OCR
Oxford Cambridge and RSA

GCE

Psychology

Unit **G541**: Psychological Investigations

Advanced Subsidiary GCE

Mark Scheme for June 2014

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

© OCR 2014

Annotations

Annotation	Meaning
	Blank Page – this annotation **must** be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response
AE	Attempts evaluation
BOD	Benefit of doubt
CONT	Context
	Cross
EVAL	Evaluation
	Extendable horizontal line
	Expandable horizontal wavy line
IRRL	Significant amount of material which doesn't answer the question
NAQ	Not answered question
	Tick
	Development of point
	Omission mark
	Unclear
RES	Good use of research/supporting evidence

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks
10 max</th><th>Guidance</th></tr>
<tr><td rowspan="8">1</td><td rowspan="8"></td><td rowspan="8"></td><td colspan="3">For full marks candidates must provide a detailed description of an appropriate procedure and evaluate it. Both must be in the context of the information outlined in the source material.</td><td rowspan="8">-Context = temptation, resistance, chocolate (or chocolate bar)

-Descriptions of experimental procedures that use observation techniques to collect / record the data are not creditworthy for the procedure part of the answer. However, some credit can be given to the evaluation part of the answer (see bands 1-2 and 3-4)

To be replicable the candidate should include who, what, when, where and how.

Major omissions include what, how and when.
The ‘what’ should include appropriate example(s) of the behaviours/behavioural categories for the procedure described. Where the use of a checklist/categories is referred to then more than one example is required.
However, if there is only one behaviour being observed (e.g. eats chocolate bar) this is sufficient to enable replication.

The ‘how’ can be either where the observer is situated or sampling technique of the behaviour (e.g. event or time sampling).

The ‘when’ must have duration of the observation period. Simply stating the day (e.g. Monday, or just the start time – e.g. 2pm) is not sufficient

Minor omissions include who and where. ‘Who’ could include the characteristics of the sample, sampling technique or sample size.

Please note that it is possible that some of the characteristics of the procedure could be indicated in the evaluation points.</td></tr>
<tr><td>Detailed description of procedure that would allow replication, and detailed evaluation in context (10 marks for two or more evaluation points in context)</td><td></td><td></td><td>9-10</td></tr>
<tr><td>Detailed description of procedure that is replicable, with attempt at evaluation (7 = attempt, 8 = detailed evaluation not in context, or attempt in context)</td><td>OR Attempt to describe procedure, but minor omissions make replication difficult, but detailed evaluation (7 marks if evaluation not in context)</td><td></td><td>7-8</td></tr>
<tr><td>Description of procedure that is replicable, but no evaluation</td><td>OR Attempt to describe procedure, but minor omissions make replication difficult. Attempt at evaluation</td><td></td><td>5-6</td></tr>
<tr><td>Attempt to describe procedure, but minor omissions make replication difficult. No evaluation</td><td>OR Attempt to describe procedure, but not replicable (more than minor omissions) and attempt to evaluate (3 marks, or detailed evaluation = 4) whether in context or not</td><td>OR Detailed evaluation of experimental procedure that uses observation to collect / record the data (3 marks not in context, 4 in context)</td><td>3-4</td></tr>
<tr><td>Minimal information – attempt to describe procedure only – replication not possible</td><td>OR Attempt to evaluate a procedure that has not been described (i.e. attempted evaluation only)</td><td>OR attempted evaluation of experimental procedure that uses observation to collect / record the data (1 mark not in context, 2 in context)</td><td>1-2</td></tr>
<tr><td colspan="3">The candidate has not provided any creditworthy information</td><td>0</td></tr>
</table>

Question			Answer	Marks	Guidance
2			Time sampling involves making observations of people's behaviour for set lengths of time at set intervals, or at specifically identified times (e.g. every 2 minutes over a period of half-an-hour)	2 max	
			Clear explanation of what time sampling is	2	
			Attempt to explain what time sampling is	1	
			The candidate has not provided any creditworthy information	0	

Question			Answer	Marks	Guidance
3	a		Event sampling is when the observer(s) record specific occurrences of predetermined behaviours every time they occur continuously throughout the whole duration of the observation period.	2 max	-For full marks there must be reference to/acknowledgement of recording behaviour *every time* it happens -For full marks reference must be made to the recording of predetermined behavioural categories
			Clear explanation of what event sampling is	2	
			Attempt to explain what event sampling is	1	
			The candidate has not provided any creditworthy information	0	

Question			Answer		Marks	Guidance
3	b		Advantages could include: all behaviour is recorded, so could increase validity; more data is collected; less chance of behaviours of interest being missed		3 max	-Context = temptation, resistance, chocolate (or chocolate bar) -Cap at two marks if advantage is not specific / unique to event sampling (e.g. reference to quantifiable data, or reference to a structured observation in general) -Detailed' refers to some explanation as to why this is an advantage
			Clear and detailed outline of advantage that is in the context of the research outlined in the source material		3	
			Clear, brief outline of advantage that is in context of the research outlined in the source material	**OR** clear and detailed outline of advantage but not in the context of the research outlined in the source material	2	
			Attempt to outline advantage (whether in context or not)		1	
			The candidate has not provided any creditworthy information		0	

Question			Answer		Marks	Guidance
4			Disadvantages could include: quantitative data does not allow insights into the reasons why the children behaved as they did; could be less valid as insights into reasons behind the way the children behaved is not gained; only allows a tally of the predetermined behavioural categories to be recorded, which could lower validity		**3 max**	-Context = temptation, resistance, chocolate (or chocolate bar) -'Detailed' refers to some explanation as to why this is a disadvantage
			Clear and detailed outline of disadvantage that is in the context of the research outlined in the source material		**3**	
			Clear, brief outline of disadvantage that is in context of the research outlined in the source material	**OR** clear and detailed outline of disadvantage but not in the context of the research outlined in the source material	**2**	
			Attempt to outline disadvantage (whether in context or not)		**1**	
			The candidate has not provided any creditworthy information		**0**	

Question			Answer		Marks	Guidance
5	a		Median = 12 because it is the middle value when all the number of times the males reported hearing the song are arranged in numerical order		2 max	
			Median correctly stated with an acknowledgement of how it was calculated		2	
			Median correctly stated but no acknowledgement of how it was calculated	**OR** explanation of how the median is calculated without actually stating (correctly) what it is	1	
			The candidate has not provided any creditworthy information		0	

Question			Answer		Marks	Guidance
5	b		The median might be more appropriate because there are outliers that could make the calculation of the mean unrepresentative if used to work out the average		2 max	-Context = song, music or hearing something in head -Reference to a large range (on its own) as a reason to use the median is not creditworthy
			Clear description of why the median could be more appropriate in context		2	
			Clear description of why the median could be more appropriate, but not in context	**OR** attempt to description why the median could be more appropriate in context	1	
			The candidate has not provided any creditworthy information		0	

Question			Answer		Marks	Guidance
6			Improvements could include: increasing the sample size to make generalization of the findings better; increasing the age range to make it more representative; increasing the diversity of the sample, so they were not all students. 3 marks for each suggestion		**6 max**	-Context = song, music or hearing something in head -Reference to sampling method without mention of sample is not creditworthy. -For 2 marks or higher the suggested improvement must be clear regardless of the justification offered (e.g. just saying *'bigger/wider age range'* is not clear. However, specifying the age range – e.g. 16-30 – would be clear)
			Clearly justified suggestion of how sample could be improved in context		**3**	
			Clearly justified suggestion of how sample could be improved but not in context	**OR** Clear suggestion of how sample could be improved in context	**2**	
			Attempt to suggest how sample could be improved but lacks clarity/detail whether in context or not		**1**	
			The candidate has not provided any creditworthy information		**0**	

Question			Answer		Marks	Guidance
7			Strengths could include: affords greater insights into the reasons why people may keep hearing a song in their head once it has been played; allows participants to express their thoughts and feelings more openly. Weaknesses could include: participants may not be honest; potential problem of demand characteristics; qualitative data from open questions in self-reports can be difficult to analyse and summarize etc. 3 marks for strength, 3 marks for weakness		**6 max**	-Context = song, music or hearing something in head -'Detailed' refers to some explanation as to why this is a strength/weakness -Accept reference to either qualitative or quantitative data
			Clear and detailed outline of strength/weakness that is in the context of the research outlined in the source material		**3**	
			Clear, brief outline of strength/weakness that is in context of the research outlined in the source material	**OR** clear and detailed outline of strength/weakness but not in the context of the research outlined in the source material	**2**	
			Attempt to outline strength/weakness (whether in context or not)		**1**	
			The candidate has not provided any creditworthy information		**0**	

Question			Answer	Marks	Guidance
8	a		An open question is one that does not restrict how respondents reply. For example, … *Why do you think you kept thinking of the song?*	2 max	-Context = song, music or hearing something in head
			Appropriate open question clearly outlined	2	
			Attempt to suggest an appropriate open question, but lacks some clarity	1	
			The candidate has not provided any creditworthy information	0	

Question			Answer	Marks	Guidance
8	b		A closed question is one that presents respondents a number of pre-determined response categories to select from when answering the question. For example, … *When were you most likely to hear the song in your head?* ❑ *When alone* ❑ *when with other people* ❑ *when on the bus* ❑ *when shopping* ❑ *when at work*	2 max	-Context = song, music or hearing something in head -Award zero marks if no response categories are provided – e.g. *did you find it difficult to stop thinking of the song?* -Accept rating scales for closed responses, but cap at one mark if ends of scale not labelled (so unclear what the numbers refer to) -If any closed response categories overlap cap at one mark (e.g. 0-5, 5-10 etc)
			Appropriate closed question clearly outlined	2	
			Attempt to suggest an appropriate closed question, but lacks some clarity	1	
			The candidate has not provided any creditworthy information	0	

Question			Answer		Marks	Guidance
9			For example …There will not be / is no difference in the number of times people yawn whilst seeing a person yawning in a film or just reading about someone yawning in a book. Any difference that is found is / will be due to chance.		**4 max**	-If both a null and an alternate hypothesis is presented and it is not made clear which is which then = zero -If reference to a *correlation*, or *relationship* at any point in the answer award zero -For 4 marks each variable must be operationalized (e.g. for IV reference to seeing teacher yawn in a film or reading the word 'yawn' in a book)
			The candidate has written a clearly stated appropriate null hypothesis referring to both the IV and DV		**4**	
			The candidate has written a null hypothesis referring to both the IV and DV, but there is a lack of clarity about one of the variables or both	**OR** both the IV and DV clearly referred to but a general lack of clarity of the way the null hypothesis is stated	**3**	
			The candidate has written an appropriate null hypothesis but has only referred to one variable (IV or DV)		**2**	
			The candidate has written an appropriate null hypothesis but has simply stated 'there will not be / is not a difference'. There is no indication of either the IV or the DV, or the reference to the IV or DV is incorrect		**1**	
			The candidate has not provided any creditworthy information		**0**	

Question			Answer	Marks	Guidance
10	a		The experimental design used is a 'repeated measures design' (RMD)	2 max	-Also accept the term 'within subjects design'.
			Experimental design clearly identified	2	
			Attempt to identify the experimental design (e.g. simply saying 'repeated')	1	-Simply stating 'lab expt = zero
			The candidate has not provided any creditworthy information	0	-Simply stating 'same subjects design' = 1 -Simply saying RMD = 1 -Only naming design is required (description, instead of naming e.g. *using same pps* = zero)

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td rowspan="8">10</td><td rowspan="8">b</td><td rowspan="8"></td><td colspan="3">The alternative experimental design can be either independent measures design or matched-subjects (matched-pairs) design</td><td>6 max</td><td rowspan="8">-Context = yawn, yawning, film or book (or passage/extract)

-The alternative experimental design describe must still be related to how the same research (effect of seeing some yawn vs just reading about it) could be conducted.

-Just naming an alternative design (e.g. just saying use independent measures design) is not a description (not even an ‘attempt’ to describe)

-Descriptions of matched pairs subjects design must include some details about the technique(s) used to match the participants on at least one of the variables they are to be matched on. For example, if participants are to be matched on ‘sleeping habits’, simply saying this could be done using information obtained from a self-report</td></tr>
<tr><td colspan="3">Clear description and evaluation of how an alternative experimental design could be used in context (only one evaluation issue in detail is needed)</td><td>6</td></tr>
<tr><td>Clear description of how an alternative experimental design could be used in context and an attempt at evaluation of the use of this design (5 marks if attempt at evaluation in context)</td><td>OR attempt to describe the alternative design and clear evaluation of how an alternative experimental design could be used in context (5 marks if attempt to evaluate alternative design in context)</td><td>OR clear description of the alternative design and clear evaluation but not in context (5 marks if one in context)</td><td>4-5</td></tr>
<tr><td>Clear description of how an alternative experimental design could be used in context</td><td>OR clear evaluation of how an alternative experimental design could be used in context</td><td>OR attempt to describe and evaluate how an alternative experimental design could be used in context</td><td>3</td></tr>
<tr><td>General attempt to describe and evaluate how an alternative experimental design could be used</td><td>OR clear description only of an alternative design not in context</td><td>OR clear evaluation only of an alternative design not in context</td><td>2</td></tr>
<tr><td colspan="2">General attempt to describe how an alternative experimental design could be used only (in context or not)</td><td>OR General attempt to evaluate the use of an alternative experimental design that has not been described</td><td>1</td></tr>
<tr><td colspan="3">The candidate has not provided any creditworthy information</td><td>0</td></tr>
</table>

Question			Answer		Marks	Guidance
11	a		The independent variable has been operationalized by having participants see someone yawning in a film or reading the word yawn in a passage from a book.		2 max	-For one mark there may be reference to both manipulations of the IV, but it is unclear (e.g. *the independent variable has been operationalized by the film and the extract*). Or simply stating *…thinking about yawning or seeing someone yawn* -Reference to '*yawning'* as the IV is incorrect as this is the DV, not the IV -If there is reference to both IV and DV award zero
			Clear description of how the independent variable has been operationalized by reference to <u>both</u> of the manipulations involved (i.e. seeing someone yawn in a film, and reading the word 'yawn' in book passage)		2	
			Clear description of how the independent variable has been operationalized by reference to <u>one</u> of the manipulations involved (i.e. seeing someone yawn in a film, or reading the word 'yawn' in book passage)	**OR** attempt to describe how the independent variable has been operationalized by reference to <u>both</u> of the manipulations involved (one may be clear the other unclear)	1	
			The candidate has not provided any creditworthy information		0	

<table>
<tr><th colspan="3">Question</th><th colspan="4">Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td rowspan="6">11</td><td rowspan="6">b</td><td rowspan="6"></td><td colspan="4">Evaluation comments could include reference to: reliability and/or validity; ecological validity; practicality; demand characteristics; standardization features; replicability or any other appropriate evaluation issues.

More specifically, comments about reliability could include: standardized way exposure to yawning was conveyed (same film for everyone, and set reading from same passage in same book); same film and extract from book used throughout enabling replication; some participants may not read the passage in the same way (e.g. may not concentrate as much as another person).

Comments about validity could include: The yawn featured in the film may not be as spontaneous and natural as one witnessed in real life; if some participants did not actually read the passage (and key word ‘yawn’) this would not be a true (valid) way of investigating the effect of reading the word yawning; some participants may not be looking at the person in the film when they yawn (so not a valid way of investigating the effect of seeing someone yawn.</td><td>6 max</td><td rowspan="6">-Context = yawn, yawning, film or book (or passage/extract)

-Evaluative comments must relate to the independent variable and not the dependent variable

-Evaluation points referring to just one manipulation of the IV (i.e. either the film or book extract) are acceptable

-Evaluation comments can be positive and/or negative

-Accept reference to reliability and validity of the way the IV has been operationalized, but also other, more general evaluative comments

-Do not credit comments relating to the general use of the laboratory experimental method (without explicitly relating it to the IV), or experimental design (e.g. order effects)</td></tr>
<tr><td colspan="4">Clear and detailed evaluation of how the independent variable has been operationalized with reference to two or more points in context</td><td>6</td></tr>
<tr><td>Two evaluation points – one attempt, one clear (4 marks if one context)</td><td>OR Clear and detailed evaluation of how the independent variable has been operationalized with reference to two or more points but not in context (5 marks if one point in context)</td><td>OR Attempt to evaluate how the independent variable has been operationalized with reference to two points in context = 4 marks</td><td>4-5</td></tr>
<tr><td colspan="2">Clear and detailed evaluation of how the independent variable has been operationalized with reference to one point but not in context (3 marks if context)</td><td colspan="2">OR Attempt to evaluate how the independent variable has been operationalized with reference to one point in context</td><td>2-3</td></tr>
<tr><td colspan="4">Brief, unclear attempt to evaluate how the independent variable has been operationalized</td><td>1</td></tr>
<tr><td colspan="4">The candidate has not provided any creditworthy information</td><td>0</td></tr>
</table>

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning
Telephone: 01223 553998
Facsimile: 01223 552627
Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553

© OCR 2014

PART OF THE CAMBRIDGE ASSESSMENT GROUP

LLOYD'S REGISTER QUALITY ASSURANCE · ISO9001 · UKAS MANAGEMENT SYSTEMS 001