. Consequently having a larger sample size can make the results generalisable.

Another way is by using random sampling so that all students have an equal opportunity of being picked. This can also improve generalisability because all the students used weren’t from just one area.

The first half of this answer is an appropriate improvement in sufficient detail, but not in context. Low band response.

Here, in the second half of the candidate’s answer they have suggested a change to the sampling method, rather than the characteristic of the sample. Therefore, nothing creditworthy here.
CANDIDATE TWO

Sample could be improved by using **more participants**, that includes different age, gender, race and occupation. This way we would have external validity as we would be able to **generalise** the results to everyone.

They could also use samples from different **countries** and backgrounds to make the investigation cultural valid as we would be able to **generalise** the results to every culture.

Here is an example of a low band response.

1. Doesn’t say specifically how many more participants, and the comment about improved generalisability is not in context.

2. Doesn’t say which countries, and again the comment about improved generalisability is not in context.
7. Outline one strength and one weakness of using the self-report method in this study.

Here both a strength and a weakness are required in context. It is a 3 + 3 question, with 3 marks awarded for the suggested strength, and 3 marks for the weakness. For each one, just 2 marks would be awarded for an appropriate strength or weakness clearly outlined, but not in context.

CANDIDATE ONE

One strength of the self-report method is that it allows the students to give more in depth information e.g. They may say in the diary what time the song came back or for how long.

One Weakness is that they may be open to demand characteristics releasing what the Investigation is testing so giving what they think are sociable desirable responses e.g. putting down the song come into their heads more than it actually did.

Example of a top band response: Both a strength and weakness are outlined in sufficient detail and in context.

CANDIDATE TWO

A strength of using the self-report method in this study is that they were able to analyse the participants thoughts and feelings as to how they felt during the day, whilst recalling the song. Making the study reliable.

Here is an example of a low band response, where the candidate has not justified or explained their comment ("able to analyse participants thoughts") well, and stated something that is incorrect and unclear (reference to reliability).
SECTION B QUESTION 8(a)

8(a) Suggest one open question that could have been used in this study.

For full marks here, a clear question, in context with no restrictions on how it could be responded to needed to be stated.

What lines from the song came back into your head the most?

An example of a low band response here would be to simply say...

“What came back in to your head the most?”

As this is not clear it is referring to lines/lyrics (etc) from the song.

SECTION B QUESTION 8(b)

8(b) Suggest one closed question that could have been used in this study.

For full marks here the predetermined response categories for the suggested closed question needed to be explicitly outlined.

CANDIDATE ONE

Did the song come back into your head? (Please tick) □ yes □ no
**CANDIDATE TWO**

Which time of day did you most hear the song that distracted you?

- 9 – 12
- 1 – 3
- 3 – 6

This is not clear as there are overlapping response categories.

**CANDIDATE THREE**

How many times in the day did you hear the catchy song played earlier in your head throughout the day?

Here the candidate has not provided any predetermined closed responses, so it is not a closed question.
Yawn, yawn, yawn. When we see someone yawn we often yawn ourselves. But can just thinking about yawning have the same effect? Psychologists conducted a laboratory experiment to investigate this. First the participants watched a short film of a teacher yawning part way through giving instructions to her students. Next the same participants were given an extract from a book to read that included the word ‘yawn’. The psychologists recorded how many times the participants yawned whilst watching the film and whilst reading the passage.

9. Suggest an appropriate null hypothesis for this experiment.

Here candidates needed to ensure they stated the null and not the alternate hypothesis, and for full marks refer clearly to both the independent variable and dependent variable.

CANDIDATE ONE

There will be no significant difference between the number of times the participants yawned whilst watching the film and the number of times the participants yawned whilst reading the passage, where the passage involved the word ‘yawn’ and the film involved a teacher yawning.

Top band. Good, clear response with reference to both variables (including some operational detail).

CANDIDATE TWO

There will be no significant difference between the number of times the students yawn and whether they watch the short film or read the extract from a book.

The IV here is not clear (it does not indicate that the film and book depicted someone yawning). Mid-band response.
SECTION C  QUESTION 10(a)

10(a) Identify the experimental design used in this study.

Here candidates simply has to say what the experimental design was (repeated measures design). There was no requirement to explain why, or justify its use (although some candidates did do this). However, it had to be the design that was stated, and not the research method in general (laboratory experiment).

CANDIDATE ONE

The experimental design was a repeated measures design.

CANDIDATE TWO

The experimental design used in this study was a repeated measures design as the same participants were tested in both conditions so saw the film of the teacher yawning and read the passage that included the word ‘yawn’.

Top band.
However, justification of how/why it is repeated measures design was not necessary in order to obtain full marks.

CANDIDATE THREE

Laboratory Experiment

Nothing creditworthy here. The candidate has identified the research method, not the ‘experimental design’. Zero marks.
SECTION C QUESTION 10(b)

10(b) Describe and evaluate how an alternative experimental design could be used in this study.

This question has two demands: description of an alternative experimental design, and an evaluation of it. Both had to be discussed in context. Only one evaluation issue/point was needed to obtain top band, but it needed to be clear and detailed for full marks to be awarded. Candidates needed to discuss the use of either independent measures design, or matched subjects design as an alternative to repeated measures design that was used in the original research. Suggestions relating to alternative methodologies (e.g. observation), rather than experimental designs were not creditworthy.

CANDIDATE ONE

One way in which an independent measures design could be used in this study would be by having 20 students in one room watching the film of the teacher yawning and in a separate room have 20 students reading the passage with the word yawn. One advantage of the independent measures design in this study would be that it eliminates boredom effects, so the participants are less likely to get bored if they only read the passage instead of doing both tasks. However one disadvantage of the independent measures design would be that it does not control individual differences between the participants in each condition, as some individuals may be more likely to yawn than others.

CANDIDATE TWO

This could have been done on an observational design study. First the participants would watch a film without the word yawn in and then their yawns could be counted as they watch and they could then watch a similar video with the word yawn in and their yawns would be counted. A strength of this is that you can easily compare the two results for the same participant to see if there is a change. A weakness of this is due to the fact they are watching a similar video clip they may just find it boring, get tired and start yawning more which would make the results less reliable.

They also know they are being studied so they may change their behaviour and try and guess what they are being studied for.
SECTION C QUESTION 11(a)

11(a) How has the independent variable (IV) been operationalised in this study?

For the full two marks here, candidates needed to clearly state how the IV had been set up to be studied, referring to both conditions (or ‘manipulations’) of the IV.

CANDIDATE ONE

In this study, the IV was operationalised either by showing the participants the film of someone yawning or by giving the participants a passage of the word yawn.

CANDIDATE TWO

The IV was operationalised by the participants watching a short film of a teacher yawning partway through giving instructions. This is an example of a low band response as the candidate has only referred to one manipulation of the IV.
11(b) Evaluate how the independent variable (IV) has been operationalised.

For top band here candidates needed to refer to two or more evaluation issues/points, clearly outlined and in context. Evaluation of the research method, or experimental design in general were not creditworthy.

CANDIDATE ONE

One disadvantage of the way the IV has been operationalised would be that it lacks **ecological validity** as seeing somebody yawn on TV is not as reflective of everyday life as it would be to see somebody yawn in real life. One advantage of the way it has been operationalised would be that it is **highly standardised and can be replicated easily**因此 is highly reliable.

**One advantage of giving the participants a passage would be that it is also standardised and can be replicated.** One disadvantage would be that it lacks validity as reading the passage may not necessarily make the participant think about yawning.

**Top band answer.**

1. Two evaluation points in context (low ecological validity and standardisation for replicability).
2. The last sentence/point is questionable, but the candidate had already done enough by this stage.

CANDIDATE TWO

A weakness of the IV is that tedium can effect the results. As for example the participants are doing **both conditions**, so the participants could be bored of doing the conditions and yawn out of boredom.

A strength of the IV is that it gives specific events to **notedown** behaviour. It’s a strength as it eliminates the amount of behaviour to record. For example the observers only record when they yawn at those two times.

**Top band answer.**

1. Here the candidate makes reference to the experimental design rather than the manipulation of the IV.
2. Here the candidate is referring to the measurement of the DV, and again, not the manipulation of the IV.
FINAL POINTS

Remember to take the following into account when approaching this paper:

1. The importance of context in answers.
   Taking ‘ownership’ of the paper. The more candidates engage with the paper the better they seem to do. This means becoming fully aware of the nature of the research outlined in the opening scenario for each section and being able to respond in context of the theme of this research. Context is the single most important thing that can have a dramatic effect on the overall mark achieved by a candidate.

2. Focusing on what the question is asking and responding appropriately.
   For example, candidates sometimes include information that is irrelevant to the assessment request, and/or only respond to one part of the assessment request (e.g. they describe, but not evaluate when asked to do so).

3. Including sufficient detail in answers.
   Often candidates do not elaborate on the points they are making and the response lacks clarity. The use of supporting examples is a good tip here to illustrate the point being made.

4. Good command of appropriate terms and concepts.
   This is important for understanding the full demands of a question, and to enable candidates to make spontaneous use of such terms and concepts in their responses (e.g. reference to reliability and validity when evaluating a procedure that has been outlined etc).
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