Psychology

2009 ASSESSMENT REPORT

Science Learning Area

Government of South Australia

SACE Board of SA

PSYCHOLOGY

2009 ASSESSMENT REPORT

GENERAL COMMENTS

This is the sixth year in which Psychology has been assessed as a SACE subject. The enrolment numbers increased from about 2100 in 2008 to almost 2700 in 2009. The mean score for the examination was 51.2%. The table below provides information for the last three years.

Year	Enrolment Numbers	Examination Mean (%)
2009	2672	51.2
2008	2096	58.4
2007	1996	55.5

ASSESSMENT COMPONENT 1: COLLABORATIVE INVESTIGATION, AND ASSESSMENT COMPONENT 2: INDIVIDUAL INVESTIGATION

These two assessment components were centrally moderated according to the SACE Board's requirements, policies and procedures. Schools submitted the specified samples of both types of student investigations from all grade bands, as per the Science Learning Area Manual. This helped the moderation panel understand how teachers had directed their students to construct their investigation reports and the marking standard. Moderation helps to ensure fairness to students and to provide the wider community with reliable information about student performance.

Small groups of moderators reviewed the samples. Membership of the groups was changed on a regular basis so that the standards set during the training period were maintained.

Teacher judgements were confirmed in approximately two-thirds of the classes. In general, teachers are providing accurate guidance as the class conducts the research programs, gathers data, writes proposals for using data, and writes reports.

Approximately one-third of the classes had some adjustment as a result of the moderation process. Where this resulted in the marks being lowered, it was usually as a result of overgenerous marking within the A and B grade bands.

Where the marks of classes were increased, it was usually the result of overly zealous marking of students in or below the C grade band.

Both quantitative and qualitative investigation reports were seen, with the latter usually having the data presented after content analysis. In general, Stage 2 levels of scientific literacy were evident. The two criteria for judging performance for which students had most difficulty in providing responses were *interpretation* and *evaluation* of their investigations.

Teachers should be aware of the following.

- Students should be encouraged to base their investigations on a simple research question/hypothesis, but one that reflects a Stage 2 level of complexity and is relevant to the collected class data. Students who presented multiple hypotheses or overly complex research questions found it difficult to produce an adequate interpretation and evaluation within the word count.
- Some students presented investigations by combining both quantitative and qualitative data. Teachers must provide feedback early in the process to ensure that proposals cover only a sub-section of the class data; in particular, either a subset of the quantitative or the qualitative data but not both.
- Some teachers used self-made marks schemes that, in some cases, did not direct students towards addressing the criteria for judging performance at the global level. This generally led to overly generous marking and a resultant downward shift at moderation.
- Students need to adhere to the word limit of 1500 words. Teachers should manage this at the draft stage. As indicated in the curriculum statement, words in excess of 1500 will not be considered as part of the investigation report.

Students should be aware of the following.

- The purpose of the investigation report is to explore scientific research methods and ethical considerations in the context of a Stage 2 assessment. As such, it is not considered important that students do information searches on their chosen topic. References to outside sources should be kept to a minimum (e.g. definitions of key terms from psychology texts), and extensive book and Internet research is not desirable.
- The investigation report should not include a lengthy and detailed description of methods used in the research program. The method is provided by the SACE Board.
- Data selection and analysis must be relevant and appropriate to the research question/hypothesis. Producing multiple graphs of irrelevant data does not result in higher marks and often causes a reduction.
- Graphing raw quantitative data so that participant ID numbers are on the X-axis and raw scores on the Y-axis is not considered analysis of data.
- Content analysis tables should only include a few responses which illustrate the theme they represent. It is not desirable to submit all responses in the finished table. Similarly, it is preferable to look for a limited number of themes in the data. To produce a long list a themes with 2-3 responses per theme shows an inability on the student's part to find commonality between responses. Themes should become a natural response to the research question itself. Themes such as "positive" and "negative" may be used if appropriate to divide the data initially, and then more detailed sub-themes should be found within these groupings.
- Describing and interpreting data are two different skills. The former may be achieved by presentation of the data in tabular and/or graphical form, with or without some written comments (e.g. 'The mean score for Group A is not significantly different from the mean score for Group B'). Interpretation, on the other hand, requires students to provide some meaning and context for the data, particularly in relation to the research question/hypothesis. For example, if one mean score is not significantly different from another, what conclusions may be drawn in relation to the research question/hypothesis? What effect did the sample have on the nature of the data collected?
- In order to fulfil the criteria for judging performance, students must relate their discussions to the particular research program they have undertaken. That is, they

It is advised that:

- proposals must be attached to the investigation report
- teachers should read and refer to Conducting Collaborative and Individual Investigations in the support materials section of the SACE Board website (www.sace.sa.edu.au)
- teachers should use the Marks Sheet and Student Record Sheet for Supervision and Verification, both available in the Science Learning Area Manual and the forms section of the SACE Board website
- teachers are encouraged to join the online forum for Psychology on the SACE Board website in order to make connections with other teachers and receive up-to-date information
- new teachers should seek clarification and advice early in the year by contacting the Curriculum Services Officer.

ASSESSMENT COMPONENT 4: EXAMINATION

The examination is composed of two sections: short-answer questions worth 80 marks and extended-response questions worth 40 marks. For the first time, the examination was presented in two booklets to assist the marking process and this change did not cause any noticeable difficulty for students.

The examination was divided under the six topic headings, some in combination, and also includes questions on ethical issues and the four levels of explanation of behaviour used in psychology.

The average marks for each topic, ethics and four levels are shown in the following table.

Topic	Average marks
Introduction to Psychology	56.03
Social Cognition	52.47
Learning	62.47
Personality	42.79
Psychobiology of Altered States of Awareness	55.68
Healthy Minds	46.38
Ethical issues	46.27
Four levels of explanation of behaviour	34.58

Average marks in Introduction to Psychology could be improved if students had a better understanding of qualitative investigation designs. Personality seems to be a topic where students have difficulty discriminating between the three basic conceptions i.e. psychodynamic, humanistic, and trait.

The Healthy Minds topic shows a low average, reflecting the general lack of understanding that students have of the four levels of explanation of behaviour and

how they apply to different parts of the curriculum or may be applied to scenarios. Questions based on straight content from Healthy Minds bring out competent answers, but students found it difficult to apply that knowledge within the framework of the four levels of explanation.

Ethical issues seem to be very poorly understood by students. Questions relating to ethical research bring out answers centred on well understood concepts such as informed consent and striving to 'do no harm' to participants. When questions relate to ethical issues in the application of psychological principles the answers tend to falter. For example, Question 16 which related to ethical issues in assessing personality showed one of the lowest means in the examination because students tended to frame their answers according to the ethical principles of research rather than application.

SECTION A: SHORT-ANSWER QUESTIONS

In general, 2 marks are allocated for one well-expressed idea or piece of information. Other questions require an explanation for 4 marks. Therefore, in order to obtain full marks, students must supply two relevant and connected pieces of information. Students need to be mindful not to use the wording of the question as if it was an answer in itself.

Generally, students were able to demonstrate their knowledge using appropriate psychological terminology. The examiners aimed to produce short-answer questions that varied in difficulty from those that required straightforward, easily reproduced knowledge through to those that required skills of critical understanding, problem-solving, and/or application of psychological principles. No changes were made to the curriculum statement in 2009. However, it was evident from some responses that students were not familiar with particular aspects of the curriculum.

Students often lost marks by not understanding the verb used in the question; for example, the difference between *state, describe,* and *explain*. Further to this, students sometimes gave generic answers, where the question asked for a response directly related to the information provided in a scenario. Where questions are divided into parts, students sometimes did not see the connectedness of the parts and their relevance to the opening scenario. Students need to avoid writing irrelevant information which may render their answer incorrect.

Students who performed best provided clear and concise answers, directly related to the scenario. The number of lines provided for the answer gives an approximate guide to the average length of response required. Students cannot lose marks for the volume of their response, but it may be useful for them to practise giving answers within the lines given on past exam papers.

It is recommended that these issues are addressed during the teaching program so that students have a greater variety of examination answering techniques at their disposal.

The mean mark for each question in Section A is shown in the table below.

Question	Mean Mark	Maximum Mark	Mean (%)
1	1.24	2	62.20
2	1.25	2	62.52
3	2.41	4	60.28
4	1.46	4	36.51
5	1.17	4	29.31
6	1.14	2	56.83
7	1.69	2	84.58
8	1.47	2	73.73
9	5.09	8	63.68
10	2.61	4	65.14
11	2.03	4	50.65
12	1.18	2	59.15
13	3.49	8	43.62
14	1.58	4	39.58
15	3.12	6	52.06
16	0.72	2	35.91
17	1.35	2	67.46
18	2.13	4	53.14
19	1.99	4	49.87
20	0.79	2	39.60
21	1.23	4	30.84
22	1.52	2	75.94
23	0.67	2	33.29
Section A totals	41.33	80	53.3

Question 1
This question asked students to identify focus groups as an example of qualitative investigation design. No marks were awarded at one out of two; students either answered correctly or did not receive the full 2 marks. This type of simple question highlights the importance of students knowing their terminology and being able to recognise concepts within examination materials. The most common error was to add terminology which rendered the answer incorrect, i.e. “experimental qualitative design”.

Question 2
Advantages of experimental designs are well understood by students. Difficulty occurred in answers where students seemed to offer rote-learned material which was not relevant to experimental designs. Another common mistake was to state a disadvantage without *describing* it.

Question 3
Understanding the difference between objective and subjective data gave rise to the most correct answers in part (a) with heart rates being one of the most common.

Likert scales are subjective and this was the most common incorrect answer. No penalty was given in marks for part (b) to students who gave an incorrect response in part (a) but went on to correctly identify a related reliability issue. Some students identified reasons why an objective measure is more suitable for the study, rather than its reliability.

Question 4
Delphi technique appears to be a very poorly understood part of the curriculum, with many students only able to offer very minimal information on how the technique could be used. Students were often able to provide one piece of information about the Delphi technique, but not two. With four marks allocated to the question, students needed to offer two individual but connected pieces of information for full marks. The least well understood concept was the idea that Delphi technique involves questionnaires being sent over the course of two or more iterations to fine tune the data coming in. Many students described a single survey going out to a panel of experts. Even further from this, some students described a kind of focus group to produce data or strayed into describing advantages and disadvantages of the technique.

Question 5
As with Question 4, it was evident that students either do not know what content analysis is or do not fully understand the process involved. For example, many students talked about coding without any explanation of what it is. Terminology was poorly used, for example ‘categories’ used in place of ‘themes’. This question was very commonly left blank indicating a lack of knowledge about content analysis. It had the lowest mean score for the examination.

Question 6
In this question, students needed to discuss the relative merits of using a median over a mean in a distribution with a pronounced outlier. Many students were able to do this and quite clearly understood the difference between the two measures. Other students used the strategy of defining the terms mean and median which was not required to answer the question and did not get to the point of *explaining* why the median was a better measure in this example. This shows how students need specific instruction on the difference between the lead verbs used to frame examination style question and how to most effectively respond to them.

Question 7
This question on the limitations of using a sample of zoo baboons gave rise to the highest mean of all questions in the examination with most students able to confidently express a limitation from the cues provided in the question.

Question 8
Questions 8 to 12 dealt with the Learning topic. Question 8 asked students to describe the aim of punishment. Although most students answered this question well and it gained one of the highest question means in the exam, marks were generally lost by students for poor expression. This particularly concerned mixing up the concept of reinforcement or adding additional information which was incorrect.

Question 9
This question on classical conditioning required precise answers to show that students understood how association occurred in the example on eating contaminated chicken. Expression and correct use of terminology are critical in this area of the curriculum as it was common for students to add information which lost marks or omit information which would have gained extra marks.

Question 10
Systematic desensitisation was generally well described by most students. Those who had difficulty in scoring full marks were unable to find two distinct but connected pieces of information to describe the process. Occasionally, students mentioned CBT or other forms of therapy in their answers.

Question 11
A large number of students used ethical issues from research on humans as the basis for this question on ethical use of animals in research. Many students tried to use concepts such as informed consent, not realising how this is actually not relevant in the case of animals. Correct answers mostly used the concept of not harming animals. Many students were unable to use a suitable example to illustrate their answer.

Question 12
Factors that affect observational learning seem generally well understood, with attention, retention, reproduction, motivation and the characteristics of the models all used equally. Some students became confused in their answers and strayed into issues concerning the ethics of exposing children to aggression.

Question 13
The first Personality question in the exam dealt with the trait conception of personality and weaknesses of it. Students who answered correctly chose Eysenck, Big 5, Cattell or Allport for the basis of their answer. Some students overlooked the trait part of the question and created answers based on humanistic or psychodynamic conceptions. Students gained marks in the full spectrum of zero to six, showing that some students struggle to find 3 distinct ideas with which to describe a larger concept. Most commonly, the weaknesses mentioned were the inability to describe changes in personality over time or situation.

Question 14
Although students seem to recognise the different characteristics of different conceptions of personality, the incorrect answers to this question stemmed from a lack of understanding of how to address the question. “Discuss one difference...” called for students to explore one concept that illustrated a distinction between the two conceptions. Most often students created answers that simply stated one characteristic of psychodynamic and one characteristic of humanistic without convincingly writing about how this illustrated a difference between the two conceptions.

Question 15
This question gave a brief biography of Barack Obama and asked for a humanistic conception to describe his personality. Most students used Maslow. However, many were unable to effectively incorporate Obama’s information into their answer. Rogers was also used and students were able to apply his conception of personality to Obama. Theory only was awarded half marks as the question required the application of theory to the scenario given.

Question 16
Students seem well aware of ethical issues in human research but continue to find it difficult to make their answers relevant in terms of application, in this case, using behavioural observations and not research. Some students incorrectly answered the question by using issues to do with the validity of behavioural observations to assess personality without linking it to an ethical issue.

Question 17
Many students used the sleep/wake cycle as an example of a circadian rhythm and referred to the notion of a 24-hour biological cycle. Some answers to this question simply stated an example without describing it.

Question 18
Students were able to read arousal levels off the graph and relate to the time of day. Some students made incorrect conclusions on the level of arousal needed for optimum performance of likely tasks at that time.

Question 19
As with Question 18, students seemed competent at reading graphs and correctly describing data from graphical illustrations. The area which caused difficulty was in linking this information with psychological principles and coming to a reasoned conclusion. Students who gained three or four marks were able to identify issues such as reduced performance at work or traffic accidents as likely social issues arising from adult sleep deprivation.

Question 20
The most common correct answers described negative thinking styles, catastrophising or self-defeating thoughts while other students discussed learning theory and thus developing a very sophisticated answer. Occasionally students described a factor more suited to the biological or sociocultural level of explanation.

Question 21
Questions that require students to explain a concept in Psychology are, by their nature, at a higher level and require sophistication of thinking rather than more straight forward “describe” or “state” type questions. Students need to consider the question carefully before composing answers. In this case students needed to explain behaviours that stem from anxiety at the sociocultural level and not how sociocultural forces create anxiety. Correct answers included the stigma of mental illness causing an anxious person to avoid social situations or concepts from social comparison or impression management.

Question 22
This question on coping strategies was well answered with popular answers being social support, exercise, meditation, or relaxation.

Question 23
The *person* level of explanation of behaviour appears to be a particularly difficult area for students. Some students used the sociocultural level instead or were able to state a protective factor without describing it.

SECTION B: EXTENDED-RESPONSE QUESTIONS
Each extended-response question was marked out of 20, with 16 marks allocated for content (each well-expressed idea or piece of information worth 2 marks) and 4 marks for communication. Question 21 had four content parts, each of which was marked out of 4. Question 22 was constructed around two content parts from different topics in the curriculum statement, each worth 8 marks.

The following factors were taken into account when a communication mark was awarded:

Was the answer clear and well expressed?
Was the answer well organised?
Was the answer relevant to the question?

In general, students produced well-structured responses of an appropriate length. As a general observation, it is the use of everyday language rather than psychological terminology which leads to inaccurate answers.

Question 24

Responses to this question from the Social Cognition topic varied in quality, with a mean of 10.5 marks, or 52.5%. The variation in marks for the question very closely followed the variation in marks for the examination as a whole.

A number of students achieved half marks in the two sections for failure to link the concepts discussed in their answer to a campaign. Other students used concepts which would not be relevant or even possible given the nature of the scenario.

Most students realised that they needed to discuss two factors or two ways in each dot point.

Dot point one saw students effectively use concepts such as source, message, and audience. Some used direct experience but failed to show how a campaign could integrate some level of direct experience for the audience. A common error was to discuss how the prior direct experiences of the teenager affected their attitude with no reference to the campaign at all.

Dot point two was more frequently well answered than dot point one, with two of: lateral, upward, and downward social comparisons the most common basis for answers.

Question 25

Responses to this question combined knowledge from two topics: Psychobiology of Altered States of Awareness and Healthy Minds. They varied in quality, with a mean of 10.5 marks, or 52.2%. The variation in marks for the question very closely followed the variation in marks for the examination as a whole.

In dot point one, students needed to apply knowledge from the biological determinants of stress, for example, the general adaption syndrome or more simply, the fight-flight response. Some students overlooked this straightforward information in favour of longer term concerns with cancer and heart attacks. These answers were not considered relevant to the health of Year 12 students.

Dot point two was most commonly answered using cognitive behaviour therapy; however, many students could not construct a full enough answer to achieve 4 marks. Answers tended toward the superficial.

In the third dot point, students had little trouble talking about factors that influence resilience with answers from the sociocultural level of explanation being the most common.

In dot point four, students discussed ethics well, but some blended more than one ethical issue and therefore did not give a clear answer. Other students confused ethics with issues to do with validity and reliability.

Students should be aware of the importance of using the correct psychological terminology in the Healthy Minds topic. It often appears that students rely on everyday language and experience to answer questions in this topic and neglect to display the full extent of their learning at Stage 2 level.

Chief Assessor
Psychology