

Psychology

Victorian Certificate of Education Study Design

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Latoya BARTON
The sunset (detail)
from a series of twenty-four
9.0 x 9.0 cm each, oil on board



Tarkan ERTURK
Visage (detail)
201.0 x 170.0 cm
synthetic polymer paint, on cotton duck



Liana RASCHILLA
Teapot from the *Crazy Alice* set
19.0 x 22.0 x 22.0 cm
earthenware, clear glaze, lustres



Nigel BROWN
Untitled physics (detail)
90.0 x 440.0 x 70.0 cm
composition board, steel, loudspeakers,
CD player, amplifier, glass



Kate WOOLLEY
Sarah (detail)
76.0 x 101.5 cm, oil on canvas



Chris ELLIS
Tranquility (detail)
35.0 x 22.5 cm
gelatin silver photograph



Christian HART
Within without (detail)
digital film, 6 minutes



Kristian LUCAS
Me, myself, I and you (detail)
56.0 x 102.0 cm
oil on canvas



Merryn ALLEN
Japanese illusions (detail)
centre back: 74.0 cm, waist (flat): 42.0 cm
polyester cotton



Ping (Irene VINCENT)
Boxes (detail)
colour photograph



James ATKINS
Light cascades (detail)
three works, 32.0 x 32.0 x 5.0 cm each
glass, fluorescent light, metal



Tim JOINER
14 seconds (detail)
digital film, 1.30 minutes



Lucy McNAMARA
Precariously (detail)
156.0 x 61.0 x 61.0 cm
painted wood, oil paint, egg shells, glue, stainless steel wire

Accredited by the Victorian Registration and Qualifications Authority
Level 6, 35 Spring Street, Melbourne, Victoria 3000

Developed and published by the Victorian Curriculum and Assessment Authority
41 St Andrews Place, East Melbourne, Victoria 3002

This completely revised and accredited edition published 2009.

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Edited by Ruth Learner
Cover designed by Chris Waldron of BrandHouse
Desktop published by Julie Coleman

Psychology
ISBN 978-1-921264-73-3

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IMPORTANT INFORMATION

Accreditation period

Units 1–2: 2010–2014

Units 3–4: 2011–2014

The accreditation period for Units 1 and 2 commences on 1 January 2010.

The accreditation period for Units 3 and 4 commences on 1 January 2011.

Other sources of information

The *VCAA Bulletin VCE, VCAL and VET* is the only official source of changes to regulations and accredited studies. The *VCAA Bulletin VCE, VCAL and VET*, including supplements, also regularly includes advice on VCE studies. It is the responsibility of each VCE teacher to refer to each issue of the *VCAA Bulletin VCE, VCAL and VET*. The *VCAA Bulletin VCE, VCAL and VET* is sent in hard copy to all VCE providers. It is also available as an e-newsletter via free subscription on the Victorian Curriculum and Assessment Authority's website at www.vcaa.vic.edu.au

To assist teachers in assessing School-assessed Coursework in Units 3 and 4, the Victorian Curriculum and Assessment Authority publishes online an assessment handbook that includes advice on the assessment tasks and performance descriptors for assessment.

The current year's *VCE and VCAL Administrative Handbook* contains essential information on assessment processes and other procedures.

VCE providers

Throughout this study design the term 'school' is intended to include both schools and other VCE providers.

Photocopying

VCE schools only may photocopy parts of this study design for use by teachers.

Introduction

RATIONALE

Psychology is the scientific study of mental processes and behaviour in humans. Biological, behavioural, cognitive and socio-cultural perspectives inform the way psychologists approach their research into the human condition.

The science of psychology has produced rapid expansion in knowledge, particularly in the fields of neuroscience and cognition. This growth has been fuelled by the emergence of new interdisciplinary approaches, advances in imaging technologies and a broader public interest in applications of psychology. As a result, new ethical frameworks have emerged for neuroscientific and psychological research, clinical practice and commercial applications.

In the VCE study of Psychology, students explore complex human behaviours and thought processes. They develop empathetic understandings and an understanding of mental health issues in society. Students are given the opportunity to apply psychological principles to everyday situations such as workplace and social relations. Psychology provides students with a sophisticated framework for understanding the complex interactions between biological, behavioural, cognitive and socio-cultural factors that influence thought, emotions and behaviour. The study assists students to further develop effective language skills for communication, and numeracy skills for research, data analysis and other applications. In addition, students develop a range of broader skills including those of problem solving, critical evaluation and the application of processes of scientific inquiry.

The study of Psychology leads to opportunities in a range of careers that involve working with children, adults, families and communities in a variety of settings. These include academic and research institutions, management and human resources, and government, corporate and private enterprises. Fields of applied psychology include educational, environmental, forensic, health, sport and organisational psychology. Specialist fields of psychology include counselling and clinical contexts, as well as neuropsychology, social psychology and developmental psychology.

AIMS

This study is designed to enable students to:

- understand the historical development of psychology and the contemporary status of psychology as a field of study
- understand the ways that biological, behavioural, cognitive and socio-cultural perspectives are used to organise, analyse and extend knowledge in psychology
- understand, compare and evaluate psychological theories and concepts
- communicate psychological information, ideas and research findings
- understand the application of psychology in personal, social and organisational contexts
- critically examine psychological challenges that arise in their own environment and across their own lifespan, particularly in relation to personal development, good health, mental wellbeing, social interaction, communication and lifelong learning
- develop an inquiring and critical approach to alternative opinions and explanations
- develop the ability to use evidence to justify beliefs
- develop skills in scientific inquiry and investigation
- understand and apply ethical principles that govern the study and practice of psychology.

STRUCTURE

The study is made up of four units.

Unit 1: Introduction to psychology

Unit 2: Self and others

Unit 3: The conscious self

Unit 4: Brain, behaviour and experience

Each unit deals with specific content contained in areas of study and is designed to enable students to achieve a set of outcomes for that unit. Each outcome is described in terms of key knowledge and key skills.

ENTRY

There are no prerequisites for entry to Units 1, 2 and 3. Students must undertake Unit 3 prior to undertaking Unit 4. Units 1 to 4 are designed to a standard equivalent to the final two years of secondary education. All VCE studies are benchmarked against comparable national and international curriculum.

DURATION

Each unit involves at least 50 hours of scheduled classroom instruction.

CHANGES TO THE STUDY DESIGN

During its period of accreditation minor changes to the study will be announced in the *VCAA Bulletin VCE, VCAL and VET*. The *VCAA Bulletin VCE, VCAL and VET* is the only source of changes to regulations and accredited studies and it is the responsibility of each VCE teacher to monitor changes or advice about VCE studies published in the *VCAA Bulletin VCE, VCAL and VET*.

MONITORING FOR QUALITY

As part of ongoing monitoring and quality assurance, the Victorian Curriculum and Assessment Authority will periodically undertake an audit of VCE Psychology to ensure the study is being taught and assessed as accredited. The details of the audit procedures and requirements are published annually in the *VCE and VCAL Administrative Handbook*. Schools will be notified if they are required to submit material to be audited.

SAFETY AND WELLBEING

This study may include potentially sensitive topics. Teachers should ensure that students have opportunities to consider topics systematically and objectively, and to become aware of the diversity of views held on such matters. Students should not be asked to disclose personal information about their own or others' health status and behaviours nor should they feel compelled to volunteer this information.

When dealing with sensitive mental health matters, students should be specifically advised that they:

- should not necessarily interpret their own experiences as signs of pathology
- are not in a position to diagnose problems or offer any counselling or therapy.

In addition, students should be given information about sourcing available treatment services within and outside school.

As part of this study teachers and students consider different assessments of intelligence, including standardised psychological tests which are designed to be administered only by trained psychologists. Teachers must limit access to such tests and ensure that students understand that such tests are valid only if administered by a qualified psychologist.

ETHICAL CONDUCT OF EXPERIMENTAL INVESTIGATIONS

As part of this study teachers and students will be involved in teaching and learning activities that include experimental investigations using human subjects. Teachers and schools have a legal and moral responsibility to ensure that students follow ethical principles at all times when undertaking such investigations. Teachers should refer to the following documents for detailed advice:

- the National Statement on Ethical Conduct in Human Research (2007), issued by the National Health and Medical Research Council (NHMRC) in accordance with the *NHMRC Act 1992* (Cwlth), www.nhmrc.gov.au/publications/synopses/e72syn.htm
- the National Privacy Principles in the *Privacy Amendment (Private Sector) Act 2000* (Cwlth), www.privacy.gov.au/
- the Code of Ethics of the Australian Psychological Society (APS), www.psychology.org.au

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

In designing courses for this study teachers should incorporate information and communications technology (ICT) where appropriate and applicable to the teaching and learning activities.

EMPLOYABILITY SKILLS

This study offers a number of opportunities for students to develop employability skills. The ‘Advice for teachers’ section provides specific examples of how students can develop employability skills during learning activities and assessment tasks.

LEGISLATIVE COMPLIANCE

When collecting and using information, the provisions of privacy and copyright legislation, such as the Victorian *Information Privacy Act 2000* and *Health Records Act 2001*, and the federal *Privacy Act 1988* and *Copyright Act 1968*, must be met.

Assessment and reporting

SATISFACTORY COMPLETION

The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the set of outcomes specified for the unit. This decision will be based on the teacher's assessment of the student's performance on assessment tasks designated for the unit. Designated assessment tasks are provided in the details for each unit. The Victorian Curriculum and Assessment Authority publishes online an assessment handbook that includes advice on the assessment tasks and performance descriptors for assessment for Units 3 and 4.

Teachers must develop courses that provide opportunities for students to demonstrate achievement of outcomes. Examples of learning activities are provided in the 'Advice for teachers' section.

Schools will report a result for each unit to the Victorian Curriculum and Assessment Authority as S (Satisfactory) or N (Not Satisfactory).

Completion of a unit will be reported on the Statement of Results issued by the Victorian Curriculum and Assessment Authority as S (Satisfactory) or N (Not Satisfactory). Schools may report additional information on levels of achievement.

AUTHENTICATION

Work related to the outcomes of each unit will be accepted only if the teacher can attest that, to the best of their knowledge, all unacknowledged work is the student's own. Teachers need to refer to the current year's *VCE and VCAL Administrative Handbook* for authentication procedures.

LEVELS OF ACHIEVEMENT

Units 1 and 2

Procedures for the assessment of levels of achievement in Units 1 and 2 are a matter for school decision. Assessment of levels of achievement for these units will not be reported to the Victorian Curriculum and Assessment Authority. Schools may choose to report levels of achievement using grades, descriptive statements or other indicators.

Units 3 and 4

The Victorian Curriculum and Assessment Authority will supervise the assessment of all students undertaking Units 3 and 4.

In VCE Psychology the student's level of achievement will be determined by School-assessed Coursework, a mid-year examination and an end-of-year examination. The Victorian Curriculum and Assessment Authority will report the student's level of performance on each assessment component as a grade from A+ to E or UG (ungraded). To receive a study score, students must achieve two or more graded assessments and receive S for both Units 3 and 4. The study score is reported on a scale of 0–50; it is a measure of how well the student performed in relation to all others who took the study. Teachers should refer to the current year's *VCE and VCAL Administrative Handbook* for details on graded assessment and calculation of the study score. Percentage contributions to the study score in VCE Psychology are as follows:

- Unit 3 School-assessed Coursework: 17 per cent
- Unit 4 School-assessed Coursework: 17 per cent
- Mid-year examination: 33 per cent
- End-of-year examination: 33 per cent.

Details of the assessment program are described in the sections on Units 3 and 4 in this study design.

Units 1–4: Key skills

A set of key skills considered essential to Psychology apply across Units 1 to 4. In designing teaching and learning programs for each unit, teachers must ensure that students are given the opportunity to develop and apply these skills in a variety of contexts. A number of these key skills are linked to the research methodologies listed for each unit.

These skills include the ability to:

Investigate and inquire scientifically

- formulate research questions and construct testable hypotheses
- design and conduct investigations using experimental and non-experimental methods such as observation studies, case studies and correlation studies
- collect, record and summarise both quantitative and qualitative data
- analyse and interpret data, and draw conclusions consistent with the research question
- evaluate the validity and reliability of research investigations including potential confounding variables and sources of error and bias
- work independently and collaboratively as appropriate and within identified research constraints
- adhere to current occupational health and safety codes and ethical guidelines for conducting psychological investigations.

Apply psychological understandings

- use research literature to demonstrate how psychological concepts and theories have developed over time
- process and interpret information, and make connections between psychological concepts and theories
- apply understandings to both familiar and new contexts
- evaluate the validity and reliability of psychology-related information and opinions presented in the public domain
- analyse issues relating to and implications of scientific and technological developments relevant to psychology.

Communicate psychological information and understandings

- communicate psychological information, ideas and research findings accurately and effectively
- use communication methods suitable for different audiences and purposes
- use scientific language, conventions and referencing of information sources appropriate to the medium of communication.

Unit 1: Introduction to psychology

In this unit students are introduced to the development of psychology from its philosophical beginnings to a scientific study of the human mind and behaviour. Students explore the scope of psychology, its specialist disciplines such as neuropsychology, cognitive, social and human developmental psychology, and its fields of application. Students consider influences on perception and human behaviour from biological, behavioural, cognitive and socio-cultural perspectives. They examine the contribution classic and contemporary studies have made to the development of different psychological theories used to predict and explain the human mind, and behaviours associated with particular stages of development over a lifespan.

Students analyse research methodologies associated with classic and contemporary theories, studies and models, consider ethical issues associated with the conduct of research and the use of findings, and apply appropriate research methods when undertaking their own investigations.

The research methodologies and ethical principles considered in this unit are:

- experimental research: construction of hypotheses; identification of independent, dependent and extraneous variables
- sampling procedures in selection of participants: random sampling; stratified sampling
- techniques of qualitative and quantitative data collection: case studies; observational studies; surveys; questionnaires; interviews; rating scales; longitudinal, cross-sectional, twin and adoption studies
- statistics: calculation of percentages; construction of tables, bar charts, histograms, pie charts, line graphs and frequency polygons; generalisation of findings to other populations (external validity)
- ethical principles and professional conduct: the role of the experimenter; protection and security of participants' rights; confidentiality; voluntary participation; withdrawal rights; informed consent procedures; use of deception in research; debriefing; use of animals in research; role of ethics committees.

AREA OF STUDY 1

What is psychology?

Who am I? What is the relationship between my mind and my brain? Why do I behave as I do? Why do I perceive things the way I do? These are some of the questions which have driven the development of psychology since its philosophical beginnings to its present status as a scientific field of study.

In this area of study students analyse the contribution that classic and contemporary theories have made to the development of psychology. They are introduced to the scope of psychology – its specialised fields of study and its application in a variety of contexts and settings. Students investigate aspects of visual perception to consider how psychologists approach the study of the mind and human behaviour from biological, behavioural, cognitive and socio-cultural perspectives.

Outcome 1

On completion of this unit the student should be able to describe how research has informed different psychological perspectives used to explain human behaviour, and explain visual perception through these perspectives.

To achieve this outcome the student will draw on key knowledge outlined in Area of Study 1, key skills outlined on page 13 and research methodologies on page 14.

Key knowledge

This knowledge includes:

- scope of psychology including specialist career fields and fields of application and their contribution to understanding human behaviour
- classic and contemporary theories that have contributed to the development of psychology from philosophical beginnings to an empirical science, including the relationship between psychology and psychiatry
- differences between contemporary psychological research methods and non-scientific approaches to investigating and explaining human behaviour
- major perspectives (biological, behavioural, cognitive and socio-cultural) that govern how psychologists approach their research into human behaviour
- application of psychological perspectives to explain visual perception:
 - characteristics of the visual perceptual system and the visual processes involved in detecting and interpreting visual stimuli
 - the effect of psychological factors on perceptual set
 - distortions of visual perceptions by illusions
- research methods and ethics associated with the study of psychology.

AREA OF STUDY 2

Lifespan psychology

What makes me the person I am? Was I born this way? Will I stay this way? What will change as I age? These questions are integral to the study of lifespan psychology – the psychological development of an individual from infancy to old age, which includes the complex interaction of heredity and environment. This area of study focuses on changes in the interaction between biological, cognitive and socio-cultural influences and learned behaviours that contribute to an individual's psychological development and mental wellbeing at different stages.

Students consider how classic and contemporary studies contribute to our understanding of changes that take place across an individual's lifespan. They draw upon one of these theories to research one lifespan stage. They use the major perspectives in contemporary psychology to explain cognition and behaviours associated with particular stages of development, taking into account heredity and environmental influences.

Students apply appropriate methods of psychological research to their investigations into aspects of lifespan psychology, and explain associated ethical principles in the conduct and use of psychological research.

Outcome 2

On completion of this unit the student should be able to describe a range of psychological development theories and conduct an investigation into one stage in the lifespan of an individual.

To achieve this outcome the student will draw on key knowledge outlined in Area of Study 2, key skills outlined on page 13 and research methodologies on page 14.

Key knowledge

This knowledge includes:

- stages of the lifespan: infancy, childhood, adolescence, early adulthood, middle age and old age
- the interaction between heredity and environmental factors – ‘nature versus nurture’ – in influencing psychological development
- classic and contemporary theories that contribute to an explanation of psychological development including:
 - perceptual development: Eleanor Gibson’s work on infant perception
 - emotional development: John Bowlby and Mary Ainsworth’s work on attachment theory with reference to Harry Harlow’s work on attachment in monkeys
 - cognitive development: Jean Piaget’s four-stage theory
 - psycho-social development: Erik Erikson’s eight-stage theory
 - moral development: Lawrence Kohlberg’s six-stage theory
- the nature and incidence of mental illness in the population across the lifespan
- cognitive and psychosocial changes in the very old: successful ageing, as informed by Paul Baltes’ work
- research methods and ethics associated with the study of lifespan psychology.

ASSESSMENT

The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the set of outcomes specified for the unit. This decision will be based on the teacher’s assessment of the student’s overall performance on assessment tasks designated for the unit.

The key knowledge listed for each outcome and the key skills listed on page 13 should be used as a guide to course design and the development of learning activities. The key knowledge and key skills do not constitute a checklist and such an approach is not necessary or desirable for determining the achievement of outcomes. The elements of key knowledge and key skills should not be assessed separately.

Assessment tasks must be a part of the regular teaching and learning program and must not unduly add to the workload associated with that program. They must be completed mainly in class and within a limited timeframe. Teachers should select a variety of assessment tasks for their assessment program to reflect the key knowledge and key skills being assessed and to provide for different learning styles.

For this unit students are required to demonstrate achievement of two outcomes. As a set these outcomes encompass both areas of study.

Demonstration of achievement of Outcomes 1 and 2 must be based on the student's performance on a selection of assessment tasks. Where teachers allow students to choose between tasks they must ensure that the tasks they set are of comparable scope and demand.

Assessment tasks for this unit are selected from the following:

- research investigation
- annotated folio of practical activities
- media response
- oral presentation using two or more data types, for example still or moving images, written text, sound
- visual presentation, for example concept map, graphic organiser, poster
- test
- essay
- debate
- data analysis
- evaluation of research.

Unit 2: Self and others

A person's attitudes and behaviours affect the way they view themselves and the way they relate to others. Understanding what influences the formation of attitudes of individuals and behaviours of groups can inform and contribute to explanations of individual aggression or altruism, the positive and negative power of peer pressure and responses to group behaviour.

Differences between individuals can also be ascribed to differences in intelligence and personality, but conceptions of intelligence and personality and their methods of assessment are contested. Differences between individuals, groups and cultures can be analysed in varied ways through different psychological perspectives informed by both classic and contemporary theories.

In this unit students analyse research methodologies associated with classic and contemporary theories, studies and models, consider ethical issues associated with the conduct of research and the use of findings, and apply appropriate research methods when undertaking their own investigations.

The research methodologies and ethical principles considered in this unit are:

- experimental research: operational independent and dependent variables; identification of extraneous and potential confounding variables; identification of control and experimental groups; reporting conventions
- sampling procedures in selection and allocation of participants: random sampling; stratified sampling; random-stratified sampling; random allocation of participants to groups
- techniques of qualitative and quantitative data collection: observational studies; self-reports; surveys; questionnaires; interviews; rating scales; standardised and non-standardised tests
- statistics: measures of central tendency including mean, median and mode; spread of scores including standard deviation and variance; frequency distributions showing bimodal, normal and skew (positive and negative) distributions; scatter plots and correlation; reliability including test-retest, inter-rater, parallel forms and internal consistency; validity including content, criterion-related, construct and external;
- ethical principles and professional conduct: the role of the experimenter; protection and security of participants' rights; confidentiality; voluntary participation; withdrawal rights; informed consent procedures; use of deception in research; debriefing; use of animals in research; role of ethics committees.

AREA OF STUDY 1

Interpersonal and group behaviour

How does my behaviour affect others? How do others affect me? Why do some people seem to behave differently around different people? These questions are concerned with aspects of social psychology. This specialist field of study focuses on how behaviour and perceptions of self and others are shaped by social and cultural influences including the attitudes and behaviours of groups.

It is generally accepted that a key factor in the psychological wellbeing of individuals depends on the extent to which the need for affiliation is met – a sense of belonging and connectedness whether it be to family, a group, a school or workplace, or a wider community. Without this, individuals may experience alienation and isolation expressed in anti-social behaviours such as aggression and bullying. Understanding the interplay of factors that shape the behaviour of individuals and groups can help explain the cause and dynamics of prejudice, stereotyping and discrimination, and can contribute to changes in attitudes and behaviour. This insight can be extended towards understanding different patterns of behaviours sometimes evident in different cultures.

Students consider the findings of key classic and contemporary research as a means to explaining the formation of attitudes, and individual and group behaviour. They examine research methods appropriate to measuring attitudes and behaviours and consider associated ethical issues in the conduct and use of such research.

Outcome 1

On completion of this unit the student should be able to explain how attitudes are formed and changed and discuss the factors that affect the behaviour of individuals and groups.

To achieve this outcome the student will draw on key knowledge outlined in Area of Study 1, key skills outlined on page 13 and research methodologies on page 18.

Key knowledge

This knowledge includes:

- classic and contemporary theories and studies relating to the formation and change of attitudes, including the applications and limitations of the tri-component model of attitudes
- the interrelationship between attitudes, prejudice and discrimination:
 - factors contributing to the development of prejudice
 - factors which may reduce prejudice: inter-group contact (sustained contact, mutual interdependence, equality), cognitive interventions and super-ordinate goals
 - social and cultural grouping, stigma, stereotypes and prejudice: gender, race and age
- social influences on the individual:
 - effects of status and social power within groups, informed by researchers such as Philip Zimbardo
 - factors affecting obedience including social proximity, legitimacy of authority figures and group pressure, informed by researchers such as Stanley Milgram
 - factors affecting conformity, including normative influence and culture, informational influence, unanimity, group size, deindividuation and social loafing, informed by researchers such as Solomon Asch, and Peter Smith and Michael Bond
 - ways in which a group may influence others to change their behaviour including peer pressure, risk-taking behaviour

- pro- and anti-social behaviour of the individual:
 - characteristics of, and factors influencing, pro-social behaviour: situational (bystander intervention and effect), social norms-reciprocity principle; social responsibility norm; personal (empathy, mood, competence); altruism
 - characteristics of, and factors influencing, anti-social behaviour: diffusion of responsibility; audience inhibition; social influence; cost-benefit analysis
 - social learning theory, including the work of Albert Bandura
 - explanations of aggression from ethological, biological, psychodynamic and social learning perspectives
- research methods appropriate to the measurement of attitudes and behaviours
- the extent to which ethical principles are applied to research investigations into attitudes and behaviours.

AREA OF STUDY 2

Intelligence and personality

What makes me the unique person I am? Why isn't everyone else like me? What does being intelligent mean? Does everyone think like I do? Questions such as these prompt exploration of the attributes equated with intelligence, and the traits associated with personality.

In this area of study, students explore scientific ways of describing, measuring and classifying intelligence and personality. They analyse classic and contemporary theories of intelligence and personality, including the influence of genetic and environmental factors. They compare the research methods used in the development of these theories.

Students study aspects of psychological research and may apply these to their own investigations. They consider associated ethical issues including the use of standardised psychological tests.

Outcome 2

On completion of this unit the student should be able to compare different theories of intelligence and personality, and compare different methodologies used in the measurement of these.

To achieve this outcome the student will draw on key knowledge outlined in Area of Study 2, key skills outlined on page 13 and research methodologies on page 18.

Key knowledge

This knowledge includes:

- the concept of intelligence and factors that influence intelligence, including the interaction of genetic and environmental factors
- classic and contemporary approaches to describing intelligence, including:
 - Howard Gardner's theory of multiple intelligences
 - Robert Sternberg's triarchic theory of intelligence
 - Cattell-Horn-Carroll model of psychometric abilities
 - Peter Salovey and John Mayer's ability-based model of emotional intelligence
- strengths and limitations of scientific methodologies used to measure intelligence, including:
 - Intelligence Quotient (IQ)
 - Stanford-Binet test
 - Wechsler's intelligence scales

- the concept of personality, including characteristic patterns of thoughts, feelings and behaviours of an individual, and the influence of genetic and environment factors
- classic and contemporary theories of describing and classifying personality:
 - psychodynamic including the work of Sigmund Freud
 - trait theories including the work of Gordon Allport, Raymond Cattell (16 personality factor model), Hans Eysenck (PEN model), Paul Costa and Robert McCrae (NEO-PI/Five Factor model)
 - humanistic including the person-centred theory of Carl Rogers
- the use of personality and aptitude inventories in vocational selections and workplace settings:
 - Myers-Briggs Type Indicator (MBTI)
 - Holland's Self-Directed Search
- strengths and limitations of methodologies used to describe and classify personality, including the use of projective tests
- research methods and ethics associated with investigations into intelligence and personality.

ASSESSMENT

The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the set of outcomes specified for the unit. This decision will be based on the teacher's assessment of the student's overall performance on assessment tasks designated for the unit.

The key knowledge listed for each outcome and the key skills listed on page 13 should be used as a guide to course design and the development of learning activities. The key knowledge and key skills do not constitute a checklist and such an approach is not necessary or desirable for determining the achievement of outcomes. The elements of key knowledge and key skills should not be assessed separately.

Assessment tasks must be a part of the regular teaching and learning program and must not unduly add to the workload associated with that program. They must be completed mainly in class and within a limited timeframe. Teachers should select a variety of assessment tasks for their assessment program to reflect the key knowledge and key skills being assessed and to provide for different learning styles.

For this unit students are required to demonstrate achievement of two outcomes. As a set these outcomes encompass both areas of study.

Demonstration of achievement of Outcomes 1 and 2 must be based on the student's performance on a selection of assessment tasks. Where teachers allow students to choose between tasks they must ensure that the tasks they set are of comparable scope and demand.

Assessment tasks for this unit are selected from the following:

- research investigation
- annotated folio of practical activities
- media response
- oral presentation using two or more data types, for example still or moving images, written text, sound
- visual presentation, for example concept map, graphic organiser, poster
- test
- essay
- debate
- data analysis
- evaluation of research.

Unit 3: The conscious self

This unit focuses on the study of the relationship between the brain and the mind through examining the basis of consciousness, behaviour, cognition and memory.

Advances in brain research methods have opened new ways to understanding the relationship between mind, brain and behaviour. The limitations of traditionally invasive approaches in human research have given way to the use of non-invasive methods such as brain imaging technologies including positron emission tomography (PET), functional magnetic resonance imaging (fMRI) and more recently transcranial magnetic stimulation (TMS). Students study the structure and functioning of the human brain and nervous system, and explore the nature of consciousness and altered states of consciousness including sleep.

The brain continually receives and processes vast amounts of information from its internal and external environment. Memory involves the selective retention and retrieval of this information and it plays an important role in determining behaviour. Students consider the function of the nervous system in memory and investigate the ways in which information is processed, stored and utilised. They apply different theories of memory and forgetting to their everyday learning experiences.

Students analyse research methodologies associated with classic and contemporary theories, studies and models, consider ethical issues associated with the conduct of research and the use of findings, and apply appropriate research methods when undertaking their own investigations.

The research methodologies and ethical principles considered in this unit are:

- experimental research: construction of research hypotheses; identification of operational independent and dependent variables; identification of extraneous and potential confounding variables including individual participant differences, order effects, experimenter effect, placebo effects; ways of minimising confounding and extraneous variables including type of experiment, counterbalancing, single and double blind procedures, placebos; evaluation of different types of experimental research designs including independent-groups, matched-participants, repeated-measures; reporting conventions
- sampling procedures in selection and allocation of participants: random sampling; stratified sampling; random-stratified sampling; random allocation of participants to groups; control and experimental groups
- techniques of qualitative and quantitative data collection: case studies; observational studies; self-reports; questionnaires; interviews; brain imaging and recording technologies
- statistics: measures of central tendency including mean, median and mode; interpretation of p-values and conclusions; reliability including internal consistency; validity including construct and external; evaluation of research in terms of generalising the findings to the population

- ethical principles and professional conduct: the role of the experimenter; protection and security of participants' rights; confidentiality; voluntary participation; withdrawal rights; informed consent procedures; use of deception in research; debriefing; use of animals in research; role of ethics committees.

AREA OF STUDY 1

Mind, brain and body

Why do I think and feel the way I do? How does my brain work? What is the relationship between my brain and my mind? What happens when I sleep?

This area of study focuses on the role of the functioning brain and nervous system in relation to awareness of self, the environment and behaviour. Students explore the relationships between consciousness and thoughts, feelings and behaviour by comparing the characteristics of normal waking consciousness with altered states of consciousness. They examine how the understanding of consciousness and sleep patterns has been enhanced by developments in brain stimulation, recording and imaging technologies, and the expansion of knowledge in cognitive neuroscience.

Students explore the contribution that classic and contemporary research has made to this area of study and interpret behaviours and states of mind from psychological perspectives. They consider the ethical principles associated with the techniques used to investigate brain function and to measure states of consciousness. Students apply appropriate methods of psychological research and ethical principles to their own investigations.

Outcome 1

On completion of this unit the student should be able to explain the relationship between the brain, states of consciousness including sleep, and behaviour, and describe the contribution of selected studies and brain research methods to the investigation of brain function.

To achieve this outcome the student will draw on key knowledge outlined in Area of Study 1 and related key skills outlined on page 13 and research methodologies on page 22.

Key knowledge

This knowledge includes:

- consciousness as a psychological construct informed by the work of René Descartes and William James
- concepts of normal waking consciousness and altered states of consciousness, including daydreaming, meditative and alcohol-induced, in terms of levels of awareness, content limitations, controlled and automatic processes, perceptual and cognitive distortions, emotional awareness, self-control and time orientation
- sleep as an altered state of consciousness: purpose, characteristics and patterns of the stages of sleep including rapid eye movement (REM) and the non-rapid eye movement (NREM) stages of sleep
- methods used to study the level of alertness in normal waking consciousness and the stages of sleep:
 - measurement of physiological responses including electroencephalograph (EEG), electro-oculargraph (EOG), heart rate, body temperature and galvanic skin response (GSR)
 - the use of sleep laboratories, video monitoring and self reports

- the effects of total and partial sleep deprivation:
 - loss of REM and NREM sleep
 - sleep recovery patterns including amount of sleep required, REM rebound and microsleeps
 - sleep-wake cycle shifts during adolescence compared with child and adult sleep including delayed onset of sleep and need for sleep
- the interaction between cognitive processes of the brain and its structure including:
 - roles of the central nervous system, peripheral nervous system (somatic and autonomic), and autonomic nervous system (sympathetic and parasympathetic)
 - roles of the four lobes of the cerebral cortex in the control of motor, somatosensory, visual and auditory processing in humans; primary cortex and association areas
 - hemispheric specialisation: the cognitive and behavioural functions of the right and left hemispheres of the cerebral cortex, non-verbal versus verbal and analytical functions
 - the role of the reticular activating system in selective attention and wakefulness; role of the thalamus in directing attention and switching sensory input on and off
- contribution of studies to the investigation of cognitive processes of the brain and implications for the understanding of consciousness including:
 - studies of aphasia including Broca's aphasia and Wernicke's aphasia
 - spatial neglect caused by stroke or brain injury
 - split-brain studies including the work of Roger Sperry and Michael Gazzaniga
 - perceptual anomalies including motion after-effect, change blindness, synaesthesia
- the application and use of brain research methods in investigating the relationship between biological and cognitive factors of human behaviours including:
 - direct brain stimulation and transcranial magnetic stimulation (TMS)
 - brain recording and imaging techniques: computed tomography (CT), positron emission tomography (PET), single photon emission computed tomography (SPECT), magnetic resonance imaging (MRI), and functional magnetic resonance imaging (fMRI)
- research methods and ethical principles associated with the study of the brain and states of consciousness, as outlined in the introduction to the unit.

AREA OF STUDY 2

Memory

Why do I remember some things and forget others? How are memories formed? Can I improve my memory? These questions highlight the characteristics of memory as a cognitive process.

Memory is essential to our identity: it connects our past experiences to the present and shapes our future by enabling us to adapt to daily changes in our environment. Students investigate the retention of experiences and learning as memory and the factors that affect retention and recall of information. They study the neural basis of memory and the connectivity between brain areas to explain the complexity of memory, factors that affect memory and its decline over time, and the cause of forgetfulness. Students examine models that explain processes and types of memory, consider how to measure retention of memory and investigate techniques for improving and manipulating memory.

As they analyse and evaluate the contribution that classic and contemporary studies have made to this field of study, students consider the techniques used to gather data and the associated ethical implications. Students apply appropriate methods of psychological research and ethical principles when undertaking their own research investigations related to memory.

Outcome 2

On completion of this unit the student should be able to compare theories that explain the neural basis of memory and factors that affect its retention, and evaluate the effectiveness of techniques for improving and manipulating memory.

To achieve this outcome the student will draw on key knowledge outlined in Area of Study 2 and related key skills outlined on page 13 and research methodologies on page 22.

Key knowledge

This knowledge includes:

- mechanism of memory formation:
 - role of the neuron in memory formation informed by the work of E. Richard Kandel
 - roles of the hippocampus and temporal lobe
 - consolidation theory
 - memory decline over the lifespan
 - amnesia resulting from brain trauma and neurodegenerative diseases including dementia and Alzheimer’s disease
- comparison of models for explaining human memory:
 - Atkinson-Shiffrin’s multi-store model of memory including maintenance and elaborative rehearsal, serial position effect and chunking
 - Alan Baddeley and Graham Hitch’s model of working memory: central executive, phonological loop, visuo-spatial sketchpad, episodic buffer
 - levels of processing as informed by Fergus Craik and Robert Lockhart
 - organisation of long-term memory including declarative and episodic memory, and semantic network theory
- strengths and limitations of psychological theories of forgetting:
 - retrieval failure theory including tip-of-the-tongue phenomenon
 - interference theory
 - motivated forgetting as informed by the work of Sigmund Freud including repression and suppression
 - decay theory
- manipulation and improvement of memory:
 - forgetting curve as informed by the work of Hermann Ebbinghaus
 - measures of retention including the relative sensitivity of recall, recognition and relearning
 - use of context dependent cues and state dependent cues
 - mnemonic devices including acronyms, acrostics, peg-word method, narrative chaining and method of loci
 - effect of misleading questions on eye-witness testimonies including the reconstructive nature of memory informed by the work of Elizabeth Loftus
- research methods and ethical principles associated with the study of memory, as outlined in the introduction to the unit.

ASSESSMENT

The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the set of outcomes specified for the unit. This decision will be based on the teacher's assessment of the student's overall performance on assessment tasks designated for the unit. The Victorian Curriculum and Assessment Authority publishes online an assessment handbook for this study that includes advice on the assessment tasks and performance descriptors for assessment.

The key knowledge listed for each outcome and the set of key skills should be used as a guide to course design and the development of learning activities. The key knowledge and key skills do not constitute a checklist and such an approach is not necessary or desirable for determining the achievement of outcomes. The elements of key knowledge and key skills should not be assessed separately.

Assessment of levels of achievement

The student's level of achievement in Unit 3 will be determined by School-assessed Coursework and a mid-year examination.

Contribution to final assessment

School-assessed Coursework for Unit 3 will contribute 17 per cent.

The level of achievement for Unit 3 is also assessed by a mid-year examination, which will contribute 33 per cent.

School-assessed Coursework

Teachers will provide to the Victorian Curriculum and Assessment Authority a score representing an assessment of the student's level of achievement.

The score must be based on the teacher's rating of performance of each student on the tasks set out in the following table and in accordance with the assessment handbook published online by the Victorian Curriculum and Assessment Authority. The assessment handbook also includes advice on the assessment tasks and performance descriptors for assessment.

Assessment tasks must be a part of the regular teaching and learning program and must not unduly add to the workload associated with that program. They must be completed mainly in class and within a limited timeframe. Where optional assessment tasks are used, teachers must ensure that they are comparable in scope and demand. Teachers should select a variety of assessment tasks for their program to reflect the key knowledge and key skills being assessed and to provide for different learning styles.

Outcomes	Marks allocated*	Assessment tasks
		There are two pairs of assessment tasks. Pair A may be selected for either Outcome 1 or Outcome 2. Pair B must be utilised for the outcome not covered by Pair A.
<p>Outcome 1 Explain the relationship between the brain, states of consciousness including sleep, and behaviour, and describe the contribution of selected studies and brain research methods to the investigation of brain function.</p>	<p>Pair A</p> <p>30</p> <p>20</p>	<p>Report of a research investigation conducted by the student</p> <p>AND</p> <p>one other task selected from:</p> <ul style="list-style-type: none"> • data analysis • media response • test
<p>Outcome 2 Compare theories that explain the neural basis of memory and factors that affect its retention, and evaluate the effectiveness of techniques for improving and manipulating memory.</p>	<p>Pair B</p> <p>25</p> <p>25</p>	<p>Two tasks selected from:</p> <ul style="list-style-type: none"> • evaluation of research • data analysis • essay • media response • annotated folio of practical activities • oral presentation using two or more data types • test • visual presentation
Total marks	100	

*School-assessed Coursework for Unit 3 contributes 17 per cent.

Mid-year examination

Description

Both outcomes in Unit 3 will be examined. All of the key knowledge and key skills that underpin the outcomes in Unit 3 are examinable. The examination will be set by a panel appointed by the Victorian Curriculum and Assessment Authority.

Conditions

The examination will be completed under the following conditions:

- Duration: one and a half hours.
- Date: mid-year, on a date to be published annually by the Victorian Curriculum and Assessment Authority.
- Victorian Curriculum and Assessment Authority examination rules will apply. Details of these rules are published annually in the *VCE and VCAL Administrative Handbook*.
- The examination will be marked by a panel appointed by the Victorian Curriculum and Assessment Authority.

Contribution to final assessment

The examination will contribute 33 per cent.

Further advice

The Victorian Curriculum and Assessment Authority publishes specifications for all VCE examinations on the Victorian Curriculum and Assessment Authority website. Examination specifications include details about the sections of the examination, their weighting, the question format/s and any other essential information. The specifications are published in the first year of implementation of the revised Units 3 and 4 sequence together with any sample materials.

Unit 4: Brain, behaviour and experience

This unit focuses on the interrelationship between learning, the brain and its response to experiences, and behaviour. The overall quality of functioning of the brain depends on experience, and its plasticity means that different kinds of experience change and configure the brain in different ways. Students investigate learning as a mental process that leads to the acquisition of knowledge, development of new capacities and changed behaviours. Understanding the mechanisms of learning, the cognitive processes that affect readiness for learning, and how people learn informs both personal and social issues.

Students build on their conceptual understanding of learning to consider it as one of several important facets involved in a biopsychosocial approach to the analysis of mental health and illness. They consider different concepts of normality, and learn to differentiate between normal responses such as stress to external stimuli, and mental disorders. Students use a biopsychosocial framework – a conceptual model which includes psychological and social factors in addition to biological factors in understanding a person’s mental state – to explore the nature of stress, simple phobia and a selected mental disorder. The intent of the study is not that of diagnosis and treatment but to explore causes of mental illness, avenues of assistance and factors that promote mental wellbeing.

Students analyse research methodologies associated with classic and contemporary theories, studies and models, consider ethical issues associated with the conduct of research and the use of findings, and apply appropriate research methods when undertaking their own investigations.

The research methodologies and ethical principles considered in this unit include the research methodologies and ethical principles for Unit 3 (from page 22) in addition to:

- experimental research: identification and operationalisation of independent and dependent variables; identification of extraneous and potential confounding variables including artificiality, demand characteristics, and non-standardised instructions and procedures; ways of minimising confounding and extraneous variables including type of sampling procedures, and standardised instructions and procedures
- sampling procedures in selection and allocation of participants: convenience sampling
- ethical principles and professional conduct: advantages and limitations of the use of non-human animals in research in terms of generalisation and conclusions.

AREA OF STUDY 1

Learning

How do we learn? Why do some people learn faster than others? How important are role models in shaping behaviour?

This area of study explores the characteristics of learning as a process that plays a part in determining behaviour. Students study the neural basis of learning, and examine different types of learning: classical conditioning, operant conditioning, observational learning, one-trial learning, trial and error learning, insight learning and latent learning. Behaviour not dependent on learning is also explored.

As students analyse and evaluate the contribution that classic and contemporary studies have made to this field of study, they consider the techniques used to gather data and the associated ethical implications. Students apply appropriate methods of psychological research and ethical principles when undertaking their own research investigations.

Outcome 1

On completion of this unit the student should be able to explain the neural basis of learning, and compare and contrast different theories of learning and their applications.

To achieve this outcome the student will draw on key knowledge outlined in Area of Study 1 and related key skills outlined on page 13 and research methodologies on page 28.

Key knowledge

This knowledge includes:

- behaviours not dependent on learning including reflex action, fixed action patterns and behaviours due to physical growth and development (maturation)
- mechanisms of learning:
 - areas of the brain and neural pathways involved in learning, synapse formation, role of neurotransmitters
 - developmental plasticity and adaptive plasticity of the brain: changes to the brain in response to learning and experience; timing of experiences
 - use of imaging technologies in identification of localised changes in the brain due to learning specific tasks
- applications of, and comparisons of, learning theories:
 - classical conditioning as informed by Ivan Pavlov: roles of neutral, unconditioned, conditioned stimuli; unconditioned and conditioned responses
 - applications of classical conditioning: graduated exposure, aversion therapy, flooding
 - three-phase model of operant conditioning as informed by B.F. Skinner: positive and negative reinforcement, response cost, punishment and schedules of reinforcement
 - applications of operant conditioning: shaping, token economies
 - comparisons of classical and operant conditioning in terms of the processes of acquisition, extinction, stimulus generalisation, stimulus discrimination, spontaneous recovery, role of learner, timing of stimulus and response, and nature of response (reflexive/voluntary)
 - one-trial learning with reference to taste aversion as informed by John Garcia and Robert A. Koelling (1966)
 - trial-and-error learning as informed by Edward Lee Thorndike's puzzle-box experiment

- observational learning (modelling) processes in terms of the role of attention, retention, reproduction, motivation, reinforcement as informed by Albert Bandura's (1961, 1963a, 1963b) experiments with children
- insight learning as informed by Wolfgang Köhler
- latent learning as informed by Edward Tolman
- the extent to which ethical principles were applied to classic research investigations into learning including John Watson's 'Little Albert' experiment
- research methods and ethical principles associated with the study of learning, as outlined in the introduction to the unit.

AREA OF STUDY 2

Mental health

What does mental health mean? How can 'normality' be defined? Is feeling stressed 'normal'? What is the relationship between mental health and illness? How can mental wellbeing be enhanced?

Students use a biopsychosocial framework to investigate how biological, psychological and socio-cultural factors interact to contribute to the development of an individual's mental functioning and mental health. They identify the mechanisms underpinning the range of usual human emotions such as anxiety, stress, anger, sadness and happiness. Students learn to distinguish between normal or universal experiences such as stress, anxiety and moodiness, and chronic conditions such as addiction, depression, anxiety and phobias which fall into the category of mental illness or psychological disorder. The relationship between stress and mental health is investigated together with the strategies for coping with stress.

Students apply a biopsychosocial framework to the study of simple phobia and a selected mental disorder. They identify protective and risk factors, coping mechanisms and the principles of how treatments work. Students analyse how biological, psychological and socio-cultural factors interact to contribute to the development and treatment of these disorders.

As students examine classic and contemporary studies, they evaluate the research methodologies used and consider associated ethical issues.

Outcome 2

On completion of this unit the student should be able to differentiate between mental health and mental illness, and use a biopsychosocial framework to explain the causes and management of stress, simple phobia and a selected mental disorder.

To achieve this outcome the student will draw on key knowledge outlined in Area of Study 2 and related key skills outlined on page 13 and research methodologies on page 28.

Key knowledge

This knowledge includes:

- concepts of normality and differentiation of mental health from mental illness
- systems of classification of mental conditions and disorders: underlying principles of classification; strengths and limitations of discrete categorical (DSM-IV and ICD-10) and dimensional (graded and transitional) approaches to classification of mental disorders
- use of a biopsychosocial framework (the interaction and integration of biological, psychological and social factors) as an approach to considering physical and mental health

- application of a biopsychosocial framework to understanding the relationship between stress and physical and mental wellbeing:
 - physiological and psychological characteristics of responses to stress including fight-flight response, eustress and distress; strengths and limitations of Selyes' General Adaptation Syndrome
 - psychological determinants of the stress response; strengths and limitations of Richard Lazarus and Susan Folkman's Transactional Model of Stress and Coping
 - social, cultural and environmental factors that exacerbate and alleviate the stress response
 - allostasis (stability through change brought about by the brain's regulation of the body's response to stress) as a model that integrates biological, psychological and social factors that explain an individual's response to stress
 - strategies for coping with stress including biofeedback, meditation/relaxation, physical exercise, social support
- application of a biopsychosocial framework to understanding and managing simple phobia as an example of an anxiety disorder:
 - biological contributing factors: role of the stress response; role of the neurotransmitter gamma-aminobutyric acid (GABA) in the management of phobic anxiety
 - psychological contributing factors: psychodynamic, behavioural and cognitive models; the use of psychotherapies in treatment including cognitive behavioural therapy (CBT), systematic desensitisation and flooding
 - socio-cultural contributing factors: specific environmental triggers such as being bitten by a dog; parental modelling and transmission of threat information
 - the interaction between biological, psychological and socio-cultural factors which contribute to an understanding of the disorder and its management
- application of a biopsychosocial framework to understanding ONE of the following types of mental disorder and its management:

Mood disorder: major depression

 - biological contributing factors: role of genes in contributing to the risk of developing major depression; roles of the neurotransmitters serotonin and noradrenaline in major depression; the function of antidepressant medication in management
 - psychological contributing factors: learned helplessness; stress; the use of psychotherapies in management including cognitive behaviour therapy and psychodynamic psychotherapy
 - socio-cultural contributing factors: abuse, poverty, social isolation and social stressors as risk factors; support factors including family and social networks and recovery groups
 - the interaction between biological, psychological and socio-cultural factors which contribute to an understanding of the disorder and its management

OR

Addictive disorder: gambling

- biological contributing factors: role of the dopamine reward system and as a target for treatment
- psychological contributing factors: social learning theory and schedules of reinforcement; the use of psychotherapies in treatment including cognitive behavioural and psychodynamic therapies
- socio-cultural contributing factors: social permission of gambling opportunities; management including social network and recovery groups
- the interaction between biological, psychological and socio-cultural factors which contribute to an understanding of the disorder and its management

OR

Psychotic disorder: schizophrenia

- biological contributing factors: genetic predisposition; drug-induced onset; changes in brain activity; the use of medication that blocks dopamine to treat psychosis
 - psychological contributing factors: impaired mechanisms for reasoning and memory; the use of psychotherapies in management including cognitive behavioural and remediation therapies, stress management
 - socio-cultural contributing factors: social disadvantage, trauma and psycho-social stress as risk factors; psychoeducation, supportive social (including family) environments, removal of social stigma
 - the interaction between biological, psychological and socio-cultural factors which contribute to an understanding of the disorder and its management
- research methods and ethical principles associated with the study of mental health, as outlined in the introduction to the unit.

ASSESSMENT

The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the set of outcomes specified for the unit. This decision will be based on the teacher's assessment of the student's overall performance on assessment tasks designated for the unit. The Victorian Curriculum and Assessment Authority publishes online an assessment handbook for this study that includes advice on the assessment tasks and performance descriptors for assessment.

The key knowledge listed for each outcome and the set of key skills should be used as a guide to course design and the development of learning activities. The key knowledge and key skills do not constitute a checklist and such an approach is not necessary or desirable for determining the achievement of outcomes. The elements of key knowledge and key skills should not be assessed separately.

Assessment of levels of achievement

The student's level of achievement for Unit 4 will be determined by School-assessed Coursework and an end-of-year examination.

Contribution to final assessment

School-assessed Coursework for Unit 4 will contribute 17 per cent.

The level of achievement for Unit 4 is also assessed by an end-of-year examination, which will contribute 33 per cent.

School-assessed Coursework

Teachers will provide to the Victorian Curriculum and Assessment Authority a score representing an assessment of the student's level of achievement.

The score must be based on the teacher's rating of performance of each student on the tasks set out in the following table and in accordance with the assessment handbook published online by the Victorian Curriculum and Assessment Authority. The assessment handbook also includes advice on the assessment tasks and performance descriptors for assessment.

Assessment tasks must be a part of the regular teaching and learning program and must not unduly add to the workload associated with that program. They must be completed mainly in class and within a limited timeframe. Where optional assessment tasks are used, teachers must ensure that they are comparable in scope and demand. Teachers should select a variety of assessment tasks for their program to reflect the key knowledge and key skills being assessed and to provide for different learning styles.

Outcomes	Marks allocated*	Assessment tasks
		There are two pairs of assessment tasks. Pair A may be selected for either Outcome 1 or Outcome 2. Pair B must be utilised for the outcome not covered by Pair A.
<p>Outcome 1 Explain the neural basis of learning, and compare and contrast different theories of learning and their applications.</p>	<p>Pair A</p> <p>30</p> <p>20</p>	<p>Annotated folio of practical activities</p> <p>AND</p> <p>one other task selected from:</p> <ul style="list-style-type: none"> • essay • test • visual presentation
<p>Outcome 2 Differentiate between mental health and mental illness, and use a biopsychosocial framework to explain the causes and management of stress, simple phobia and a selected mental disorder.</p>	<p>Pair B</p> <p>25</p> <p>25</p>	<p>Two tasks selected from:</p> <ul style="list-style-type: none"> • evaluation of research • data analysis • essay • media response • report of a research investigation conducted by the student • oral presentation using two or more data types • test • visual presentation
Total marks	100	

*School-assessed Coursework for Unit 4 contributes 17 per cent.

End-of-year examination

Description

Both outcomes in Unit 4 will be examined. All of the key knowledge and key skills that underpin the outcomes in Unit 4 are examinable. The examination will be set by a panel appointed by the Victorian Curriculum and Assessment Authority.

Conditions

The examination will be completed under the following conditions:

- Duration: one and a half hours.
- Date: end-of-year, on a date to be published annually by the Victorian Curriculum and Assessment Authority.
- Victorian Curriculum and Assessment Authority examination rules will apply. Details of these rules are published annually in the *VCE and VCAL Administrative Handbook*.
- The examination will be marked by assessors appointed by the Victorian Curriculum and Assessment Authority.

Contribution to final assessment

The examination will contribute 33 per cent.

Further advice

The Victorian Curriculum and Assessment Authority publishes specifications for all VCE examinations on the Victorian Curriculum and Assessment Authority website. Examination specifications include details about the sections of the examination, their weighting, the question format/s and any other essential information. The specifications are published in the first year of implementation of the revised Units 3 and 4 sequence together with any sample materials.

Advice for teachers

DEVELOPING A COURSE

A course outlines the nature and sequence of teaching and learning necessary for students to demonstrate achievement of the set of outcomes for a unit. The areas of study broadly describe the learning context and the knowledge required for the demonstration of each outcome. Outcomes are introduced by summary statements and are followed by the key knowledge, which along with the key skills (on page 13) relate to the outcomes.

Teachers must develop courses that include appropriate learning activities to enable students to develop the key knowledge identified in the outcome statements in each unit and key skills on page 13.

For Units 1 and 2, teachers must select assessment tasks from the list provided. Tasks should provide a variety and the mix of tasks should reflect the fact that different types of tasks suit different knowledge and skills and different learning styles. Tasks do not have to be lengthy to make a decision about student demonstration of achievement of an outcome.

Each unit in Psychology has two areas of study. The learning outcome given for each area of study has a distinct focus, which must be central to planning. The list of key knowledge outlined in each area of study is an indication of the content knowledge and conceptual understandings that should be covered by a designed course. The sequence of teaching an area of study is not necessarily prescribed by the sequence of the listed content.

The set of key skills on page 13 is integral to all units. The opportunity to develop and apply the key skills should be integrated into the teaching sequence through the inclusion of appropriate learning activities, including practical work.

The introduction to each unit specifies a set of research methodologies linked to the key knowledge and key skills. These methodologies include statistical procedures and the consideration of ethics.

Wherever possible, teachers are encouraged to integrate practical work with theoretical knowledge in all units. This approach provides opportunities for students to enhance their understanding of key knowledge through practical application of skills and research methodologies.

There are a number of appropriate contexts for presenting the required key knowledge with the key skills and research methodologies in a coherent course. Teachers should encourage students to be familiar with current psychological issues, social trends, discussions, reports, research and debates, many of which are accessible through the media or the Internet. Teachers and students may access reports, videos and summaries of contemporary psychological research and expert commentary through email

registrations to journals and online media products such as ScienceDaily (www.sciencedaily.com.au). Psychology as presented in the media, through the visual and performing arts, and in advertising also provides a rich source of stimulus material in the consideration of various topics studied in Psychology. A topic-related file or folio could be maintained as a valuable resource for learning activities.

Relationship between theory and practical work

Practical activities including experiments, observational studies, surveys, field trips and excursions are an integral part of the study of Psychology. Students must maintain a folio of practical activities in Unit 4. Teachers may also recommend that students maintain a folio of activities for Units 1, 2 and/or 3. The folio may take the form of a logbook, scrapbook or any form of bound book/folder. The folio may include: planning notes for experiments; personal reflections made at the conclusion of activities; simple observations made in short class activities, such as results of monocular and binocular vision activities; notes taken on field trips and excursions; practical worksheets; web-based investigations and research, including simulations and Internet/email communications; extended formal practical reports, summaries of debates, media item analyses, data analyses, and visual organisers such as concept maps and flowcharts.

Assessment tasks

Students' achievement of each outcome for each area of study must be demonstrated through performance on a selection of assessment tasks. Assessment tasks should be selected to reflect the key knowledge and key skills being assessed and to provide for students' different learning styles. Tasks may be selected from:

- Annotated folio of practical activities: students should be encouraged to record the details of practical activities in a folio. Students may then be asked to select and annotate activities which demonstrate a particular psychological principle, or which illustrate a specific aspect of psychology.
- Data analysis: first-hand and second-hand data may be used in data analysis tasks. Teachers may use collated first-hand data from a class, across different classes within a school, or across different schools to set assessment tasks.
- Debate: a number of topics in psychology lend themselves to debates, for example a comparison of theories, and the strengths and limitations of a particular concept, idea or model. Students may organise and participate in a debate. Assessment may relate to participation in the debate, including peer assessment, or may be an individual student evaluation of the arguments presented in both sides of the debate.
- Essay: both structured and open essay formats may be used to assess students' understanding of psychological principles and concepts.
- Evaluation of research: students may be presented with classic or contemporary research for evaluation. One or more research studies should be used to consider and/or compare psychological principles and research methodologies.
- Media response: students may be presented with stimulus material such as press articles, advertisements, interview excerpts, audiovisual programs, artwork or performance items such as dance or drama. Students may then be asked to respond to selected psychological principles or concepts which are demonstrated through the media item.
- Oral presentation using two or more data types: students may use a range of data types such as still or moving images, written text and sound to present psychological principles and concepts to a selected audience. They may work independently or in groups to undertake a jigsaw activity, present information to their peers, their parents or a younger audience, or make a submission about the application of a psychological principle to a committee.

- **Research investigation:** practical investigations into an aspect of psychology, including application of ethical principles, may be conducted in the classroom, in the laboratory or in the field. Students should record and present the results of their investigations. Reports may range from simple tabulations of results with a student comment, to full reports which include an abstract, an introduction, an aim, a hypothesis, a method, results, discussion, a conclusion and references. As students progress through Units 1 to 4, the level of sophistication of these reports may be expected to increase.
- **Test:** a variety of question types may be included in a test, such as multiple-choice items, true–false response items, cloze items; extended response items.
- **Visual presentation:** students may use a range of visual presentation formats to present psychological concepts and principles, for example concept maps, graphic organisers, posters, flowcharts, models, photographic sequences, role-plays and art media.

Student safety and wellbeing

The study of VCE Psychology requires teachers to develop courses that include appropriate learning activities that enable students to develop knowledge and skills identified in the outcome statements in each unit. In doing so teachers should adhere to the highest standards of professional practice. It is important to note that this course of study provides an academic overview of psychology and does not have any clinical or diagnostic intent. As with any aspect of teaching, pastoral care and health issues should be pursued in accordance with the school's pastoral care policy (for example, referring to the school's counsellor). It is expected that the choice of learning activities undertaken will vary across schools, depending on the individual needs of the students as determined by the teacher. When developing courses, some issues to consider include: duty of care in relation to health and safety of students in learning activities, practical work and excursions; legislative compliance (for example, information privacy, student health records, and copyright); sensitivity to cultural differences and personal beliefs; adherence to community standards and ethical guidelines (for example, maintaining confidentiality of personal details); debriefing students after completing learning activities (for example, if learning activities require a component of deception); respect for persons and sensitivity to issues arising (for example, when discussing topics such as intelligence, personality, mental health, prejudice and bullying); sensitivity to student views on the use of animals in research (for example, in the provision of alternatives to dissection).

SUITABLE RESOURCES

Courses must be developed within the framework of the study design: the areas of study, outcome statements, and key knowledge and key skills.

A list of suitable resources for this study has been compiled and is available from the VCE Psychology study page on the Victorian Curriculum and Assessment Authority website: www.vcaa.vic.edu.au

VICTORIAN ESSENTIAL LEARNING STANDARDS (VELS)

VCE Psychology builds on the skills and knowledge developed in a number of domains within each of the three strands of the Victorian Essential Learning Standards (VELS).

In the *Physical, Personal and Social Learning* strand of VELS, all four domains develop skills and knowledge relevant to the study of VCE Psychology, particularly with respect to how individual and group processes contribute to learning. In the *Health and Physical Education* domain, students identify and describe a range of social and cultural factors that influence the development of personal identity and values. They describe mental health issues relevant to young people and demonstrate

understanding of appropriate assertiveness and resilience strategies. In the *Interpersonal Development* domain, students describe how local and global values and beliefs determine their own and others' social relationships. They evaluate their own behaviour in relationships, identify potential conflict and employ strategies to avoid and/or resolve it. They work collaboratively, negotiate roles and delegate tasks to complete complex tasks in teams. The *Personal Learning* domain of VELS assists students in preparing for autonomous learning. They initiate and negotiate a range of independent activities with their teachers, and monitor and evaluate the effectiveness of their task and resource management skills. They identify the ethical frameworks that underpin their own and others' beliefs and values and describe how the conflicts and dilemmas they identify may affect learning. In the *Civics and Citizenship* domain, students draw on a range of resources including the mass media to articulate and defend their own opinions about social issues in national and global contexts. They may develop an action plan which demonstrates their knowledge of a social issue and may suggest strategies to raise community awareness of the issue.

In the *Discipline-based Learning* strand, the *Science* domain in particular prepares students for the investigatory aspects of VCE Psychology. Students formulate their own hypotheses and plan and conduct investigations in order to support or reject them. They select appropriate equipment and measurement procedures that will ensure a high degree of reliability in data collected and enable valid conclusions to be drawn. They construct working models and visual aids that demonstrate scientific ideas. They present experimental results using appropriate data formats, and comment on the nature of experimental errors. They evaluate the appropriateness of the experimental design and methodology used to investigate their predictions. Human systems including the nervous system are explored as students explain how coordination and regulatory functions assist survival in an environment. The *Humanities – History* domain provides students with an understanding of how social influences may affect thought processes as students demonstrate understanding of key ideologies and explain their influence on people's lives. They explain why significant social and cultural movements have developed and evaluate their influence on societies. The *Mathematics* domain supports the development of students' statistical and data presentation skills. Students estimate probabilities based on data (experiments, surveys, samples, simulations) and comprehend the difference between a population and a sample. They generate data using surveys, experiments and sampling procedures. They calculate summary statistics for centrality (mode, median and mean), spread (box-plot) and association (by-eye estimation of the line of best fit from a scatter plot). They select and use technology in various combinations to assist in mathematical inquiry, and to manipulate and represent data.

In the *Interdisciplinary Learning* strand, skills in communication, use of information and communications technology and thinking processes are developed by students to support the study of VCE Psychology, particularly with respect to the consideration of how knowledge is developed, presented and analysed within a discipline. In the *Communication* domain, students develop skills in listening, viewing and responding to a wide range of communication forms. They consider alternative views, recognise multiple possible interpretations and respond with insight. When presenting their own work, students demonstrate their understanding of the relationship between form, content and mode, and select suitable resources and technologies to effectively communicate. In the *Information and Communications Technology (ICT)* domain, students develop skills in using ICT for visualising thinking, creating information products, and communicating with peers, experts and others. In the *Thinking Processes* domain, students employ appropriate methodologies for creating and verifying knowledge in different disciplines. They make informed decisions based on their analysis of different perspectives and, sometimes contradictory, information. They apply selectively a range of creative thinking strategies to broaden their knowledge and engage with contentious, ambiguous, novel and complex ideas. Students explain the different methodologies used by different disciplines to create and verify knowledge. They use specific terms to discuss their thinking. They select and use thinking processes and tools appropriate to particular tasks, and evaluate the effectiveness of these tools.

EMPLOYABILITY SKILLS

The VCE Psychology study provides students with the opportunity to engage in a range of learning activities. In addition to demonstrating their understanding and mastery of the content and skills specific to the study, students may also develop employability skills through their learning activities.

The nationally agreed employability skills* are: Communication; Planning and organising; Teamwork; Problem solving; Self-management; Initiative and enterprise; Technology; and Learning.

Each employability skill contains a number of facets that have a broad coverage of all employment contexts and are designed to describe all employees. The table below links those facets that may be understood and applied in a school or non-employment related setting, to the types of assessment commonly undertaken within the VCE study.

Assessment task	Employability skills: relevant facets
Annotated folio of practical activities	<p>Communication (writing to the needs of the audience)</p> <p>Planning and organising (collecting, analysing and organising information)</p> <p>Technology (using IT to organise data)</p>
Data analysis	<p>Communication (reading independently; writing to the needs of the audience)</p> <p>Planning and organising (collecting, analysing and organising information)</p> <p>Problem solving (using mathematics to solve problems; testing assumptions taking the context of data and circumstances into account)</p> <p>Technology (using IT to organise data)</p>
Debate	<p>Communication (sharing information; speaking clearly and directly; persuading effectively)</p> <p>Planning and organising (planning the use of resources including time management; collecting, analysing and organising information)</p> <p>Team work (working as an individual and as a member of a team; knowing how to define a role as part of the team)</p>
Essay	<p>Communication (writing to the needs of the audience; persuading effectively)</p> <p>Planning and organising (planning the use of resources including time management; collecting, analysing and organising information)</p>
Evaluation of research	<p>Communication (reading independently; writing to the needs of the audience)</p> <p>Planning and organising (collecting, analysing and organising information)</p> <p>Problem solving (testing assumptions taking the context of data and circumstances into account)</p>
Media response	<p>Communication (listening and understanding; reading independently; writing to the needs of the audience; persuading effectively)</p> <p>Problem solving (testing assumptions taking the context of data and circumstances into account)</p>
Oral presentation using two or more data types	<p>Communication (sharing information; speaking clearly and directly; writing to the needs of the audience; using numeracy)</p> <p>Learning (managing own learning)</p> <p>Planning and organising (collecting, analysing and organising information)</p> <p>Technology (having a range of basic IT skills; using IT to organise data; being willing to learn new IT skills)</p>

*The employability skills are derived from the Employability Skills Framework (*Employability Skills for the Future*, 2002), developed by the Australian Chamber of Commerce and Industry and the Business Council of Australia, and published by the (former) Commonwealth Department of Education, Science and Training.

Assessment task	Employability skills: relevant facets
Research investigation	<p>Initiative and enterprise (generating a range of options; initiating innovative solutions; being creative)</p> <p>Planning and organising (planning the use of resources including time management; collecting, analysing and organising information)</p> <p>Problem solving (developing practical solutions; testing assumptions taking the context of data and circumstances into account)</p> <p>Self management (evaluating and monitoring own performance)</p> <p>Team work (working as an individual and as a member of a team; knowing how to define a role as part of the team)</p> <p>Technology (using IT to organise data)</p>
Test	<p>Communication (writing to the needs of the audience)</p> <p>Problem solving (using mathematics to solve problems; applying a range of strategies to problem solving)</p>
Visual presentation	<p>Communication (sharing information; writing to the needs of the audience; using numeracy)</p> <p>Learning (being open to new ideas and techniques)</p> <p>Technology (having a range of basic IT skills; using IT to organise data; being willing to learn new IT skills)</p>

LEARNING ACTIVITIES

Examples of learning activities for each unit are provided in the following sections. Shaded examples are explained in detail in accompanying shaded boxes.

Unit 1: Introduction to psychology

AREA OF STUDY 1: What is psychology?

Outcome 1

Describe how research has informed different psychological perspectives used to explain human behaviour, and explain visual perception through these perspectives.

Examples of learning activities

collect newspaper articles and research abstracts (e.g. subscribe free online to *Science Daily*) relating to psychology; identify the specialist fields and fields of application involved

visit an online exhibition investigating mind and body: René Descartes to William James (<http://serendip.brynmawr.edu/Mind/Table.html>); designed originally to celebrate psychology's first century as an independent discipline, this online exhibition traces three historical themes: the mind–body problem posed in the 17th century by philosopher René Descartes, the rise of experimental psychology, and the beginnings of psychology in America

construct a tri-Venn diagram or use a PMI (pluses, minuses, interesting) chart to show the emergence of psychology from philosophical enquiry to scientific study of the human mind and behaviour, examining the psyche as informed by Aristotle vs mind/brain dualism as informed by Descartes vs consciousness as informed by William James

investigate public perception and understanding of the roles of psychologists and psychiatrists

interview five people working in the areas of psychology and psychiatry and give an oral presentation to the class; use data sheets to record student findings

create a database or a visual organiser to illustrate the breadth of career opportunities in psychology

complete a Venn diagram to show the similarities and differences between psychology and psychiatry

using articles from newspapers and popular media, complete a media response examining scientific validity and accuracy of the psychological information reported

complete a biography/obituary on a significant contributor towards one of the four major perspectives of psychology:

- biological; for example, Broca, Sperry, Penfield, Kandel
- behavioural; for example, Pavlov, JB Watson, BF Skinner
- cognitive; for example, Ebbinghaus, Piaget, Gardner
- socio-cultural; for example, Bandura, Milgram, Zimbardo

complete an essay/written presentation focussing on one of the major perspectives of psychology, including psychologists/psychiatrists that have contributed to the development of that perspective

construct a timeline/poster/fish-bone diagram outlining the major advances/achievements in each of the four major perspectives of psychology

complete a class jigsaw/expert groups activity examining aspects (e.g. major studies, research methodologies) of the four major perspectives of psychology; use a graphic organiser to summarise the findings

classify the type of research design used in studies by each of the significant contributors towards the major perspectives of psychology, e.g. Broca's research = case studies, Pavlov = experiment

use specific research relating to the four major perspectives of psychology to illustrate the differences between independent and dependent variables and steps in research design

construct hypotheses on topics relating to each of the four major perspectives of psychology

using a set of secondary data relating to one of the four major perspectives of psychology, represent the data set in either tabular or graphical form

evaluate research relating to the four major perspectives of psychology over time, examining the ethical principles involved

using a PMI (pluses, minuses, interesting) chart, list the main ways that data is collected to inform each of the four major perspectives of psychology

debate why 'informed consent' from the guardian is secondary to 'no psychological or physiological harm to participants' in ethical considerations of research involving children

using packets of m&m's and the published colour ratios from the m&m website (globalmms.com), demonstrate the notion of random sampling and how sample size influences how accurately the sample represents the population of research interest

complete a flow chart outlining the steps of psychological research for selected research relating to the four major perspectives of psychology

using a decision-making flowchart or other graphic organiser, suggest how selected classic studies of psychology could be improved or updated for today's society

using an Internet crossword maker (e.g. Eclipse Crossword), make a crossword of terms and definitions relating to the area of study

visit the websites of The Royal Australian and New Zealand College of Psychiatrists, the Victorian Psychologists' Registration Board and The Australian Psychological Society to investigate what is required and what courses are able to be undertaken to become a qualified psychologist

analyse a campaign designed to raise the public's awareness of mental health

undertake an eye dissection, examining the main structures and components of the eye

complete a poster outlining the main processes involved in the visual perception system

construct a Venn diagram showing the main similarities and differences between visual sensation and visual perception

participate in activities that illustrate phenomena in the visual perception system, e.g. locating the blind spot, producing a negative after-image

visit the Neuroscience for Kids website <<http://faculty.washington.edu/chudler/chvision.html>> and undertake activities that illustrate phenomena in the visual perception system

create a PowerPoint presentation that demonstrates principles of perception by identifying their presence in artwork, signs and symbols

undertake the Ishihara test for colour blindness and explain how these tests are an application of Gestalt principles

visit www.illusionsworks.com or www.exploratorium.edu and prepare a poster/ brochure on one of the visual illusions explained at those sites

make a paper model of the Ames Room

use photographs or pictures of famous artworks to identify the visual perception principles present in each artwork

identify visual illusions in the environment; take a photograph of the illusion and create a poster outlining how the illusion works

use two convex lenses, a candle and white cardboard, to demonstrate the concept of accommodation

conduct an empirical research activity on the Stroop effect; report findings

select three activities from your logbook and annotate them with reference to achievement of the unit outcome statement

visit the Melbourne Museum to investigate psychological research methods and visual perception

Detailed example**PUBLIC PERCEPTIONS ABOUT THE ROLES OF PSYCHOLOGISTS AND PSYCHIATRISTS**

In the broader community many people are unaware of the difference between psychology and psychiatry. Indeed psychologists are often asked whether their services can be bulk-billed to Medicare, when in fact they will only be refundable from a private health fund's 'extras health cover'.

The following short survey introduces standardised procedure and provides some data for a preliminary exercise in reporting.

Each student is required to interview five people to gather information on their knowledge in the area of psychology and psychiatry. Results will be collated to produce a set of class data. Each student will produce a report of their individual and class survey results.

Survey Procedure

A standard procedure (such as the following example) is to be followed with each survey respondent.

1. Approach possible survey respondents and say: 'Good morning/afternoon/evening, I am a student of VCE Psychology and I wonder if you would help me by answering a few short questions?'
2. If the respondent says 'No', say: 'That's alright. Thank you for your time.'
3. If the respondent says 'Yes', proceed with the survey. Use a separate Survey Response Form (see below) to record responses for each survey respondent. Five Survey Response Forms should be completed.

Results

1. Students should 'pool' their results so that the 'top three' misconceptions about the roles of psychologists and psychiatrists may be determined.
2. Students should use their own as well as class 'pooled' results to write a report. In their report students should include:
 - a title
 - a short description of the aim
 - an outline of the method
 - results (both individual and class)

- a conclusion which summarises public perception of the roles of psychologists and psychiatrists, and includes discussion about the differences between individual and class data, and difficulties encountered in conducting the survey.

Survey Response Form

Respondent No. Sex

Estimate the approximate age of the respondent:

- Older adult
- Middle aged adult
- Younger adult
- Secondary school age
- Primary school age

Questions

1. What kind of difficulties do you think psychiatrists help with?
2. What kind of difficulties do you think psychologists help with?
3. How do you think people become psychologists?
4. How do you think people become psychiatrists?
5. For each of the following activities, indicate whether you think a psychologist or a psychiatrist or both would be likely to carry them out:
 - counselling a depressed adult
 - giving medication to a depressed adult
 - running an anger management group
 - assessing the intelligence of a child
 - performing an 'Ink Blot' test of personality
 - assessing suitability of job applicants
 - negotiating with hijackers
 - performing corrective surgery on the brain
 - training personal coaches.

AREA OF STUDY 2: Lifespan psychology**Outcome 2**

Describe a range of psychological development theories and conduct an investigation into one stage in the lifespan of an individual.

Examples of learning activities

complete a jigsaw activity examining stages of the lifespan; use a flow chart to record the major aspects of each stage of the lifespan

construct hypotheses on selected topics relating to each stage of lifespan psychology

watch a video examining the nature versus nurture debate, then conduct a class debate on the interaction between heredity and environmental factors in influencing psychological development

analyse twin studies to examine the influence of environmental factors of development, focusing on the elements involved in the research design of twin studies

watch and analyse the '7 up series' as an example of a longitudinal study and the changes that occur over the lifespan

visit the Melbourne Zoo and complete the 'Mere Monkeys' program to examine the use of animals in research and the collection of qualitative and quantitative data

complete a flow chart of the experimental design of Harlow's research (1958 or 1965) with reference to independent and dependent variables, ethics and generalisability of research

compare and contrast Gibson and Walk's study (1960) with that of Campos et al. (1992)

complete a PowerPoint or other visual presentation on Erickson's eight-stage theory, including the major aspects of each stage

using Piaget's theory, design, construct, test and report on a toy for a young child

analyse Piaget's theory and use a decision chart to provide a three-point criticism in light of more recent research

complete a quad-Venn diagram outlining the emotional, cognitive, psycho-social and moral development of a particular age group, e.g. five-year-old child

visit the Cunningham Dax Collection to examine the nature of mental illness, safety and wellbeing, ethics, and legislative issues

obtain statistics from the Australian Bureau of Statistics (www.abs.gov.au) related to the incidence of mental illness across the lifespan; present this data using appropriate descriptive statistics

select a mental illness/disorder relating to a particular stage of the lifespan and complete a brochure/pamphlet outlining the prevalence, age of onset, symptoms, treatment and agencies/places to get help

design a poster describing the misconceptions and truths about mental illness

conduct a class debate about appropriate school starting age using research relating to the emotional, cognitive, psycho-social and moral development of children

complete an essay or a poster outlining the influence of television and computer games on the moral development of an individual

conduct a class debate regarding the suitability of the current classifications of television and computer games

using a common set of questions developed by the class, interview an age-care worker about the issues facing older people and then present findings back to class

ask a guest speaker (e.g. from the RDNS, a Nursing Home Representative, Salvation Army, BAPTCare) to come and talk about the issues older people face as they age, and their cognitive and psychosocial changes and the nature of successful ageing

complete a flow chart identifying the key scientific components in one of the studies by Paul Baltes

assuming that the class is an ethics committee, decide whether classic studies in lifespan psychology should be approved for research in today's society; use a decision-making flowchart to suggest how these studies could be improved to meet today's ethical standards

Detailed example

PIAGETIAN TOYS

Students design, construct, test and report on a toy which is developmentally appropriate according to Piaget's theories of cognitive development.

In developing the toy, students should consider:

- development suitability for the age
- attractiveness and appeal to the age
- how the toy promotes further development
- the toy's safety features.

In testing the toy, students should consider:

- participant selection and consent procedures
- evaluation criteria in assessing the appropriateness of the toy.

The report should include:

- a model, plan, drawing or photograph of the toy
- a summary report of the major features of the toy
- a summary report of the testing of the toy
- a conclusion regarding the developmental appropriateness of the toy and suggestions for improvement of the toy
- an evaluation of the limitations of Piaget's theories of cognitive development and the impact of these limitations on the design of the toy.

Unit 2: Self and others

AREA OF STUDY 1: Interpersonal and group behaviour

Outcome 1

Explain how attitudes are formed and changed, and discuss the factors that affect the behaviour of individuals and groups.

Examples of learning activities

obtain a marketing survey and evaluate how it attempts to measure attitudes

draw and analyse a sociogram to investigate social hierarchies that exist in human and other animal groups

working in groups of four, select and analyse one program designed to help deal with bullying either at school or in the workforce; present this to the class in the form of a role-play to show how the program would work and to explain the psychological basis of the expected effectiveness of the program

work in pairs to investigate the effectiveness of a transition or orientation program at your school (e.g. primary to secondary transition; initiation into an off-campus program); evaluate the program in terms of the attitudes and behaviour which are to be developed in students participating in the program; suggest, with justifications, one way in which the program could be improved

divide the class into teams to research a different social influence on an individual; each team must create a multimedia presentation and report findings to the class

research Stanley Milgram on the Internet and summarise the ethical issues highlighted by his research

research Solomon Asch on the Internet and summarise the effect of group size on the tendency to conform

collect class data on a physically measurable aspect of social psychology (e.g. personal space) and use a spreadsheet to examine measures of central tendency: mean, median and mode

use a spreadsheet to present a set of psychological data in a frequency distribution table, with a matching histogram and line graph

use media articles on global politics to identify sources of power in terms of legitimate, reward, coercive, expert, information and referent power

design, conduct and report on an investigation to explore the relationship between group size and social loafing in the context of meetings; the report should include commentary on the difficulties associated with judging social loafing

view 'The Angry Eye with Jane Elliot' (seminars on racial prejudice, 2001, 51 mins, Video Education Australasia); or view 'Australian Blue Eyed' (2001) to demonstrate the power of social influence and factors which contribute to prejudice

view 'The Wave' (1984, 46 mins, Texture Films) to demonstrate the power of social influence (also available on YouTube)

investigate the conflict between cooperation and self-interest by playing the 'Prisoner's Dilemma' game (also available online at www.serendip.brynmawr.edu/bb/pd.html)

take a virtual tour of the Stanford Prison Experiment website, which features an extensive slide show and information about this classic psychology experiment (www.prisonexp.org); discuss the ethics of the study

search the Internet to investigate the Kitty Genovese case in relation to the bystander effect and diffusion of responsibility (also available on PsychNow CD-ROM)

view the film *Remember the Titans*; examine factors which contribute to the development of prejudice, and the factors which may help to reduce prejudice and discrimination

debate the explanation of aggression from the different psychological viewpoints

nominate a specific aggressive behaviour or action; use a visual organiser to illustrate possible ethological, biological, psychodynamic and social learning aspects related to the behaviour or action, including future management strategies

create a PowerPoint presentation to identify factors that contribute to attitude change – in particular to reduction in prejudice

select a media article which presents a particular viewpoint on a current issue; construct a graphic organiser which identifies possible social factors which may have contributed to the attitudes evident in the article

visit the Cunningham Dax Collection to investigate attitudes and stigma

design and conduct an investigation to investigate and report on the prevalence of stereotypes (e.g. leisure interest, food preferences) associated with gender or culture

prepare a visual organiser which shows the steps which should be taken in creating items with high correlation for a Likert-type scale

as a class, develop and administer a 20-item survey based on a Likert-type scale to measure attitudes on a class-determined issue; report on the results of the survey, including a summary of how survey items were developed, selected and edited, and a survey conclusion

develop a Likert-type scale and administer it to a range of age groups in order to investigate and report on the relationship between prejudice and age

use a spreadsheet application or a graphics calculator to create scatterplots of age and attitude scores to investigate variations in prejudice with age; use software to calculate the significance of calculated correlations

develop and administer a Likert-type scale to investigate and report on gender differences in attitudes to an issue raised in the media

Detailed example**THE 'PRISONER'S DILEMMA' GAME**

Investigate the conflict between cooperation and self-interest by playing the 'Prisoner's Dilemma' game.

Each student is issued with a pencil, a sheet of paper and ten small tokens. Students are to select a playing partner and then pairs are randomly allocated into groups of four.

The aims of the game are to:

- (a) maximise the number of tokens students have as individuals; and
- (b) maximise the number of tokens for their pair.

A 'Reward' schedule should be provided to students as follows:

- 4 x X = lose 1 token each
- 3 x X = win 1 token each
- and 1 x Y = lose 3 tokens
- 2 x X = lose 2 tokens each
- and 2 x Y = win 2 tokens each
- 1 x X = win 3 tokens
- and 3 x Y = lose 1 token each
- 4 x Y = win 1 token each

Students are given the instructions: For each of ten rounds, you must write either X or Y on your piece of paper. In each round, you can discuss with your partner what you will do. In rounds 5, 8 and 10 you can also discuss with the other pair in your group what you will do. Record your payments for each trial. Total your payments at the end of the ten rounds.

The 'Payment' schedule for each round should be provided to students as follows:

- Round 1 Normal payout
- Round 2 Normal payout
- Round 3 Normal payout
- Round 4 Normal payout
- Round 5 Bonus – payout (and penalty) multiplied by 3
- Round 6 Normal payout
- Round 7 Normal payout
- Round 8 Payout (and penalty) squared (but pay still positive, penalty negative)
- Round 9 Normal payout
- Round 10 Payout cubed

NB This means that for 3 x X and 1 x Y tokens, the payout will be $(1)^3 = 1$ token win and $(3)^3 = 27$ token loss.

Collate student results. As a class:

- compare and evaluate the game strategies used by 'winners' and 'losers'.
- compare and evaluate the game strategies used for rounds 5, 8 and 10 with the strategies used for the other rounds.
- analyse the outcomes of the game, and discuss how cooperation and competition played a role in the results.
- propose hypotheses for other factors which would affect cooperation and competition when playing the 'Prisoner's Dilemma' game, and suggest ways these hypotheses could be tested.

Detailed example**ANALYSIS OF A FILM: *REMEMBER THE TITANS***

Using the film *Remember the Titans*, students examine factors contributing to the development of prejudice, and the factors which may help to reduce prejudice and discrimination.

While watching the film, ask students to consider the following points (you may like to provide students with a data sheet to record their responses; this may form part of a student's folio of activities):

- attitudes, stereotypes and issues present at the beginning of the film
- prejudice (racial, gender and sexual orientation) shown throughout the film
- evidence of discrimination (racial, gender and sexual orientation) shown throughout the film
- stereotypical comments made throughout the film
- difficulties Coach Boone encountered throughout the film
- difficulties the Titans encountered throughout the film

- key moments in reducing prejudice and discrimination
- evidence in the film of how the following can reduce prejudice and discrimination
 - sustained contact
 - mutual interdependence
 - superordinate goals
 - equality of status.

At the completion of watching the film, students should present a response to the question, 'How were factors that may reduce prejudice demonstrated in the film *Remember the Titans*?'

Students should focus on the above points in their response and ensure they use appropriate examples and quotes from the film to support their arguments.

A choice of appropriate presentation modes may be chosen by the student, e.g. essay, visual presentation.

AREA OF STUDY 2: Intelligence and personality

Outcome 2

Compare different theories of intelligence and personality, and compare different methodologies used in the measurement of these.

Examples of learning activities

create a poster comparing the strengths and limitations of different approaches to describing intelligence

individually (or in small groups), collect information on customs and cultures from different societies; discuss how this may influence the validity of intelligence tests

search online for intelligence tests and evaluate their approach to measuring intelligence including their validity and reliability

construct and evaluate your own intelligence test, incorporating an age or a cultural bias; discuss the implications of administering the test

design, conduct and report on an investigation to determine whether IQ can be improved; use a resource such as *Know Your Own IQ*, *Check Your Own IQ* (Eysenck, HJ, Penguin Books) or other commercially available and/or online IQ tests to test your own IQ; record your IQ based on the IQ test; solve questions of the type asked, then complete another similar IQ test; record your results and report on whether an improvement had occurred; comment on the reliability and validity of the tests undertaken

view *Good Will Hunting* (1997, 126 mins, Miramax Films); analyse the main characters from the viewpoint of Gardner's multiple intelligences model

create a pretend social networking profile outlining the life and work of Sigmund Freud (archived footage is available from media sources such as YouTube)

investigate the Holland Self Directed Search and the Myers Briggs Type Indicator by accessing their respective Internet homepages

debate genetic and environmental factors affecting intelligence and/or personality

use text resources and the Internet for IQ tests and have each member of the class take one and record an IQ score; sit alternative tests and plot and analyse results

take a personality test such as the 'Colours Test' from the Internet; evaluate the results in terms of validity and reliability

design, conduct and report on an investigation to determine whether birth order is a predictor of personality traits (e.g. friendliness, confidence, seriousness, passivity, dependability)

interview an elderly person to determine whether they believe personality can change over a lifespan; report your results as a short personality profile of the interviewee

invite the careers counsellor or school psychologist to give a presentation on testing in vocational selection and workplace settings

take a vocational careers test: comment on the results, including a consideration of the conditions which may affect the results of the test

visit the Melbourne Museum to investigate identity and personality

create a visual presentation which illustrates how a projective test (e.g. Rorschach inkblot test, thematic apperception test, Draw-a-Person test, sentence completion test) is used to classify personality

debate the ethical issues associated with using intelligence and personality tests in vocational selections and workplace settings

use a spreadsheet package to create a frequency distribution for a given data series (such as class height) which can be compared to the normal curve for variation, skew and range

develop survey questions about preferred television viewing habits and analyse responses as an indicator of personality type

Detailed example

INVESTIGATING PERSONALITY TYPE THROUGH SURVEYING PREFERRED TELEVISION VIEWING HABITS

An individual's characteristic patterns of behaviour, thoughts and feelings comprise that individual's personality. Generally these aspects of a person's personality remain fairly stable throughout the person's lifetime. Personality tests are generally designed to identify certain characteristics or types of personality. There are many different types of personality tests and their validity can sometimes be questioned.

This investigation involves students developing survey questions about preferred television viewing habits and analysing subject responses as an indicator of personality type.

Students may work in pairs or small groups to devise survey questions to determine personality traits corresponding to those of the Eysenck Personality Questionnaire (EPQ) traits. These traits span the dimensions of psychoticism, extraversion and neuroticism.

Survey items may include questions related to:

- total hours of television watched in a given period of time
- hours/times that viewing occurs (e.g. late night, middle of the day, early morning, weekends)
- type of program viewed (e.g. news, action, romance)
- shared or independent viewing
- repeated patterns of program viewing (e.g. does the viewer consistently tune in to regular programs?)
- shared discussion about programs watched (e.g. does the viewer discuss watching ongoing

serials with friends, family members or work colleagues?).

These survey items are designed to elicit responses that reflect Eysenck's three temperaments in his model of personality.

Class data may be collated and students should write their own report on the research findings.

The report should include:

- an appropriate abstract
- an aim
- a hypothesis indicating the independent and dependent variables
- a method section including subjects, materials, procedure and ethical considerations
- a results section including summary of data
- a discussion which includes an analysis of the results in terms of the hypothesis, the reliability and validity of the conclusions and the generalisability of the results
- a reference list.

It is important to note that student questionnaires will contain inherent limitations due to being based on purely subjective responses from the respondents. Extensive classroom discussion may be used to analyse and evaluate the validity of results.

In undertaking this investigation teachers and students must take into account ethical principles including informed consent, voluntary participation, withdrawal rights, confidentiality and debriefing.

Unit 3: The conscious self

AREA OF STUDY 1: Mind, brain and body

Outcome 1

Explain the relationship between the brain, states of consciousness including sleep, and behaviour, and describe the contribution of selected studies and brain research methods to the investigation of brain function.

Examples of learning activities

use the Internet to devise a PowerPoint outlining the work of René Descartes and William James in explaining consciousness

facilitate a class debate on the topic of the 'mind-body' distinction as outlined by René Descartes

visit the Melbourne Museum to view 'The Mind' exhibition (www.museumvictoria.com.au)

create a model of a neuron clearly showing its key components

produce a diagram/poster of a neuron with labelled parts

prepare a written and pictorial summary of the main processes involved in the transmission of a neural impulse

draw a diagram of the human brain and parts of the nervous system, labelling the two hemispheres, the four lobes of the cerebral cortex, Broca's area and Wernicke's area; describe the roles of each part

dissect a sheep's brain; identify the hindbrain, midbrain and the forebrain (lamb's brains may be purchased from supermarkets or from a butcher), or conduct a virtual dissection through the Whole Brain Atlas website or at www.exploratorium.edu/memory/braindissection/index/html

create a multimedia simulation of the structure and function of the brain

using clay or other similar material, construct a 3-D model of the brain using different colours to code for different brain structures; develop a key to explain the function of each structure

take balloons into the class and ask students to inflate them; divide the balloon into two 'brain hemispheres' and label the cognitive and behavioural functions of each plus the non-verbal, verbal and analytical functions

using the *Answer Key* from Tony Ryan's 'Thinkers' Keys', list the names of the various structures within the brain and then construct questions relating to the structure and function of each of the names supplied

investigate the main functions of the spinal cord

create a chart of the divisions of the nervous system including central nervous system and both divisions of the peripheral nervous system

construct a concept map depicting the roles of the central nervous system, peripheral nervous system, and the autonomic nervous system

provide examples of the effects of each division of the autonomic nervous system on: heart rate; galvanic skin response; pupils; bladder; lungs; digestion

use multimedia CD-ROMs (such as *PsykTrek* and *PsychNow*) to explore the divisions of the nervous system and lobes of the cerebral cortex

create a folio of a range of related experiments and activities exploring the nervous system as outlined in 'Neuroscience for Kids' (www.faculty.washington.edu/chudler/neurok.html)

visit the Psychworld University website at <http://inst.santafe.cc.fl.us/~mwehr/> or visit the 'Neuroscience for Kids' website for activities and tutorials to collect information to explain the role of the somatic nervous system and the autonomic nervous system

produce a poster outlining the areas and main roles of the sympathetic and parasympathetic nervous system

using chalk and concrete (outdoors) or butcher's paper and textas (indoors), students, in pairs, trace a life-sized outline of each other's body; each student then uses their own outline to fill in each division of the human nervous system, using a different colour for each division; labels should be added which indicate the function of each of the divisions

complete a Venn diagram outlining the similarities and differences between controlled and automatic processes

visit the Brain Sciences Institute (BSI) at Swinburne University's home page and consider their viewpoint on the role of the nervous system in determining behaviour

using the Internet, research behaviours that have been associated with various parts of the brain; explain the steps and ethical principles associated with the research

investigate the effects of damage to specific regions of the brain

complete a Venn diagram outlining the similarities and differences between Broca's aphasia and Wernicke's aphasia

use the Internet (including relevant movie clips available on YouTube) to find material related to split-brain studies including the work of Sperry and Gazzaniga; produce a cartoon or other visual sequence format to show split-brain study outcomes

in groups, students research one of the following and then present a PowerPoint to the rest of the class: direct brain stimulation, transcranial magnetic stimulation (TMS), computed tomography (CT), positron emission tomography (PET), single photon emission computed tomography (SPECT), magnetic resonance imaging (MRI) and functional magnetic resonance imaging (fMRI)

research the use of brain-imaging techniques on the Internet; Google images to demonstrate applications of brain imaging techniques such as CT, PET, SPECT, MRI and fMRI

using the *Answer Key* from Tony Ryan's 'Thinkers' Keys', list the names of various brain research methods and then construct questions relating to the advantages and disadvantages of the use of these methods

create a poster that compares normal waking consciousness with altered states of consciousness with respect to the dimensions specified in the study design

use a 'compare and contrast' graphic organiser to discuss the concepts of normal waking consciousness and altered states of consciousness

role-play in groups normal waking consciousness and altered states of consciousness, emphasising levels of awareness, content limitations, controlled and automatic processes, perceptual and cognitive distortion, emotional awareness, self-control and time-orientation

on a poster or a set of PowerPoint slides, define and explain the perceptual anomalies of motion after-effect, change blindness and synaesthesia

using a 'storyboard' graphic organiser, outline the contributions that studies investigating the cognitive processes of the brain (aphasias, spatial neglect, split-brain research, motion after-effect, change blindness, synaesthesia) have made to our understanding of consciousness

use data logging technology to investigate measures of physiological responses, for example galvanic skin response (GSR) and heart rate

investigate a physiological characteristic, such as heart rate, before and after exercise

produce a poster presenting the characteristics of stages of sleep; include diagrams of brain wave patterns

use the Internet to research sleep phenomena, and create a multimedia presentation to inform the class

describe the methods used to study sleep

visit a sleep laboratory or go online to learn about the stages of sleep and what is done at a sleep laboratory

identify the uses of an electro-oculogram (EOG), an electromyograph (EMG) and an electroencephalograph (EEG)

divide an A3 sheet into four sections headed EEG, EOG, GSR and heart rate/body temperature; use the Internet to find examples of recordings of each of these and annotate each recording on your poster table to show how each may be interpreted

suggest research designs that could be used to investigate the effects of partial or total sleep deprivation; consider single- and double-blind procedures, repeated measures, independent groups and matched pairs designs

keep a sleep diary to record sleep phenomena experienced

collect rosters of various organisations that involve shift-work; analyse in terms of sleep-wake cycle shifts and their effectiveness in minimising sleep deprivation

conduct an investigation into sleeping patterns in different age groups

devise a questionnaire for students to research friends and family members regarding their sleep patterns; report back to the class and discuss amount of sleep required, sleep-wake cycle shifts during adolescence and the need for sleep

Detailed example

MODEL OF A BRAIN

Aim: construct a model of the human brain using clay or a similar material.

Materials: textbook diagrams, Internet models or other pictures of the brain, clay (or similar material e.g. plasticine playdough, papier mache), black pen, paint colours, sharp instrument, piece of paper.

Method: provide students with the following directions:

- Refer to pictures of the brain to shape the clay into a model of the brain.
- When modelling the brain use the sharp instrument to model major fissures, gyri and sulci.
- When the clay brain is dry, use different colours to map out the four lobes of the cerebral cortex, the primary cortex for each of these lobes and the cerebellum and the brain stem.
- Use a fine black pen to number the locations of the following brain structures:
 1. left hemisphere
 2. right hemisphere
 3. frontal lobe

4. primary motor cortex
5. Broca's area
6. parietal lobe
7. primary somatosensory cortex
8. temporal lobe
9. primary auditory cortex
10. Wernicke's area
11. occipital lobe
12. primary visual cortex

- Create a key for the brain model.

Discussion: direct students to summarise their findings (digital photographs of their brain models could be included) in their logbooks. They should also:

- Note the similarities and differences between different parts of the brain.
- Identify the strengths and limitations of their brain model.
- Consider **one** aspect of brain structure which **could not** be represented by their model and suggest a way that this feature could be modelled or represented.

Detailed example

INVESTIGATION OF THE VARIATION OF SLEEP PATTERNS WITH AGE

Aim

To compare the patterns of sleeping and waking in a 24-hour cycle for three different age-groups.

Hypotheses

1. Younger people will sleep for more hours in total than older people.
2. Younger people will sleep for longer periods at any one time than older people.

METHOD**Subjects**

Subjects should be selected so that each student surveys one young person between the ages of 13 and 18, one adult of between 35 and 45 years, and one older person of over 65 years.

Materials

One three-question survey form and record sheet.

Procedure

Each class member will survey one subject in each of the age groups.

A standard procedure (such as the following example) is to be followed with each subject.

1. Approach potential subject and say 'I am a VCE student doing a survey on sleep patterns for one of my work requirements, would you mind if I ask you a few short questions? This survey is entirely anonymous'.

2. If the subject indicates willingness to take part, say 'Could you tell me which of the age groups applies to you?' 13 to 18, 35 to 45, over 65
3. Record the age group and then say: 'For each of these questions, could you think back and give the average figure for the past week?'
 - i) On a normal day, how many hours did you sleep?
 - ii) On average, how many times did you awaken during each night?
 - iii) If you did awaken in the night, on average for how long did you remain awake?
4. Say 'Thank you very much for your help'.

Results

Class members will 'pool' their results, so that each student will have data relating to one subject for each age-group for each class-member. If the class is very small (less than 10) it would be better for each student to survey two subjects in each age group.

Conclusions

Conclusions will relate to whether or not the hypotheses can be accepted. If it cannot be accepted, or is only correct in part, then an explanation for the total or partial rejection should be given.

AREA OF STUDY 2: Memory**Outcome 2**

Compare theories that explain the neural basis of memory and factors that affect its retention, and evaluate the effectiveness of techniques for improving and manipulating memory.

Examples of learning activities

use clay or playdough to make a model with information that outlines the role of the neuron in memory formation as informed by the work of Kandel

construct a poster to outline the main processes involved in memory formation

view YouTube video footage of Clive Waring and his memory deterioration; discuss student perceptions of his life as his memory declines

using your knowledge of memory decline over the lifespan, design a set of activities for a nursing home that could help enhance patients' memory

invite a guest speaker such as a social worker or health care worker to talk about the decline of memory over the lifespan and the impact of amnesia including dementia and Alzheimer's disease

visit the Alzheimer's Association of Victoria website and gather information to present to the rest of the class on strategies to cope with the disease; present as a speech, PowerPoint or poster

investigate organic causes of forgetting – amnesia, its characteristics and causes

view one of the following films: *The Notebook*, *Memento* or *50 First Dates* and prepare a short report on the aspect of memory depicted in the film viewed

use PhotoStory to outline the journey a piece of incoming sensory information takes from when a person first pays attention to it until it is stored in long-term memory, based on the Atkinson-Shiffrin multi-store model of memory

create a flow-chart diagram that summarises Atkinson-Shiffrin's multi-store model of memory and Baddeley and Hitch's model of working memory

use a 'compare and contrast' graphic organiser to compare the Atkinson-Shiffrin's multi-store model of memory and Baddeley and Hitch's model of working memory

use a Venn diagram to outline the similarities and differences between maintenance and elaborative rehearsal

divide an A3 sheet of paper into four sections with the central heading of 'Baddeley and Hitch – Model of Working Memory'; name each section: central executive, phonological loop, visuospatial sketchpad and episodic buffer; summarise pertinent details and create a concept map outlining the key points of semantic network theory

discuss the semantic network theory and its characteristics and elements (hierarchical; nodes and links)

explain the distinctions between echoic and iconic sensory memory (capacity and duration)

compare and contrast short-term memory and long-term memory (capacity, duration); compare loss from short-term memory (displacement) with loss from long-term memory (interference and possible decay)

use research, for example, Jenkins and Dallenbach (1924), to demonstrate the significance of interference on long-term memory

use multimedia CD-ROMs (such as *PsykTrek* and *PsychNow*) to explore and compare models explaining human memory

discuss the various means of measuring retrieval and the relative sensitivity of each measure

devise a set of questions and answers from reading texts on the theories of forgetting and then put these into a 'finger flipper/chatter box' game that covers all the components of these theories of forgetting

create a multimedia presentation outlining the concept of motivated forgetting and the related work of Freud

use spreadsheet software to analyse data relating to measures of central tendency and spread of scores for tests of memory retention undertaken by the class (these tests may be sourced from various textbooks); use a 'Storyboard' graphic organiser to outline the different psychological theories of forgetting (retrieval failure, motivated forgetting, interference theory, decay theory) in terms of their strengths and limitations

conduct a memory activity to compare the differences in recalling and recognising nonsense syllables; utilise a spreadsheet package to plot the forgetting curve based on class data

summarise Ebbinghaus' research and draw the forgetting curve

simulate Ebbinghaus' original experiments on the forgetting curve by memorising a list of nonsense syllables and measuring retention at various intervals over a number of weeks

role-play in small groups examples of the following: maintenance rehearsal, elaborative rehearsal, serial position effect, chunking and consolidation theory

form an operational hypothesis and conduct empirical research into the rate of forgetting for two different methods of encoding

evaluate the sensitivity of each type of recall; divide the class up into three groups; provide students with the names of 10 famous people and allow them 30 seconds to learn as many as possible in order; after 30 seconds provide each group with a recall sheet with one of the following: Group A – free recall, Group B – serial recall; Group C – cued recall (piece of paper with the initials of the famous people)

participate in class activities to demonstrate the use of mnemonic devices, e.g. method of loci, verbal mnemonics

use the Internet to research mnemonic devices and create a multimedia presentation 'Study strategies to assist encoding and retrieval' to inform the class

undertake a research investigation into the relevant effectiveness of various mnemonic devices for recalling simple list of items; critically evaluate the experimental design

use a fish-bone diagram to outline how mnemonic devices and context- and state-dependent cues can be used to manipulate and enhance memory

research the Internet for material related to the fallibility of eye-witness testimony and the work of Loftus; this may include relevant clips available on YouTube

use a crossword generator program (e.g. Eclipse Crossword www.eclipsecrossword.com/) to create a crossword using the key definitions of concepts related to memory

Detailed example**INVESTIGATING MEMORY THROUGH THE COMPARISON OF RECOGNITION AND RECALL AS MEASURES OF RETENTION**

An effective memory is often underrated in daily life, yet as a student it is a crucial aspect of success in one's studies. Measures of retention – recall, recognition and relearning – reflect the effectiveness of encoding into memory and the degree to which information stored in long-term memory can be accessed. As students these measures of recall are constantly being applied through a variety of testing situations. A sound understanding of memory systems, capacity, encoding, storage, retrieval, maintenance and elaborative rehearsal and the theories of forgetting can assist the successful completion of this task.

The teacher devises 20 nonsense syllables for the class to work with so as to avoid any students having prior knowledge of these syllables.

Or alternatively the following list can be used.

List A – 20 nonsense syllables

pel	zul	sut	bop	dwa
sas	tra	buc	cli	qoz
fic	wuq	lub	lyg	myo
nia	huy	gom	zod	xim

List B – 40 nonsense syllables

ayk	pel	duh	huz	zul	sto	lyg
sut	twi	bim	ziq	kle	gom	afr
huy	wol	bop	rab	pyh	sas	zod
ste	atr	ets	tra	buc	cib	myo
cli	alc	icl	fic	mwa	awd	
dwa	wuq	raq	lub	xim	gly	

Divide the class into two sections. All students receive a copy of List A comprising 20 nonsense syllables. They are then given instructions to memorise these syllables for 5 minutes, after which time they will be asked to recall as many of them as possible.

After 5 minutes tell the students to stop memorising and turn over their page. Then distribute a second sheet to all students – half have a blank sheet and half have List B. The first half of the class are then told to write the syllables they remember in any order and the others are asked to circle those they recognise from List A within List B.

Ask students to count the number of correct syllables and tabulate this information. This raw data can be compiled as class data.

Calculation of mean scores for both groups will give a comparison of the measures of retention – recall and recognition. Discuss these findings.

Students from each group can attempt to recall the syllables at the very end of the lesson, again at 7pm that night and finally again in class the next day to ascertain how many syllables have been forgotten. A further discussion of Ebbinghaus' forgetting curve can take place and each student can plot their own 'forgetting curve' – amount forgotten over time. A week later this can also be revisited and a final point marked on their graph.

Students should write their own report on this research. The report should include:

- An appropriate abstract.
- An aim.
- A hypothesis indicating the independent, dependent and confounding variables.
- A method section including subject selection, ethical considerations, materials and procedures.
- Results section including summary of data and graph of forgetting curve.
- A discussion which includes analysis of results in terms of the hypothesis, the reliability and validity of the conclusions and the generalisability of the results.
- A reference list.

In undertaking this investigation teachers and students must take into account ethical principles including informed consent, voluntary participation, withdrawal rights, confidentiality and debriefing.

Variations:

Serial recall – words must be written in the order they appeared in the original list. Discuss primacy and recency effect.

Cued recall – establish some cues for grouping words to facilitate recall, e.g. recalling syllables according to their initial letter.

Detailed example**INVESTIGATION: RATES OF FORGETTING FOR TWO DIFFERENT ENCODING METHODS****Aim**

To investigate the rate of forgetting for two different methods of encoding.

Hypothesis

Students should develop an appropriate operational hypothesis.

Subjects and materials*Subjects*

Use about 20 subjects – a psychology class or another class is appropriate.

Materials

A list of thirty pairs of terms – not logically associated with each other, for example:

cat – hill	house – shirt
table – run	bird – sleep
lamp – cloud	man – nest
horse – seven	hop – swim
ski – doughnut	disc – grass
fly – snail	nose – picture
giraffe – pill	truck – dinner
worm – ice-cream	bed – card
lion – carrot	young – bus
ghost – wall	jump – theatre
grade – frog	hand – shout
cupboard – eat	policeman – potato
computer – cow	telephone – drink
snore – book	test – orange
bulb – iron	paper – seagull

Procedure

Read the list of pairs five times – the learning phase.

Test the subjects on ten of the terms (at random) by giving a list of ten words, and requiring subjects to list the other one of the pair. Perform these tests at intervals as follows:

- Test 1 – Time 0 minutes (the first test of the learning series)
- Test 2 – Time 20 minutes (after test 1)
- Test 3 – Time 60 minutes (after test 1)
- Test 4 – Time 3 hours (after test 1)
- Test 5 – Time 24 hours (after test 1)
- Test 6 – Time about 72 hours (after test 1)
- Test 7 – Time about 7 days (after test 1)
- Test 8 – Time about 14 days (after test 1)

Results

- Graph the results for each group separately, to generate a 'forgetting curve'.
- Plot 'elapsed time' on the horizontal axis and '% correct response' on the vertical axis.

Discussion

Discuss in terms of accepting or rejecting the hypothesis stated and form generalised conclusions.

Unit 4: Brain, behaviour and experience

AREA OF STUDY 1: Learning

Outcome 1

Explain the neural basis of learning, and compare and contrast different theories of learning and their applications.

Examples of learning activities

create a poster that contrasts examples of behaviours not dependent on learning

in groups, students research an example of a reflex action, fixed action pattern and behaviour dependent on maturation; each group then presents their examples to the class; other class members use a data sheet to record information and responses

explore mechanisms involved in learning such as synapse formation, the action of neurotransmitters, and brain plasticity as outlined in 'Neuroscience for Kids' (www.faculty.washington.edu/chudler/neurok.html)

explain the neural basis of learning; compare and contrast different theories of learning and their applications

draw a diagram of the brain and mark the areas of the brain involved in learning

use plasticene or pipecleaners to build a neural pathway; describe to the class the role of neurotransmitters and synapse formation in learning

identify the elements of classical conditioning, conditioned stimulus association, acquisition, extinction, spontaneous recovery, generalisation, discrimination

use the Internet to access information to create a poster presentation of classical conditioning as informed by Pavlov

participate in an activity to demonstrate classical conditioning, e.g. association of pupil dilation with a bell or buzzer

simulate Pavlov's original experiments on classical conditioning using a bell (the conditioned stimulus, CS) and sherbet (the unconditioned stimulus, UCS) to elicit salivation (the unconditioned response, UCR)

role-play applications of classical conditioning to demonstrate understanding of these concepts, e.g. graduated exposure, aversion therapy, flooding

conduct a web-search for 'Skinner' and 'Thorndike' and write a paragraph about each and their contribution to learning theory

identify the elements of operant conditioning; reinforcement (primary and secondary reinforcers, positive and negative reinforcement) punishment, schedules of reinforcement, shaping, extinction, spontaneous recovery, generalisation, discrimination

apply knowledge of schedules of reinforcement by identifying examples of partial reinforcement in society

create a list of processes using operant conditioning in practice

prepare a written summary of the main features of classical conditioning and operant conditioning; include the distinctions between them

use multimedia CD-ROMs (such as *PsykTrek* and *PsychNow*) to explore and compare models of classical and operant conditioning

create a multimedia simulation of classical and operant conditioning

use a Venn diagram to compare classical and operant conditioning

make a 'finger-flipper/chatter-box' using questions and answers devised from research into comparisons of classical and operant conditioning

create a PowerPoint poster presentation to compare and contrast classical and operant conditioning

invite a dog trainer to visit your class to talk about how they use reinforcers, shaping and successive approximations when obedience training animals

discuss the stages of observational learning (attention, retention, reproduction, motivation/reinforcement)

in small groups develop real-life scenarios to demonstrate the concepts of shaping and token economies

critically analyse one of Bandura's 'Bo-Bo doll' experiments

explore a CD-ROM tutorial on learning and identify the characteristics of a 'learning curve'

investigate the effects of two different encoding methods on the rates of learning

undertake a research investigation by timing repeated trials of a simple maze to construct a learning curve; utilise a spreadsheet package to combine individual student data to plot a class learning curve; compare individual and class learning curves

create a multimedia presentation outlining the schedules of partial reinforcement in operant conditioning, providing at least one human and one other animal example for each schedule

view archival film related to the research of Pavlov, Skinner, Bandura and other relevant learning theorists (may be sourced by using appropriate search terms in YouTube); choose one of these theorists and write two versions (one which supports the research and one which is against the research) of a two-paragraph media article which may have been written by a journalist at the time of the research to capture readers' interest

with the help of your librarian, source news items summarising contemporary research related to theories of learning; critically evaluate the experimental designs

complete a 'compare and contrast' graphic organiser comparing sensory memory, short-term memory and long-term memory in terms of their capacity and duration

use a 'story board' graphic organiser to outline the different schedules of partial reinforcement (fixed-ratio, fixed-interval, variable-ratio, variable-interval); include visual representations and examples to support your explanation of each different schedule

discuss and debate the use of variable-ratio and variable-interval reinforcement in poker machines

use a 'Tiny Transfer Book', to summarise operant conditioning in terms of Skinner's original experiment, key elements and processes involved and the effectiveness of punishment and reinforcement

debate the effectiveness of punishment versus reinforcement when trying to modify a child's behaviour

use a Venn diagram to compare classical conditioning and one-trial learning

write a letter to the Transport Accident Commission (TAC) discussing strengths and limitations of the current consequences they have set for hoon drivers (punishment, response cost), and suggesting other strategies to address the issue, for example the reinforcement of good behaviour of other drivers and ways that this could be achieved

provide examples of insight learning and latent learning from the students' experiences

divide the class into two groups: one group researches Kohler's work on insight learning whilst the other group research Tolman's work on latent learning; a student from each group pairs up to present their findings to each other; findings may be presented as a poster, speech or PowerPoint

analyse experiments conducted by Pavlov, Thorndike, Skinner, Seligman and Bandura to investigate how we learn in terms of the independent and dependent variables involved, extraneous variables, research design, control and experimental groups, results, ethical issues

critically analyse the procedure and the ethical issues in research conducted by Watson on 'Little Albert'

debate the ethics of using non-human animals in research about learning

create a mind map of 'How people learn' using the dot points from the study design

using the melody of your favourite song, write new lyrics to it that explain the key elements and processes in classical conditioning and/or operant conditioning and/or observational learning

Detailed example

CREATE A POWERPOINT PRESENTATION TO COMPARE AND CONTRAST CLASSICAL AND OPERANT CONDITIONING

Key areas to be included:

- Nature of the response (voluntary/reflexive).
- Role of the learner (active/passive).
- Means of reinforcement.
- Timing of stimulus and response.
- Association between stimuli.
- Specificity of stimulus-response relationship.
- Emotions/goal-seeking behaviour.
- Response depending on reinforcement or reinforcement depending on response.

Diagrams could include:

- Skinner Box.
- Classical Conditioning tabular explanation.

Examples of each are needed:

- Phobias.
- Token economy.

One trial learning

Taste aversion – not classical conditioning.

Detailed example**INVESTIGATION: THE EFFECTS OF TWO DIFFERENT ENCODING METHODS ON THE RATES OF LEARNING****Aim**

- To investigate the effect of practice on performance in a novel learning task.
- To compare the efficiency of two different methods of encoding.

Hypothesis

- Performance on the task will improve with practice, so that more pairs of terms will be recalled on later trials.
- The visual imagery group will learn more quickly than the rehearsal group.

Subjects and materials*Subjects*

Select a reasonable number (at least 30) of naive subjects.

Materials

A list of thirty pairs of terms – not logically associated with each other, for example:

sea – bag	baby – mountain
pepper – shirt	old – bell
floor – shell	chocolate – moon
video – potato	flag – chicken
switch – towel	tap – heart
finger – gap	skeleton – apple
path – bottle	email – monkey
chair – four	car – soup
money – koala	shop – sneeze
flower – jump	doctor – music
chase – necklace	sand – roof
smile – bread	stone – winter
umbrella – tomato	lemon – dog
pencil – fish	sort – chin
wash – milk	shoe – movie

Procedure

- Divide subjects (at random) into two experimental groups (E-groups) and one control group (C-group).

- Instruct one E-group to associate the two terms in each pair by rehearsing the sound of the pairing to themselves.
- Instruct the second E-group to associate the two terms by forming visual images which create a link between the two.

Give no instructions to the C-group.

- Every three minutes, test on ten of the terms (at random) by giving a list of ten words, and requiring subjects to list the other one of the pair; record the results for test 1, test 2 etc. up to test 6.

Results

Graph the results for the rehearsal group and for the visual imagery group separately – into two comparable ‘learning curves’ – with ‘Time’ along the horizontal axis and ‘% correct responses’ on the vertical axis.

(Teacher could calculate statistical significance – Chi2 test would be appropriate and simple.)

Discussion

Students should write a formal report of the findings, which may include, for example:

Justification for acceptance of hypotheses:

- If the graphs for both groups show increased scores with increased number of trials, then hypothesis 1 will be confirmed.
- If the imagery group had a steeper ‘learning curve’ than the rehearsal group, then hypothesis 2 will be confirmed.
- If both hypotheses are accepted, then this is noted as the conclusion, and the discussion would involve accounting for any individual discrepancies.

Suggestions for further research should be made.

AREA OF STUDY 2: Mental health**Outcome 2**

Differentiate between mental health and mental illness, and use a biopsychosocial framework to explain the causes and management of stress, simple phobia and a selected mental disorder.

Examples of learning activities

- create a graphic organiser that compares mental health and mental illness
- discuss why sensitivity is important when discussing concepts such as 'normality' and mental illness
- use multimedia CD-ROMs (such as *PsykTrek* and *PsychNow*) to explore systems of classification of mental conditions and disorders
- using a 'fish-bone diagram', outline the strengths and limitations of discrete categorical and dimensional approaches to classifying mental disorders
- construct a table which shows the strengths and limitations of approaches to classification of mental disorders
- investigate the physiological and psychological effects of stress including health issues (stress-induced illness and reduced immunity) and the General Adaptation Syndrome
- use a data logger to investigate physiological responses such as GSR and heart rate in relation to stress, biofeedback, relaxation, and physical exercise
- ask the school psychologist/welfare support/external consultant to conduct a workshop on how including biofeedback, meditation/relaxation, physical exercise and social support can be used to cope with stress
- create a mental wellness poster
- use a 'PMI (plus-minus-interesting) Chart' to summarise Lazarus' Transactional Model of Stress and Coping and Selyes' General Adaptation Syndrome
- use Lazarus' Transactional Model of Stress and Coping to design a pamphlet or brochure for students outlining strategies they could use to reduce their level of stress during Year 12
- prepare a PowerPoint presentation from a personal perspective of the application of the General Adaptation Syndrome in your life
- design a brochure or pamphlet that indicates the social, cultural or environmental factors that exacerbate or alleviate the stress response
- conduct a survey of friends and family members to ascertain what stressors they experience and how they would rank them in terms of levels of stress they elicit; investigate the strategies for coping with stress that these friends and family members use
- use a Venn diagram to explain how the biopsychosocial framework can be used to consider both physical and mental health
- organise guest speakers on the topic of mental health; begin with your school psychologist or counsellor and consider inviting local mental health workers
- organise an excursion to the Cunningham Dax Collection (art, creativity and education in mental health); note at least one accompanying teacher must have completed an authorised workshop prior to the visit (www.daxcollection.org.au)

view the video series: *Collected Thoughts 1,2 3* (produced by the Dax Collection) and reflect on the experience of mental illness for a broad audience

use a graphic organiser to apply the biopsychosocial framework to a selected mental disorder

select a few of the more common phobias; role-play or create a PowerPoint that illustrates the phobia and what some simple management techniques might be

in groups, select an example of a simple phobia to investigate in terms of the biopsychosocial framework; present the selected phobia to the class; class members use a data sheet to record how the biopsychosocial framework can be used to understand and manage the selected phobia

media analysis: consider the application of a biopsychosocial framework as it applies to an appropriately related film narrative; for example, *A Beautiful Mind*

draw an annotated diagram outlining the role of the neurotransmitters serotonin and noradrenaline in major depression; show how antidepressant medication is used as part of the management

ask the school counsellor to speak to the class about the mood disorder of major depression and the use of management therapies to manage this disorder

use the 'Six Thinking Hats' to examine gambling as a type of addictive disorder; for each hat (White – Facts and Information, Red – Feelings and Emotions, Black – Critical Judgement, Yellow – Positive Judgement, Green – Alternatives and Learning, Blue – Big Picture), consider how the biopsychosocial framework is used to consider the psychology of gambling

view television commercials on gambling; discuss the extent to which these commercials accurately inform the public about this addictive behaviour; identify the elements of the addictive behaviour depicted in the commercial and suggest other information which could have been appropriately included

case study analysis: consider the application of a biopsychosocial framework as it applies to a range of summary case studies; these may be obtained from a range of psychology textbooks

visit the Mental Illness Fellowship of Australia website (www.mifellowshipaustralia.org.au/) and evaluate their factsheets, e.g. Biopsychosocial model, Stress vulnerability coping model, Understanding depression, Understanding anxiety, Understanding schizophrenia, in terms of the information contained and the level of detail presented relative to the knowledge required of a Unit 4 Psychology student; work in groups/pairs/individuals to adjust a chosen factsheet to suit the level of a Unit 4 Psychology student

Detailed example**USE OF GRAPHIC ORGANISER IN APPLYING THE BIOPSYCHOSOCIAL FRAMEWORK TO A SELECTED MENTAL DISORDER**

Use a graphic organiser, for example a mind map or a fish-bone diagram, to explain how the biopsychosocial framework can be used to consider a selected mental disorder and its treatment.

Students should be provided with the following prompts:

- On your graphic organiser, put the mental illness in the centre and then draw three branches coming off the centre, labelled as 'biological contributing factors', 'psychological contributing factors' and 'socio-cultural contributing factors'.
- From these branches draw further branches to elaborate and explain how each of these factors can be used to understand the mental illness.
- Identify links across the three branches and add them to your graphic organiser.

Students may be asked to consider:

- the role of hormones and/or neurotransmitters
- genetics
- social environments
- medication
- learning theories and their contribution to the disorder
- learning theories and their use in treatment of the disorder
- use of psychotherapies and cognitive behaviour therapy
- social disadvantage
- social permission
- social support outlets
- professional support.