



GENERAL COMMENTS

Students' performance on the November 2005 paper was generally comparable with 2004 and previous years, despite the slight change in format. As in the June examination, it appeared that students continued to have some difficulty interpreting questions and answering precisely. In two areas of study, the mean score on the Multiple-choice section was higher than the mean score on the equivalent Short-answer section. As in previous years, this tended to be as a result of imprecise or incomplete answers in the Short-answer section.

In contrast to 2004, the 'Learning' section yielded the highest average score in the Short-answer section (65%), followed by 'Research Methods' (41%) and 'Memory' (39%). In the Multiple-choice section, the mean scores for Memory (76%) and 'Learning' (75%) were very similar.

Students are advised that they should attempt all questions in the Multiple-choice section, even if they are unsure of the answer. Where a question is skipped or left for later, students must ensure that they continue to mark their responses on the answer sheet on the correct line for each question. Where answers are shaded on the incorrect line, marks cannot be awarded. Students are reminded that they are not penalised marks for incorrect answers in the Multiple-choice section, so they should have a 'best guess' and record an answer for all questions.

Marking Policy

In general a two-mark question requires two pieces of information: one mark is given for each part and answers that fail to address both parts **cannot** achieve full marks. In this examination this applied, for example, to Question 5 in Area of Study 1, and Question 2 in Area of Study 2.

Where a question requires the definition of a term, the use of that term (or its derivatives) as part of its own definition precludes assessors awarding full marks for that response. Clearly such a response would not show full understanding. This related to Question 4 in Area of Study 1.

This examination contained several questions in which students were required to highlight similarities or differences. Students should indicate where the similarity or difference lies; for example in Question 4, Area of Study 1 a useful structure for the response would be: 'A similarity is that both involve...A difference is that...But in contrast...'

This examination contained several questions in which students were required to answer with respect to a certain theory or context; for example, 'Pavlov's original experiments' (Question 2, Area of Study 2). In such questions students must be careful to follow the instructions.

Section A – Multiple-choice questions

Although this section of the examination was different in structure from previous years, the individual questions were identical in nature to those used in previous years and the new format caused no difficulty for students.

Few questions were found to cause difficulty – those that did are highlighted in the comments below.

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	% No Answer	Comments
Area of Study 1 – Memory						
1	92	6	1	1	0	
2	91	4	2	3	0	
3	2	96	2	1	0	
4	76	15	9	1	0	
5	2	3	90	5	0	
6	2	12	24	61	1	'Working Memory' was new to the Study Design and some students were unclear about the functions of the three accepted components: the phonological loop, the visuo-spatial sketchpad and the central executive.

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Question	% A	% B	% C	% D	% No Answer	Comments
7	1	1	2	96	0	
8	10	83	3	3	0	
9	40	9	39	12	0	40% of students chose the incorrect option A – ‘semantic memory’, probably because of a failure to understand the implications of the terminology in the question. ‘Semantic’ was not correct because the question specifically stated, ‘John’s ability to recall where his seat is when he returns from the toilet relies mainly on his’.
10	21	75	2	2	0	The large percentage of students who chose the incorrect option A again shows the importance of reading the question carefully – the statement in A is entirely correct, but it does not relate to semantic network theory as required by the question.
11	3	3	93	1	0	
12	22	1	3	74	0	
13	70	27	2	1	0	
14	27	70	1	1	0	In both Questions 13 and 14, 27% of students confused proactive and retroactive interference. Proactive interference involves earlier learning inhibiting learning and retrieval on a later occasion; it is the past influencing the future.
15	3	93	2	2	0	
16	13	6	10	71	0	
17	21	1	1	76	0	
18	4	72	5	18	0	Research shows that there is little or no change in recognition ability in a healthy elderly person.
19	42	3	54	1	0	The organic decay that causes dementia, which is not uncommon in elderly people, is eliminated as a possible answer here because Mrs Cunningham is described as a ‘fit and healthy’ lady.
20	14	9	4	73	0	Procedural memories appear to be most resistant to decline in elderly people. It is the episodic aspect of declarative memory that is most subject to decline.
21	6	3	14	76	0	
22	50	9	31	10	0	Students who chose option C apparently fixated on the figure ‘0.05’, and failed to recognise the significance of the inequality sign – in this case, ‘greater than’.
Area of Study 2 – Learning						
23	4	2	12	81	0	
24	91	6	1	2	0	
25	92	1	3	4	0	
26	36	4	55	5	0	In this scenario, the light switch is the neutral stimulus – later to become the conditioned stimulus.
27	72	11	8	9	0	
28	2	85	7	6	0	
29	5	0	91	3	0	
30	4	3	92	1	0	
31	2	89	3	5	0	
32	13	2	9	75	0	
33	81	4	7	8	0	



Question	% A	% B	% C	% D	% No Answer	Comments
34	63	7	16	14	0	Incorrect responses were mainly spread among options C and D. The findings, supported by later research, were that continuous reinforcement (reinforcement of every response) leads to most rapid acquisition – though this is also the schedule least resistant to extinction.
35	46	21	23	10	0	Both ‘variable interval’ and ‘variable ratio’ schedules of reinforcement are more resistant to extinction than ‘fixed interval’ and ‘fixed ratio’ schedules.
36	3	3	23	71	0	‘Punishment’ always weakens a response, whereas ‘negative reinforcement’ always strengthens a response.
37	9	5	70	16	0	
38	12	2	1	84	0	
39	0	1	12	86	0	
40	12	3	84	1	0	
41	9	3	3	84	0	
42	15	10	69	7	0	
43	90	4	4	1	0	
44	6	79	14	2	0	

Section B – Short-answer questions

Area of Study 1 – Memory

For the first time, students found this Area of Study to be the most difficult of the three. The average score was 39 per cent for the Short-answer section.

Question 1

Marks	0	1	2	Average
%	20	28	52	1.3

Differences include:

- the difference in terms of stages of processing – the sensory memory stage occurs before short-term memory
- the difference in terms of duration – sensory memory is of much shorter duration (0.3 seconds for iconic or three to four seconds for echoic) than short-term memory (18 to 20 seconds)
- the difference in capacity – sensory memory has a larger capacity (virtually unlimited) than short-term memory (which is seven plus or minus two items)
- if material is attended to it cannot remain in sensory memory – material in short-term memory can be consciously manipulated or ‘worked’, whereas material in sensory memory cannot
- energy/material in sensory memory is in unprocessed form, whereas material in short-term memory has been processed
- people have a conscious awareness of the material in short-term memory, whereas material in sensory memory has not reached conscious awareness.

Question 2a.

Marks	0	1	Average
%	22	78	0.8

The essential feature of maintenance rehearsal is repetition without adding meaning or linking to material in the semantic network. For example, simply looking at each photo in a serial fashion and repeating the name of child—either vocally or silently—while looking at the photo, and repeating this process over and over.

Question 2b.

Marks	0	1	Average
%	27	73	0.7

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Elaborative rehearsal is memorising by linking new material with established material in the long-term memory. Procedures could include:

- method of loci, if the children sit regularly in the same seat
- associate a characteristic of each child with their name; for example, 'Tall Tania', 'Happy Harry'.

A description of any elaborative technique was acceptable, including the use of mnemonics.

Answers to parts a. and b. had to relate to the example, which described photos of each child holding up their names on pieces of paper. Many students suggested systems such as 'writing the children's names on the back of the photograph and doing a "look – cover – check" system'. This was not correct.

Question 3a.

Marks	0	1	Average
%	72	28	0.3

Information is forgotten because of the gradual loss of a physical (biological/bio-chemical, etc.) memory trace; it is a reversal/dissolution of the change made when the memory was formed (consolidated).

Many students simply indicated that the '... memory faded because it is not revisited over time', which was not a full explanation. Students needed to explain that it is this lack of revision that then enables the memory trace – a physiological change in the brain chemistry – to disappear.

Question 3b.

Marks	0	1	2	Average
%	59	18	22	0.7

Criticisms include:

- decay theory does not explain why some unused memories fade whereas other unused memories can be recovered, given the right cues
- decay theory depends on the theoretical notion of the memory trace, which has yet to be established scientifically
- decay theory cannot explain why older people, particularly those suffering from dementia, fail to remember recent events, but have vivid memories of events long past.

Question 4

Marks	0	1	2	Average
%	24	38	38	1.2

In retrieval failure theory, forgetting occurs because you cannot access the appropriate cues, whereas interference theory argues that material cannot be recalled because memories for other material prevent access to the material that you are attempting to recall (retro-active interference) or memories may not be efficiently stored because of the presence of previously learned material (pro-active interference).

Many students fell into the trap of merely rephrasing the question in their answer, without explaining the meaning of 'retrieval failure' or 'interference'.

Question 5

Marks	0	1	2	3	Average
%	38	25	27	10	1.1

Method of loci involves:

- linking the material to be learned to established places that can be easily recalled from the long-term memory (for example, locations in your house, landmarks on your way from home to school) or points on an easily imagined scene or figure (for example, the Roman Forum, the back of your hand).
- visualising images of the items to be remembered and each of the loci
- recalling the items by mentally moving through the established loci in serial order, so that the images cue recall of the items

The technique is best for recalling lists of items (in a particular order).

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Key points that needed to be made were:

- places or locations (in sequence)
- visualisation and linking (it was not enough to just say 'associate' – association could also refer to narrative chaining)
- recalling lists of items/series of items/items you can visualise.

This question was generally poorly answered. Many students appeared to think that the method of loci is a means of remembering places rather than a method of using familiar places as cues to assist recall.

Question 6a.

Marks	0	1	Average
%	26	74	0.8

Students needed to identify the following:

- the population is primary school children
- the independent variable is teaching with the Allan technique or not
- the dependent variable is memory ability.

Good answers also provided an operational definition of 'memory ability'.

Question 6b.

Marks	0	1	Average
%	45	55	0.6

With adult university students, Professor Allen would not be required to obtain informed consent from the parents or guardians of the participants, which she would be required to do with the student participants at the primary school. Instead, she would be required to obtain informed consent from the adult participants directly.

Area of Study 2 – Learning

For the first time, students found this Area of Study to be the most accessible of the three, with an average score of 65 per cent.

Question 1

Marks	0	1	Average
%	40	60	0.6

The behavioural response to the unconditioned stimulus or conditioned stimulus occurs automatically; the respondent is not required to make an active effort in responding

Any statement that said 'the learner is not active in the learning process' gained a mark for this question. The question was moderately well answered.

Question 2

Marks	0	1	2	Average
%	50	34	16	0.7

After the dog has been conditioned to salivate at the sound of the bell, the bell being the conditioned stimulus (CS), extinction occurs after repeated exposure to the CS without the unconditioned stimulus (UCS), the food. That is, the dog fails to produce the conditioned response (CR), salivating, upon presentation of the CS alone without the UCS. After a time gap, the CS is presented again, without the presentation of the UCS, but the CR (salivation) occurs. We say that it has spontaneously recovered; the CR re-occurs after it has been previously extinguished.

Students were required to provide an appropriate description of the re-appearance of an extinguished response after a rest period. Students were expected to refer to dogs as the subjects and salivation as the conditioned response, but may have referred to any appropriate stimulus as the conditioned stimulus (a bell, buzzer, metronome, tuning fork or light – all of which were used) and any appropriate unconditioned stimulus (food, meat, meat-powder, etc.).

Many students appeared to be unfamiliar with Pavlov's experiments and many confused Pavlov with Watson and described conditioning Albert B. to fear a white rat. This question was poorly answered.

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Question 3a.

Marks	0	1	Average
%	43	57	

The child's tantrums are positively reinforced.

Question 3b.

Marks	0	1	Average
%	21	79	

Because the temper tantrums have been positively reinforced they are likely to occur with increased frequency or intensity when the child is in a similar situation.

Question 3c.

Marks	0	1	Average
%	26	74	

Negative reinforcement – their behaviour results in the removal of a noxious or aversive stimulus.

Question 3d.

Marks	0	1	Average
%	75	25	

stimulus generalisations/discrimination

Both of the above terms were allowed, due to the similarities among the three locations specified (public places) and the differences (noisy or quiet locations). However, this question was still poorly answered.

Question 3e.

Marks	0	1	2	Average
%	21	33	46	

Possible answers included:

- punishment – delivering some form of aversive, unpleasant stimulus in response to the behaviour
- extinction – simply ignoring the child, therefore not providing any form of positive reinforcement
- token economy
- positive reinforcement
- negative reinforcement
- shaping
- method of successive approximations
- modelling.

Any correctly named and described strategy was acceptable.

Question 4

Marks	0	1	2	Average
%	10	24	66	

Possible answers included:

- whether the model was reinforced for the behaviour
- whether the model received neither reinforcement nor punishment for the behaviour
- whether the model was punished for the behaviour
- the amount of attention that you pay to the model
- your ability to remember what the model did (retention)
- your ability to reproduce the modelled behaviour (reproduction)
- the amount of motivation that you have to repeat a task
- the characteristics of the model, such as attractiveness and trustworthiness
- the capabilities of the model
- your admiration for the model, their status and their power.

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Question 5

Marks	0	1	2	Average
%	7	25	68	1.6

Possible answers included:

- voluntary participation
- violation of confidentiality
- no withdrawal rights
- fully informed consent – if Little Albert’s mother gave consent (but it is unlikely that it was the informed consent that we would demand today)
- beneficence – no physical or psychological harm to be caused to participants (that is, the harm caused to Little Albert outweighs the benefit of the knowledge obtained)
- integrity
- justice
- counselling/extinction of the fear response
- debriefing – there is no evidence that Watson debriefed Little Albert’s parents.

This question was generally well answered.

Question 6

Marks	0	1	Average
%	23	77	0.8

Either of the following answers was acceptable.

- Natalie may be able to learn shooting in basketball quickly because of her past experience (by positive transfer).
- Natalie’s experience with netball rules (for example, no running, bouncing and dribbling, and restrictions on court access) may hinder her performance in the basketball match.

Area of Study 3 – Research Investigation

This section included a comprehension component. Students were required to apply psychological principles and demonstrate an understanding of those principles using the research described as the basis for all responses. Many students lost marks because they provided generic answers and failed to relate their answers to the scenario given.

Common errors that showed misinterpretations of the scenario given included statements such as:

- the reading group was ‘reading aloud’ to the class
- the population consisted of all VCE Psychology students/all students/all people/all Year 12 students/female VCE students
- there were 46 students in each group
- comprehension test (rather than ‘comprehensive’ test)
- the results were statistically significant.

Question 1

Marks	0	1	Average
%	59	41	0.4

- It is testing a hypothesis under controlled conditions to explore the effect of an independent variable on a dependent variable.
- Participants are randomly assigned to the levels of the independent variable.
- The levels of the independent variable are directly manipulated/controlled by the investigator.
- The dependent variable is clearly operationalised.
- There is an experimental and a control group.

Question 2

Marks	0	1	Average
%	74	26	0.3

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Because it is a true experiment. The only thing differing between the control and experimental groups is the manipulation of the levels of the independent variable; therefore, any difference in the dependent variable between the two groups is causally attributed to the manipulation of the independent variable.

Students needed to indicate that the experimental design enables a judgement to be made that a change in the dependent variable will be the result of a change in the independent variable.

Question 3

Marks	0	1	Average
%	29	71	

VCE students who act out a passage from a novel will learn the passage better than students who read and repeat the novel to themselves.

Students needed to identify the following:

- the population is VCE students (or VCE psychology students)
- the independent variable is the dichotomy, acting out or reading
- the dependent variable is learning of a passage
- the dependent variable is operationalised as a score on the comprehensive test.

Question 4a.

Marks	0	1	Average
%	48	52	

The method of learning the passage – acting out or reading to themselves.

Question 4b.

Marks	0	1	Average
%	37	63	

Learning a passage from a novel or scores on the comprehensive test related to the learning of the passage.

Question 5

Marks	0	1	2	Average
%	43	23	34	

Either of the following methods was correct.

- Matched participants design, where participants are matched according to variables whose influence should be controlled (for example, memory ability, intelligence and reading ability). The advantage of this design is that some control is gained over the influence of extraneous variables in the research.
- Repeated measures design, in which all participants are required to learn two passages – one using the acting out method and one using the quiet reading method. Advantages of this method would be the need for fewer participants and control over extraneous participant variables.

'Single-blind design' and 'double-blind design' were not acceptable, since either of these may be applied to any of the three research design methods identified in the Study Design.

Question 6

Marks	0	1	2	Average
%	12	38	50	

Possible answers included:

- voluntary participation
- informed consent
- no deception
- debriefing
- no lasting harm
- respect the rights of the individual participant
- protect the welfare of participants
- withdrawal rights
- of benefit to society

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- researcher should have a suitable level of experience and skill.

Many students gave debriefing as the ethical consideration, but appeared unsure of the exact procedures involved in this process. Debriefing essentially:

- provides an opportunity for participants to obtain appropriate information about the nature, results and conclusions of the research
- corrects mistaken attitudes and beliefs about the research
- anticipates the subsequent effects of research participation and provides information on services available to alleviate unnecessary distress that may arise from the participation.

Question 7a.

Marks	0	1	Average
%	96	4	0.1

None, because these are descriptive statistics.

This question was very poorly answered. It is clear that students did not understand the limitations of descriptive statistics.

Question 7b.

Marks	0	1	2	Average
%	69	11	20	0.5

Any valid descriptive statistic, statistical calculation or graphical representation was accepted. These included:

- standard deviation – shows the variability between groups
- mode – shows the most common score in each group
- median – shows the middle number/mid-point for each group, not the middle score
- percentile difference – shows the percentage difference between Groups 1 and 2
- frequency distribution – shows a comparison of the ‘shape’ of distribution for each group

Kurtosis, skewness, variance and range (total or interquartile) were also accepted if appropriately described.

Question 8

Marks	0	1	Average
%	71	29	0.3

Because $p > 0.05$, the difference between the groups is not statistically significant. Therefore, she cannot draw any statistical conclusion.

Many students suggested that she would conclude that the difference was probably due to chance alone – this is incorrect and shows a lack of understanding of the concept of statistical significance at the five per cent level.

This question was poorly answered.

Question 9

Marks	0	1	2	Average
%	55	24	21	0.7

She cannot reach any firm conclusion about the population (all VCE students) because the sample is limited to only girls/psychology students/one school. Because her sample is not truly representative of the population of interest, she cannot reach any definitive conclusions.

This question demonstrated the importance of reading carefully and answering the question as it is set. The phrase ‘Based on her sampling method ...’ sets the parameters for the response to the question.

Question 10a.

Marks	0	1	2	Average
%	30	25	46	1.2

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Any viable extraneous variables were accepted, including:

- any participant variable; for example, the students' intelligence, memory ability, mood, motivation, past experience with that novel
- experimenter effects; for example, the researcher might treat the participants differently in the two groups because she has an expectation that one group will perform better than another
- situational variables; for example, the physical environment in which the acting out or quiet reading took place.

Experimenter effects could influence the result because if Rhonda believed that the acting-out group would achieve a better understanding, then her grading of the comprehensive test may be biased in favour of those students.

Question 10b.

Marks	0	1	Average
%	45	55	0.6

Any appropriate method of controlling the influence of an extraneous variable was acceptable, providing there was a direct match between the source of the error described in the previous part of this question and the method of control.

For example:

- an answer to the previous question that highlighted students' memory ability should have suggested matching participants on memory ability in matched participants design, or using a repeated measures design as an appropriate control
- an answer that highlighted experimenter bias could have described a method such as using people other than the researcher to interact with both groups of students
- an answer that highlighted situational variables should have suggested making the situation consistent and appropriate for both groups.