

Psychology 2019 v1.3

Unit 1 sample assessment instrument

August 2018

Student experiment

This sample has been compiled by the QCAA to assist and support teachers in planning and developing assessment instruments for individual school settings.

Schools develop internal assessments for each senior subject, based on the learning described in Units 1 and 2 of the subject syllabus. Each unit objective must be assessed at least once.

Assessment objectives

This assessment instrument is used to determine student achievement in the following objectives:

2. apply understanding of the role of the brain, cognitive development, or human consciousness and sleep to modify experimental methodologies and process primary data
3. analyse experimental evidence about the role of the brain, cognitive development, or human consciousness and sleep
4. interpret experimental evidence about the role of the brain, cognitive development, or human consciousness and sleep
5. investigate the role of the brain, cognitive development, or human consciousness and sleep
6. evaluate experimental processes and conclusions about the role of the brain, cognitive development, or human consciousness and sleep
7. communicate understandings and experimental findings, arguments and conclusions about the role of the brain, cognitive development, or human consciousness and sleep.

Note: Objective 1 is not assessed in this instrument.

Subject	Psychology		
Technique	Student experiment		
Unit	Unit 1: Individual development		
Topic	Topic 3: Cognitive development Topic 4: Human consciousness and sleep		
Duration	10 hours class time		
Mode	Written	Length	1500–2000 words
Individual/ group	Group work with individual report	Other	—
Resources available	School library (online: internet and school intranet, databases, journals)		
Context			
<p>You have completed the following practicals in class:</p> <ul style="list-style-type: none"> • Mandatory practical: Use a correlational research design to conduct an investigation into the relationship between normal hours of sleep and one other variable (e.g. listening to music, food before bed, amount of exercise in the day, reading on electronic devices). • Suggested practical: Investigate research into the effect technology has had on the cognitive development of adolescents, and conduct a correlational study looking at the relationship between technology use and test performance. • Suggested practical: Use an experimental methodology to conduct an investigation into divided attention and memory, replicating the 1996 investigation by Fergus Craik et al. (1996). 			
Task			
<p>Modify (i.e. refine, extend or redirect) an experiment in order to address your own related hypothesis or question.</p> <p>You may use a practical performed in class, a related simulation, or another practical related to Unit 1 (as negotiated with your teacher) as the basis for your methodology and research question.</p>			
To complete this task, you must:			
<ul style="list-style-type: none"> • identify an experiment to modify* • develop a research question to be investigated* • research relevant background scientific information to inform the modification of the research question and methodology • conduct a risk assessment and account for risks in the methodology* • conduct the experiment* • collect sufficient and relevant qualitative and/or quantitative data to address the research question* • process and present the data appropriately • analyse the evidence to identify trends, patterns or relationships • analyse the evidence to identify uncertainty and the limitations • interpret the evidence to draw conclusion/s to the research question • evaluate the reliability and validity of the experimental process • suggest possible improvements and extensions to the experiment • communicate findings in an appropriate scientific genre, i.e. scientific report. <p>* The steps indicated with an asterisk above may be completed in groups. All other elements steps must be completed individually.</p>			

Stimulus
—
Checkpoints
<input type="checkbox"/> Term 2 Week 3: Select experiment and identify proposed modifications.
<input type="checkbox"/> Term 2 Week 4: Perform experiment and process data.
<input type="checkbox"/> Term 2 Week 6: Analyse and evaluate evidence.
<input type="checkbox"/> Term 2 Week 7: Submit draft.
<input type="checkbox"/> Term 2 Week 9: Submit final response.
Feedback
Authentication strategies
<ul style="list-style-type: none"> • The teacher will provide class time for task completion. • Students will provide documentation of their progress at indicated checkpoints. • The teacher will collect and annotate drafts. • Students will use plagiarism-detection software at submission of the response. • Students must acknowledge all sources. • The teacher will compare the responses of students who have worked together in groups.
Scaffolding
<p>The response must be presented using an appropriate scientific genre (i.e. scientific report) and contain:</p> <ul style="list-style-type: none"> • a research question • a rationale for the experiment • reference to the initial experiment and identification and justification of modifications to the methodology • raw and processed qualitative and/or quantitative data • analysis of the evidence • conclusion/s based on the interpretation of the evidence • an evaluation of the methodology and suggestions of improvements and extensions to the experiment • a reference list.

An example of how one of the practicals could be modified to develop a research question

Practical that will be modified: Use a correlational research design to conduct an investigation into the relationship between normal hours of sleep and one other variable (e.g. listening to music, food before bed, amount of exercise in the day, reading on electronic devices).

Research question: What is the relationship between listening to classical, pop, rap, country or heavy metal music and the time taken to fall asleep?

Developing the research question:

Steps	Details
Identify the independent variable to be investigated	Type of music
Identify the dependent variable	Time taken to fall asleep
Identify the methodology to be used	<ul style="list-style-type: none">• Using a repeated measures design, all participants will listen to a set playlist of either classical, pop, rap, country or heavy metal music over five consecutive nights.• Each playlist will run for approximately 15 minutes.• The type of music will be counterbalanced so that each participant will receive a unique order in which they are to listen to each genre of music.• Time to fall asleep will be recorded using a free sleep analysis application downloaded onto a smartphone.
Draft research questions	What is the relationship between music type and sleep?
Refine and focus the research question	What is the relationship between classical, pop, rap, country or heavy metal music and sleep?
Present research question to teacher for approval	What is the relationship between listening to classical, pop, rap, country or heavy metal music and the time taken to fall asleep?

Note: You cannot use this sample research question for your experiment.