

Paper two - Research methods

The extended answers in the research methods section are out of a maximum of 12 marks. They are not essay questions and should not be treated in the same way as the other topics.

You will be asked to design a study using a specific research method for example...experiment, observation, interview, case study, content analysis etc...

You will be given a brief summary of the concept being researched and will have to address a number of bullet points outlining what you would do, how you would do and why you do it in this way. The bullet points should serve as your checklist and form the structure of your answer. Do not include details of the procedure if they have not been requested. You will run out of time

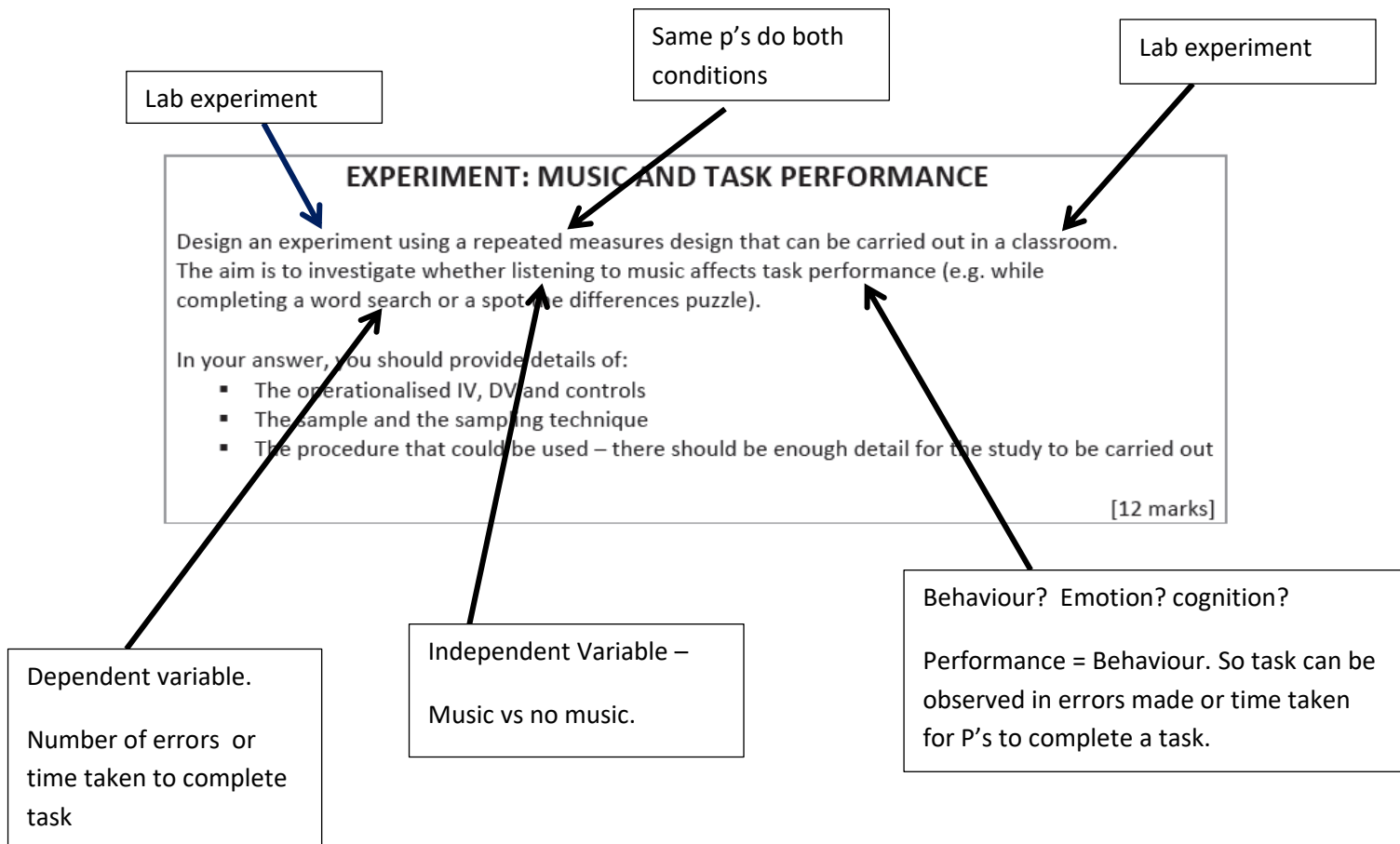
Step 1 – Actively read the stem. Annotating important ‘clues’ that will help you.

Step 2 - Turn the bullet points into subheadings

Step 3 – Explain **how** and **why** you will doing what you are doing.

TOP TIP - USE THE BULLET POINTS AS SUBHEADINGS.

Here is an example of how to **actively** read the stem.



After fully annotating the proposed research. Address each bullet point as shown below:

The operationalised IV, DV

The independent variable is whether the participant listened to music (classical music with no lyrics) or not (silent condition) while completing a word search. The dependent variable is the time taken (in seconds) to find five words in a word search puzzle.

Controls

In order to control order effects (e.g. practice effects, which might make the participants complete the second word search faster) counterbalancing will be used: half of the participants will complete the first puzzle listening to music and the second puzzle in silence, and the other half will complete the first puzzle in silence and the second puzzle listening to music. This will be done using random allocation, meaning that any order effects will be balanced across both conditions. Participants will complete both parts of the task wearing noise cancelling headphones to ensure that they are in complete silence for the silent condition, and to ensure that wearing headphones is not a confounding variable. The same piece of classical music will be used for all participants as different pieces of music may affect levels of concentration. Two different word search puzzles with equal difficulty will be used. In order to select the two word search puzzles a range of puzzles will be completed by another group of people. The average time taken to complete the puzzles will be calculated and the two puzzles with the most similar times will be selected.

The Sample and the Sampling technique

A sample of 20 sixth form students will be used for this experiment. They will be selected using a volunteer sampling method. A notice will be placed on the student notice board in a sixth form college asking for volunteers to take part in a psychology experiment to investigate factors that influence concentration. The first 20 participants to respond to the e-mail address provided will become the sample.

The procedure.

Participants will be invited to a classroom at an allotted time between 9 am and 11 am. Materials used will be two word search puzzles, a pen, an iPod containing the classical music, and a set of headphones. They will be shown into the classroom, seated at a desk and given standardised instructions to read and a consent form to sign. The instructions will outline what will happen during the study: they will be completing two word search puzzles, either while listening music or in silence. When they have completed each puzzle, they should put down their pen to indicate that they have finished. They will then be asked to put on the headphones and adjust to a comfortable volume to suit their hearing. If they are completing the music condition first, then the first puzzle will be given to them and the experimenter will switch on the music and begin timing using a stopwatch. When they put down their pen on the table, the experimenter will stop timing and switch the music off. They will then be given the second puzzle (to be completed in silence) and the experimenter will begin timing them. When they put their pen on the desk the experimenter will stop timing and they will be thanked and debriefed. If they are completing the silent condition first then the tasks will be the other way around.

Snap Plan the following when instructed by your teacher.

EXPERIMENT: EXERCISE AND HAPPINESS

Design an experiment to investigate whether exercise could increase feelings of happiness. For your measure of happiness, you should devise a measure that would provide data suitable for testing at an ordinal level of measurement.

In your answer, you should provide details of:

- Design – include reference to experimental design, variables and controls
- Materials/Apparatus – describe any special materials required
- Data analysis that could be used – include reference to both descriptive and inferential analysis

Justify your choices.

[12 marks]

Design

Experimental design – independent groups, repeated measures or matched pairs? State which design you will use and how it will work in practice.

Variables – what is the IV and DV? Remember to fully operationalise both. (As happiness is an emotion what is the only way you can measure this?)

Controls. What extraneous variables could have an effect on happiness? How can you reduce this? How could you control for individual differences?

Materials/apparatus

What are you going to need to measure happiness. Give an example. How are you going to ensure 'exercise' is standardised – what apparatus might you need?

Data analysis

Descriptive Stats. What measure of Central tendency will you use and why? Mean, Media or Mode? What graph will you use to display data and why?

Inferential stats (year 2 only) Which test would be appropriate – (level of measurement, related/unrelated data/ and test of diff or relationship?)

EXPERIMENT: WRITTEN AND SPOKEN INFORMATION

Design an experiment to test whether people who are given written information remember more than people who hear information in a spoken form.

You must refer to/provide details of:

- Design – include reference to experimental design, variables and controls
- The sample and sampling technique
- Materials/Apparatus – describe any special materials required
- An outline of the proposed procedure

[12 marks]

Design

Experimental design – independent groups, repeated measures or matched pairs? State which design you will use and how it will work in practice. (think carefully about order effects – some design's might not be suitable)

Variables – what is the IV and DV? Remember to fully operationalise both. (how will you score what they remember – what task could you set them?)

Controls. How long will you give the groups to read/listen to the story? How will you ensure the story is experienced in the same way for both conditions (other than the IV). How can you overcome individual differences?

Sample and sampling technique. How many Participants realistically will you get, who are they? How will you select them? (bear in mind you are a sixth form student.)

Materials/ apparatus What formats do you need the story in? How many words will it be? Apparatus for time and why needed? Materials for assessing recall?

Outline of the procedure Describe what will happen in a step by step outline. P's will be given.... Then they will....

QUASI-EXPERIMENT: MUSICAL ABILITY

Design a quasi-experiment to investigate whether there is a difference in the musical ability of left-handed students and right-handed students in a sixth form college.

You must provide details of:

- The experimental design
- An appropriate sampling method and justification
- The procedure that could be used, including details of how musical ability would be assessed
- A suitable debrief for the participants

[12 marks]

Experimental Design – Make your choice carefully. This is a QUASI experiment.

Sample and sampling technique (Describe how you would do it and fully justify why this technique – perhaps do this by saying why other techniques would not be suitable for gaining the right number of left and right handers)

Procedure. Including how musical ability would be assessed what task will you get P's to do? And how will their performance be scored? Bear in mind that your P's will have varying levels of experience.

A suitable debrief. You actually need to write what you would say/ give to the participants. You should - thank them, state the aim, remind them of their rights. Refer to DRIPP.

QUASI-EXPERIMENT: GENDER DIFFERENCES AND ATTENTION

Imagine that you have been asked to design a quasi-experiment to investigate whether there are gender differences in focussed attention. You decide to ask participants to find a specific letter (e.g. 'b') in an array of different letters, as in this example, where the task is to find the 'b' in an array of 'd's.

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d d d d d d d d d d d d d d
d d d d d d d d d d d d d d
d d d d d d d d d d d d d d
d d d d d d d d d d d d d d
d d d d d d d d b d d d d d d
d d d d d d d d d d d d d d
d d d d d d d d d d d d d d
d d d d d d d d d d d d d d
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You decide to time the participants as they complete this task using a stop watch. Discuss the following aspects of this investigation:

- With reference to the letter finding task, how you would ensure that the task is the same for all of the participants
- One methodological issue that needs to be taken into account when you obtain suitable participants for this study and explain how you would deal with this issue
- What you would do to ensure that your participants are treated ethically
- How you would use inferential statistics to analyse the results of this investigation

[12 marks]

Standardising the task for all P's – how can you ensure the instructions are always the same for each P? How would you check whether people understood the instructions? Are there other extraneous variables that might affect the difficulty of the task?

One methodological issue when sampling Participants – Why might some people be very good at this sort of task? How could you identify them? And what would you do about them?

Ethical considerations Which aspects of DRIPP will you consider and how you deal with these issues?

Descriptive stats (if year 1) / Inferential Statistics (if year 2)

Year 1 - Descriptive – Which measure of central tendency would you use and why?

Year 2 - Inferential test – Which test would be appropriate – (level of measurement, related/unrelated data/ and test of diff or relationship?)

OBSERVATION: MOBILE PHONE USE IN PUBLIC

Design a naturalistic observation study to investigate mobile phone use in a public place.

In your answer, you should provide details of:

- Where and when you will conduct the observation and how you will sample behaviour
- Which behavioural categories you will use and how you will record the data
- Graphical representation of the data
- How you will deal with ethical issues

[12 marks]

Where and when you will conduct the observation and how will you sample behaviour? - will you be overt/covert, participant/non-participant, at what times will you observe from and to? Which public place will you go to? Event or time sampling?

Behavioural categories and how will data be recorded - State 3 specific behaviours you will look for, what materials will you need to record the behaviours – Draw an example of the sheet you would use. How will it work in practice – ref event/time sampling.

Graphical representation What kind of data have you collected? Which graph is the only suitable type? Sketch it.

Ethical issues Which **DRIPP** issues should you consider and how will you deal with them? Bear in mind that it is a **public space** and therefore certain issues are not necessarily a problem.

OBSERVATION: DIFFERENCES IN NON-VERBAL BEHAVIOUR

Design a controlled observation to investigate differences in non-verbal behaviour (e.g. body language and gestures) of experts and non-experts who are required to give a presentation to an audience.

In your answer you should provide details of:

- The task for the participants and how you will decide who is an expert and who is not an expert
- Which behavioural categories you will use and how will you record the data
- How the reliability of data might be established
- Ethical issues to be considered

[12 marks]

The task for the participants and how you will decide who is an expert and who is not an expert? What will the presentation be on? How long will it be? How will you ensure the presentation is the same for each participant? Who will the experts be and non-experts be? (Experts should be familiar with the content in the presentation – remember you are a sixth form student!)

Behavioural categories and how will data be recorded - State 3 specific behaviours you will look for, what materials will you need to record the behaviours – Draw an example of the sheet you would use. How will it work in practice – ref event/time sampling.

How reliability will be established (year 2 Research methods) Outline how inter-observer reliability assessed. What would the 2 observers do? How would you find out how related the two observers scores are – what are you looking for?

Ethical issues Which **DRIPP** issues should you consider and how will you deal with them?

OBSERVATION: HEALTHY BREAKFAST

An experienced primary school teacher believes that children who eat 'a healthy breakfast' learn to read more quickly and are better behaved than children who eat an unhealthy breakfast. Imagine that you have been asked to design an observational study to see whether eating a healthy breakfast affects behaviour in the playground.

Include in your answer sufficient detail to allow reasonable replication of the study. You must provide details of:

- The directional hypothesis that you intend to test and how you will operationalise the Independent Variable (IV)
- Which behavioural categories you will use and how you will record the data
- How you will increase the validity of your observations
- How you will deal with ethical issues

[12 marks]

Directional Hypothesis (state both conditions of the IV and the impact this will have on the DV (think what better behaved actually looks like – what examples of 'good' behaviour might you see vs 'bad' behaviour.

Children who eat a healthy breakfast will...

Operationalising the IV What constitutes a healthy breakfast, give examples of healthy and non-healthy.

Behavioural categories and how will data be recorded - State 3 specific behaviours you will look for perhaps easier to focus on the bad behaviours e.g. hitting, what materials will you need to record the behaviours – Draw an example of the sheet you would use. How will it work in practice ref time/event sampling? How will observers know which children have had which breakfast ?

How will you increase validity of your observations? Year 2 only - As above – how will you ensure observers know which child at which type of breakfast?... but this might lead to bias so how could you use a double-blind?

Ethical issues Which **DRIPP** issues should you consider and how will you deal with them?

CORRELATION: CAKE CONSUMPTION AND HAPPINESS

Design a study to investigate whether there is a correlation between cake consumption and levels of happiness in students.

You must refer to:

- Your target population, sample and sampling technique
- How you would operationalise the co-variables
- The control of at least one extraneous variable
- How you would present the data in a graph

[12 marks]

Target population, Sample and sampling technique Who is your target population? How old age? How many people do you want? Do you want all girls/boys? Do you want students from the same subjects or a variety? You are a sixth form student bear all of the above in mind when choosing a suitable sampling method and describe how will it work in practice?

Operationalising the co-variables

How will you score levels of happiness? How will you measure cake consumption? How will you gather the information for these two co-variables.

Controlling extraneous variables What individual differences might be a factor e.g. gender, or subjects studied how will you deal with this? How could you reduce the chances of students guessing the aims of your research at the stage of collecting your data?

How would you present data in a graph - What is the only type of graph you can use when you have co-variables? Sketch what it would look like. What are you looking for if there is a relationship between cake and happiness?

CORRELATIONAL STUDY: COFFEE CONSUMPTION AND MEMORY

Imagine that you have been asked to design a correlation study to see if there is a relationship between the number of cups of coffee students drink and their performance on a memory test. Discuss the following aspects of this investigation:

- How you would test memory and how would you ensure this was the same for all participants
- How you would operationalise the second co-variable and control at least one other extraneous variable (i.e. one not related to the test of memory)
- How you would deal with ethical issues
- How you would use inferential statistics to analyse the results of this investigation

[12 marks]

How would you test memory ? What memory task could you set (think to memory topic – word lists), how long would they have to learn the words, what distractor task would you use, how would you assess performance?

How would you standardise it for all P's? What needs to be kept the same for all P's, how will you ensure the instructions are the same for all P's?

How would you operationalise the second co-variable state the second co-variable? What period of time will you ask about with regards to coffee drunk?

How would you control another extraneous variable – other than coffee - What other factors might affect concentration? How can you control for this?

Ethical Issues Which issues of DRIPP will you need to consider and how will you deal with them? (don't discuss all of them)

How would you use inferential statistics (second year) Which test would be appropriate – (level of measurement, related/unrelated data/ and test of diff or relationship?)

SELF-REPORT: MEMORY IMPROVEMENT TECHNIQUES AND REVISION

Explain how you would carry out a self-report study using a questionnaire to investigate the effectiveness of memory improvement techniques used by students while revising.

You must refer to/provide details of:

- Your target population, sample and sampling technique
- Open and closed questions
- How you would assess the reliability of the questionnaire
- The use of a pilot study

[12 marks]

Target population, Sample and Sampling technique Who specifically are you targeting (Age)? Realistic Size of sample bear in mind it is a questionnaire, You are a student your P's are students which method is most appropriate and how will you actually do it?

Open Questions and Closed Questions. Why might closed questions be more likely to be answered than open Q's? What will this do to your response rate? Why might the data be more useful to you? Give at least 2 examples of closed Q's – don't just do yes/no.

How you would assess the reliability of the questionnaire – How would the test-re-test method work in practice and what would this allow you to see?

The use of a pilot study How many people would you test out your pilot questionnaire on? How could you find out if your p's understood the questions? What could you do based on what your test p's say? Perhaps give an example of potential problem that you could correct. e.g. confusing academic terminology.